

Illovo Sugar Africa (Pty) Ltd

Kilombero Sugar Company Limited

(KSCL) social, economic &
environmental impact assessment

FY2020/2021

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Introduction

Illovo Sugar Africa (Pty) Ltd (Illovo Sugar Africa), a wholly owned subsidiary of Associated British Foods plc, is 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 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.

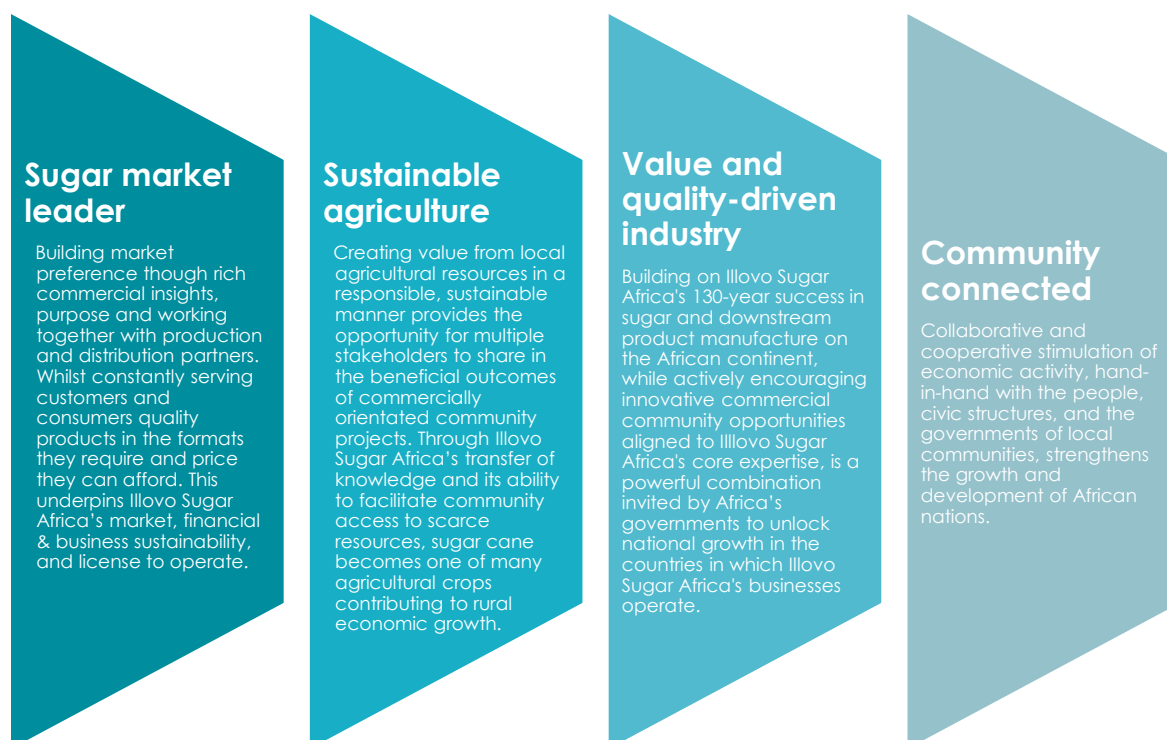
About this report

This report is an update of 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 recognize 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 from 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 Kilombero Sugar Company Limited'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 Tanzania

In Tanzania, Illovo Sugar Africa operates through its subsidiary, the Kilombero Sugar Company Limited (KSCL), the largest sugar producer in the country. The Government of the United Republic of Tanzania remains a key partner, maintaining a 25% shareholding since KSCL's privatisation in 1999. The company operates two agricultural estates and two sugar mills, Msolwa and Ruembe, located in the Kilombero Valley, part of the Morogoro region of Tanzania. The two estates are linked by a bridge over the Great Ruaha River.

The company is one of four sugar producers in Tanzania and produces between 126,000 and 130,000 tonnes of sugar per year. KSCL produces direct consumption brown sugar sold under the "Bwana Sukari" brand. The company also has a 12-million litre per annum Extra Neutral Alcohol distillery that has opened up market channels to supply Extra Neutral Alcohol to local and regional East African beverage producers.

KSCL and Illovo Sugar Africa have identified and approved a significant expansion in Tanzania for completion in 2024/25. The KSCL expansion is projected to increase factory production and storage capacity, upgrade irrigation and electricity infrastructure, and create an almost three-fold increase in cane supply from KSCL's growers, from 600,000 tonnes currently to 1,500,000 tonnes. This will more than double total sugar production and generate significant impacts across the value chain, particularly for small-scale growers and rural communities, as well as the wider national economy.

Table 1: Tanzania demographic data

Tanzania country data ¹	
Economic Indicators	
Gross domestic product (GDP) at purchasing power parity (PPP)² (2021)	\$67.78bn
GDP per capita (2021)	\$1,135.5
Annual GDP growth rate (2021)	4.3%
Labour market indicators	
Population (2021)	61.5m
Labour force (2021)	29.0m
By occupation (2019)	Agriculture 65.0% Industry 6.0% Services 28.0%
Population location (2021)	Rural 64.0% Urban 36.0%
Unemployment rate (2021)	2.6%
Poverty Indicators	
Population living below \$2.15 per day (2018)	44.9%
Population living below national poverty line (2017)	26.4%
Adult literacy rate (2015)	78%
Life expectancy at birth (2020)	65.8 years

¹ [World Bank Open Data](#)

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

Summary of findings

KSCL continues to be a significant contributor to Tanzania's economy. It has increased sugar production which has helped to meet growing domestic demand and the business has continued to grow despite external challenges such as extensive flooding in 2020 and the COVID-19 pandemic. This is supporting valuable economic and employment opportunities for many within the company's value chain and is particularly important for Tanzania's rural communities. KSCL is also driving sustainable agricultural practices within its operations and grower communities which is a priority given the climate-related risks facing the country.

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, KSCL's quantitative social, economic and environmental impacts in Tanzania included the following:	
Sugar market leader	<ul style="list-style-type: none"> • 125,368 tonnes of sugar produced with 100% sold into the domestic market • Total economic impact estimated at TSh419.6Bn, including TSh107.0Bn direct impact (gross value added) and the remainder in indirect & induced impact through multiplier effects in the supply chain and wider economy • TSh25.3Bn direct tax contribution and TSh41.7Bn indirect tax contribution (collected on behalf of the government) • 4,977 directly employed including 816 permanent and 4,161 non-permanent roles. Through direct jobs only, KSCL contributes to supporting an estimated 24,387 livelihoods once families and dependents are taken into account (based on an average household size of 4.9) • Estimated total employment impact of 16,537 including direct, indirect and induced employment supported in grower communities and the wider economy
Sustainable agriculture	<ul style="list-style-type: none"> • 9,729 ha of Illovo-owned cropland, which produced 602,358 tonnes of sugar cane output (Illovo-owned) • 18,538 ha of grower cropland, working with 8,804 independent growers who supplied 677,656 tonnes of sugar cane (53% of KSCL total sugar cane)
Value and quality-driven industry	<ul style="list-style-type: none"> • 96% of energy production from renewable sources • 40 643 MWh renewable energy generated • 17% decrease in scope 1 & 2 emissions (2019/20 - 2020/21) • TSh62.3m invested in safety training and a Lost Time Accident Frequency rate of 0.06 • TSh263.6m invested in training, with 2,025 employees trained • TSh24.7Bn invested in employee benefits including support for healthcare, pension funds and counselling • TSh153.0Bn spent on procurement with TSh127.4Bn (83%) going to local suppliers
Community connected	<ul style="list-style-type: none"> • TSh5.9m spent on the community through projects such as upgrading and maintaining roads, renovating a hospital and contributing towards the development of new classrooms • 789 COVID-19 vaccinations • 10% women in KSCL's workforce with 5% in the management level

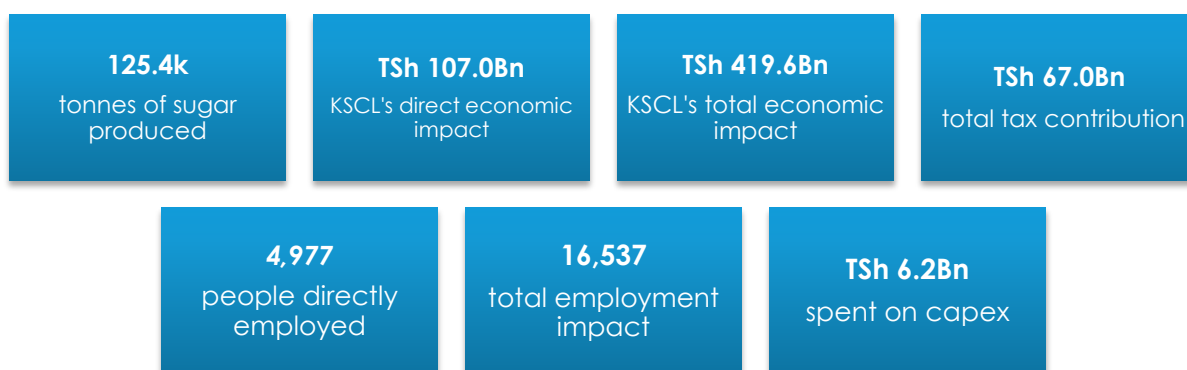
Sugar market leader

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:

KSCL is a significant contributor to the economy and employment in the Morogoro region. The company's operations and wider value-chain activities have enabled other connected domestic economic and employment activities contributing to the growth of the districts of Morogoro (Kilombero & Kilosa Districts) and Tanzania as a whole. Total economic impact since our last report has increased overall by 18%. Additionally, total employment impacts have risen substantially driven by large increases in the hiring of non-permanent employees and growers.

The proposed KSCL expansion project (mentioned on page 4) will be largely supplied by local growers, increasing seasonal job opportunities. However, the expansion project will also include a new high-tech and efficient factory requiring qualified specialist workers but fewer full-time workers than the current factory. KSCL has started to consider ways to mitigate the economic and social insecurities associated with seasonal employment such as upskilling workers to minimise economic and employment impacts on the community.



Note: Definitions for direct economic impact, indirect economic impact, induced impact, total impact, and employment impact are provided on pgs. 8-9 and 11.

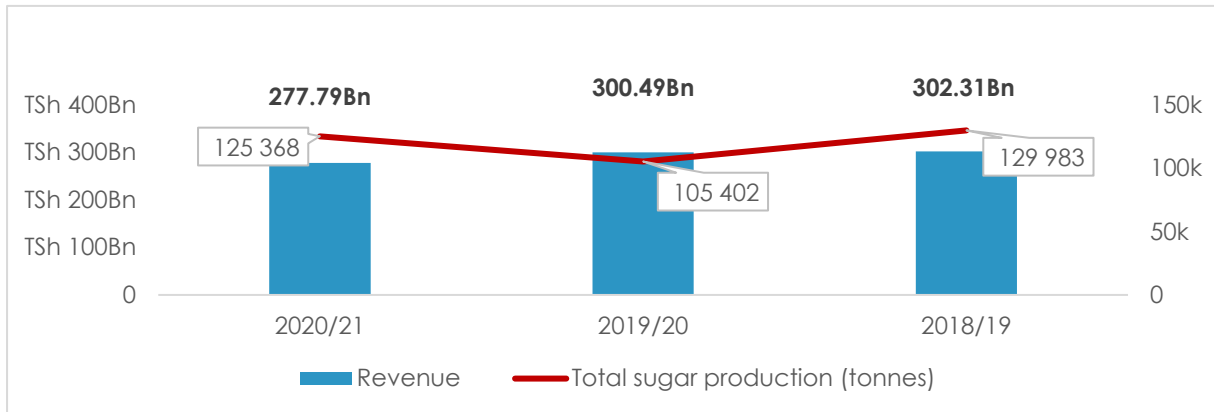
Meeting demand & beyond

As the largest sugar producer in the country, KSCL plays an intrinsic role in meeting domestic and regional demand for sugar. Sugar is one of the most in-demand commodities in Tanzania, and in 2019 USD90.71M was spent to import sugar into the country comprising 1% of all imports

into the country.³ According to the Organization for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization of the United Nations (FAO), in 2021, Tanzania's national demand for sugar was around 737,260 tonnes per annum.⁴ Local production capacity was around 521,530 tonnes per annum creating a deficit of 219,470 tonnes which was met through importation.

Despite a slight decline in sales growth, KSCL has met the needs of the local market with a relatively stable production volume output over the last three years, currently rising from the dip in 2019/20. This is however an overall decline of 5% from the 132,000 tonnes produced in 2016/17, though we expect this to spike sharply with the upcoming expansion.

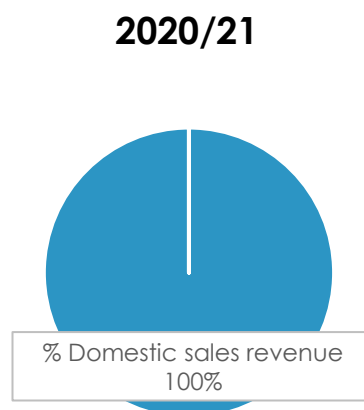
Figure 2: KSCL's sales & production volume, 2018/19 - 2020/21



Sales by segment

In 2020/21, 100% of sales were in the domestic market. The Government of Tanzania has publicly announced its ambition to reach self-sufficiency in sugar production by locally producing 700,000 tonnes by 2025.⁵ To meet this goal, KSCL's focus on sales has remained on the domestic market, which has been the case since 2016/17. One of the most significant impacts of the planned KSCL expansion will be its ability to help meet the national deficit largely from cane grown by local growers.

Figure 3: KSCL's sales revenue by market segment, 2020/21



³ Comtrade (2021), Tanzania Imports by Category

⁴ OECD-FAO (2022), Agricultural Outlook 2016-2025 by Commodity

⁵ Mosenda, J. (2021), Tanzania can become Africa's hub for sugar

KSCL also has an Extra Neutral Alcohol (ENA) distillery that uses raw molasses from the sugar production process that produced 14,874 kilolitres (kl) of extra neutral ethanol in 2020/21 for industrial customers, generating TSh33.3Bn. Out of 14,874 kl of ENA, 264 kl were exported to Kenya. Notably, the distillery provides input into the East African beverage industry, promoting growth opportunities for local companies that, in turn, create jobs and contribute to national production and economic growth.

Product affordability

Ensuring affordability alongside the availability of sugar is important in a market such as Tanzania, where household incomes are low. KSCL regularly reviews its pricing strategy, conducts market research and produces different pack sizes. One of the strategies is by having different pack sizes to suit and meet purchasing power of different sets of customers for instance, the purchasers' choice to buy at 50kg, 25kg, 5kg, 1kg, 320g and 150g volumes. Another initiative is the Route to Consumer strategy with a view to containing prices by managing the transportation of sugar from the mills to the market.

Economic contributions

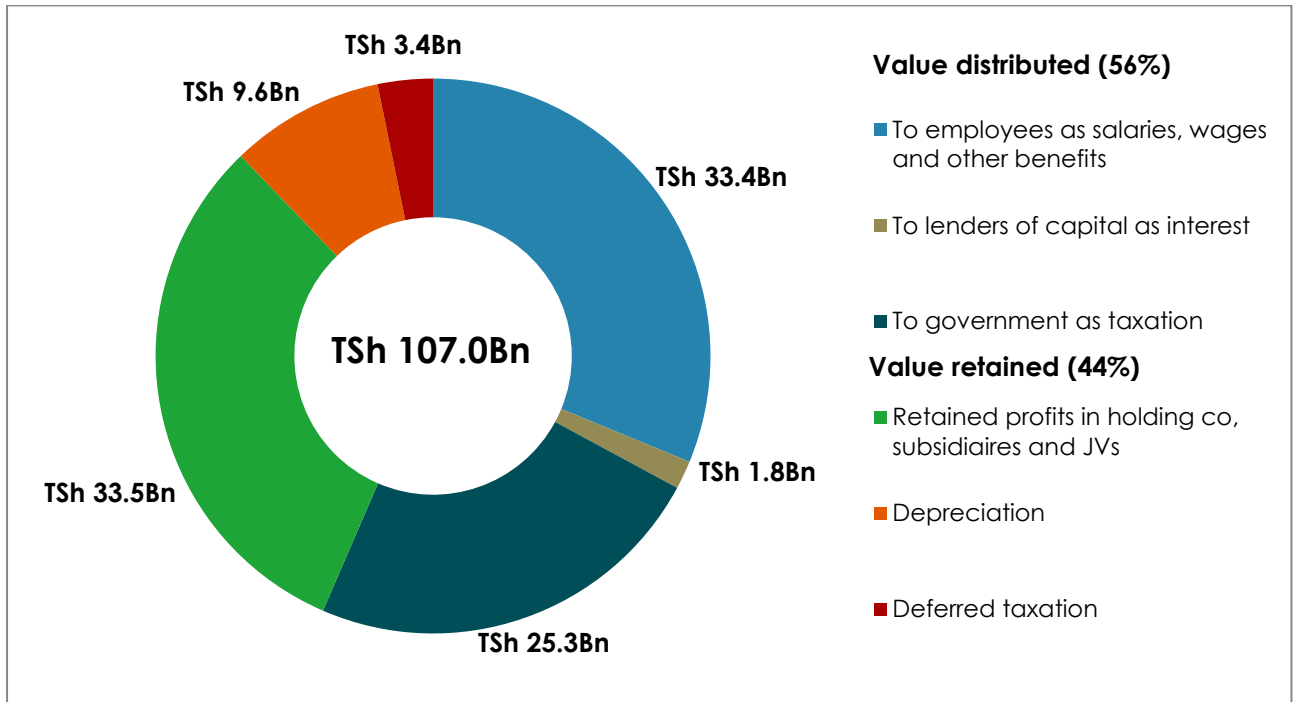
As the largest of the four sugar producers in Tanzania, KSCL plays a significant role in the nation's sugar sector. This is particularly important for Tanzania's rural development where widespread poverty and inequality remain key issues. Sugar cane growing and production is relatively labour-intensive compared to other crops and there are a large number of small-scale growers in the value chain, which causes significant economic multiplier effects. The majority of the effects are felt by the rural populations, who grow and harvest the sugar cane, as well as the supporting industries that supply to KSCL and small local businesses that have grown around Msolwa and Ruembe sugar estates (e.g., transportation, harvesting, retail, etc). The three main areas of impact are:

1. **Direct impacts**, through KSCL's direct employment of workers on farms and in factories, as well as tax payments, interest spending, shareholder dividends, 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

KSCL's direct contribution to the economy of Tanzania, measured in terms of gross value added, was TSh107.0Bn 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, 56% was distributed to stakeholders, namely employees, shareholders and the government.

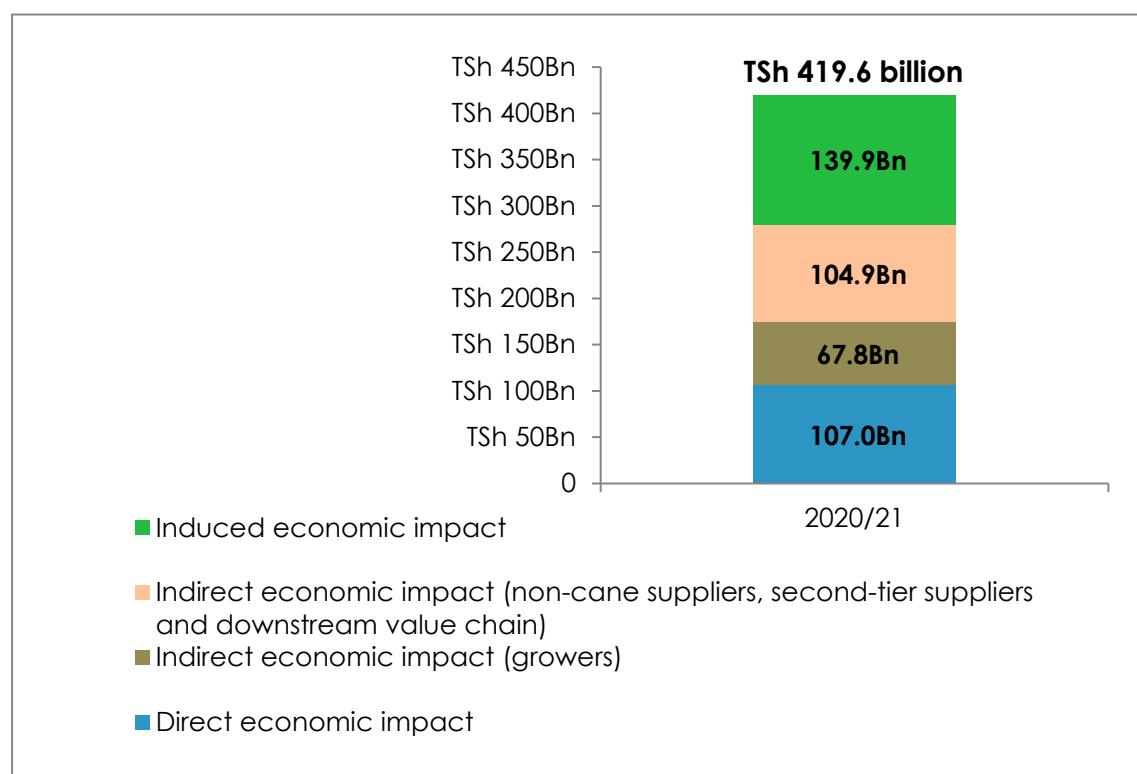
Figure 4: KSCL's direct economic impact, 2020/21 (distribution of gross value added)



Total economic impact

KSCL's total economic impact – including direct, indirect and induced impacts – is estimated at TSh419.6Bn for 2020/21.

Figure 5: KSCL's total economic impacts in Tanzania (estimated), 2020/21



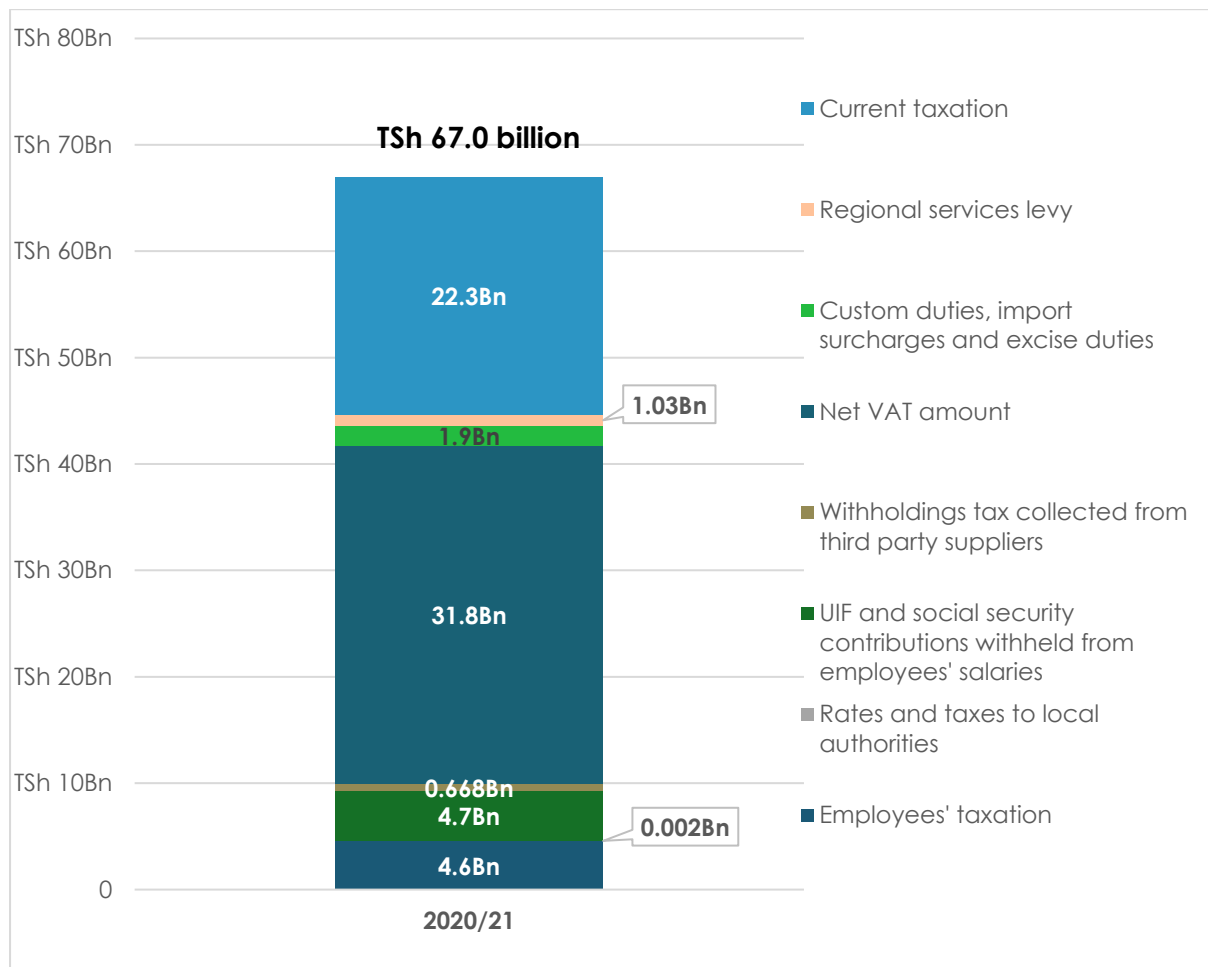
This TSh419.6Bn total economic impact, when converted to ZAR for comparison with our previous report, comes to R2.7Bn, an 18% increase on the R2.3Bn total impact reported in 2016/17. KSCL's direct economic impact increased by 12% since our last report, while its largest driver of overall economic impact was the increase in procurement spend on growers, rising from R307.3m in 2016/17 to R446.6m in 2020/21, a difference of 45%.

Tax contributions

As the largest cane sugar producer in Tanzania, KSCL is an important contributor to Tanzania and Morogoro's tax revenues. In 2020/21 KSCL's direct tax payments amounted to TSh25.3Bn, while indirect taxes (which are collected on behalf of the government) totalled TSh41.7Bn.

Indirect taxation includes employee tax, withholdings tax, VAT, Unemployment Insurance Fund (UIF) and/or other social security contributions withheld from employees' salaries. The total tax paid of TSh67.0Bn represents an 18% increase on the TSh56.9Bn total tax payments made in 2016/17, reflecting KSCL's increased profits over the past four years.

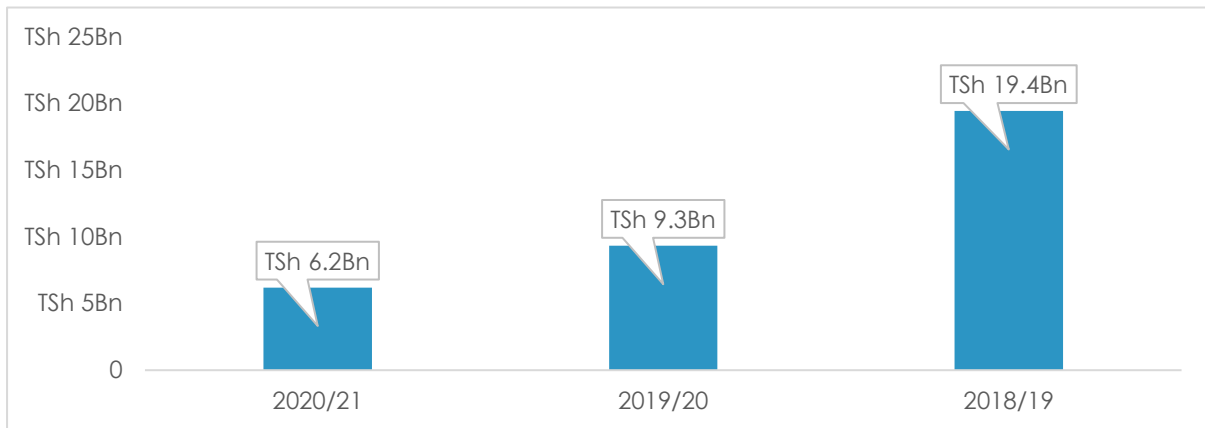
Figure 6: KSCL's tax payments, 2020/21



Capital expenditure

KSCL's capital expenditure has decreased year-on-year since 2018/19, falling by 64% from the TSh19.4Bn spent in 2018/19. However, the company's total capital expenditure in the three-year period from 2019-2021, totalling TSh35.6Bn, is an 86% increase from the TSh19.1Bn invested between 2014/15 and 2016/17, covered in our 2017 study. Several projects were undertaken including; IDTL Building, Water Table Management Bore Holes, K1 Village Guest House, Refurbishment of K2 Clinic, Expansion Project, Hot Water Treatment Plant, Field Services Vehicle, and Asbestos Replacement. Future earmarked projects include; Borehole Drip Irrigation, Seedling Nurseries, further prepack capacity upgrades, TSh589Bn factory expansion Piper Project, Boiling House Recoveries phase I of II and Field Services Vehicles. A much greater capital expense has been earmarked for the expansion project.

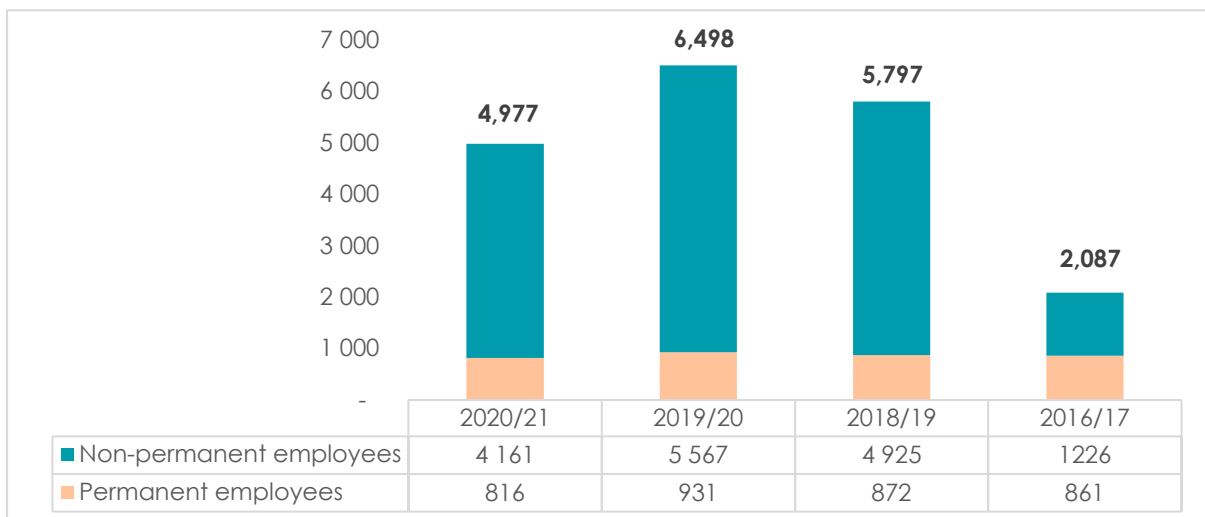
Figure 7: KSCL's capital expenditure, 2018/19 – 2020/21



Employment

Our engagement onsite within local communities revealed that one of the most important impacts valued by Morogoro's local leaders and community organisers is the employment opportunities KSCL has created.

Figure 8: KSCL direct employment, 2018/19 - 2020/21



In 2020/21, KSCL directly employed 816 permanent employees and 4,161 non-permanent/seasonal employees at peak periods. Since our last assessment, permanent employee numbers have remained broadly stable, fluctuating within a margin of 13% since 2014/15. There has been, however, a significant rise in non-permanent employees up by over 239% compared to 2016/17. This reflects the increasing demand for seasonal employees (who are on contracts) to support increased sugar production, taking on roles such as cane cutting and weeding. In addition to this, the rise in production driven by a system upgrade in 2020 has led KSCL to mitigate the costs of overtime and meet labour compliance by recruiting more workers to spread the working time required across more workers.

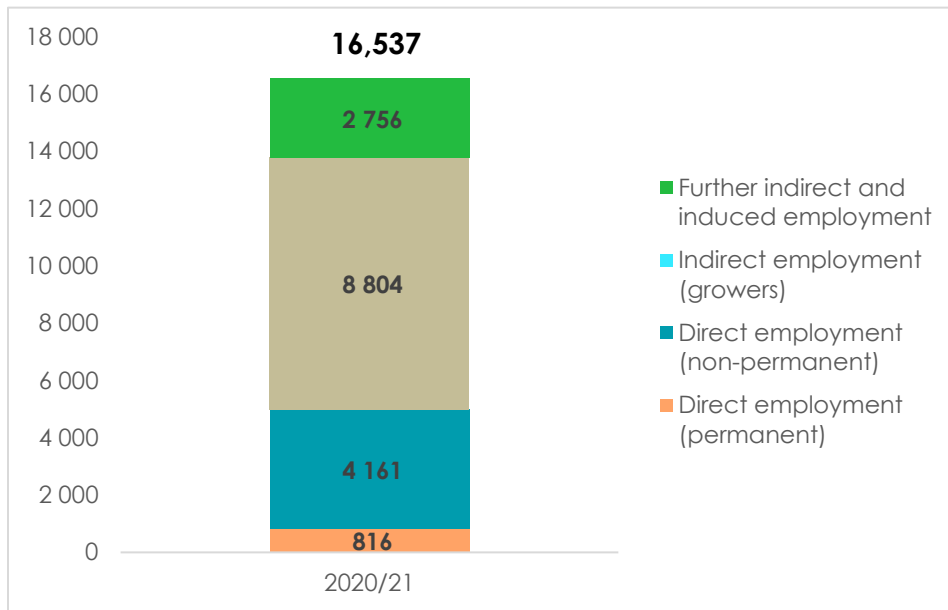
KSCL paid a total of TSh33.4Bn to employees in 2020/21, across direct salaries, wages and other benefits.

In addition to direct employees, approximately 8,800 independent growers deliver their cane to KSCL's mills, thereby contributing significantly to indirect economic impacts within Illovo's value chain. The business also contributes to further indirect and induced employment in Tanzania. We estimate KSCL is supporting employment for approximately 16,537 people in total in Tanzania, based on a conservative multiplier for the sugar industry. This means that for every direct employee of KSCL, at least 2.3 other workers are supported through grower communities and in the wider economy.

"People in this area depend on Kilombero Sugar for their livelihoods. Everyone here either works for Kilombero Sugar or is attached to Kilombero Sugar in some way."

- Women's Group Member
Imara Trust Fund

Figure 9: KSCL's total employment impacts in Tanzania (estimated), 2020/21



We estimate these direct jobs provided by KSCL contribute to supporting the livelihoods of at least 24,387 people once families and dependents are considered. This is based on an average household size of 4.9 in Tanzania.⁶ Illovo's level of support will vary between households – for some, such as direct employees and growers, KSCL may well be the main contributor to household income, while in others KSCL's support will be a factor among many.

The total employment impact in 2020/21 increased from an estimated 4,440 jobs in 2016/17, with the biggest contributing factor being the substantial rise in the number of growers, though major increases in the impact from hiring non-permanent seasonal agricultural employees and further indirect employment were contributing factors.

⁶ Statista (2022), Average household size in Tanzania from 2017 to 2018

FUTURE FACING CHALLENGES

70% of cane supply for the proposed KSCL expansion project will be provided by local growers, from 600,000 tonnes currently to 1,500,000 tonnes. This increase in local production will lead to a rise in seasonal job opportunities particular during harvesting season. Additionally, the expansion project will include a new high-tech and efficient factory requiring not only more qualified specialist workers than the current factory, but more workers will be required to bring extra cane to the mill, meaning KSCL will need to balance its responsibility as a top regional employer between a workforce of greater skills-based diversity. In addition, the shift towards a larger quantity of seasonal workers who are not hired directly by KSCL poses potential social risks. These risks and KSCL's mitigation efforts are explored further in the Community Connected section.

Sustainable agriculture

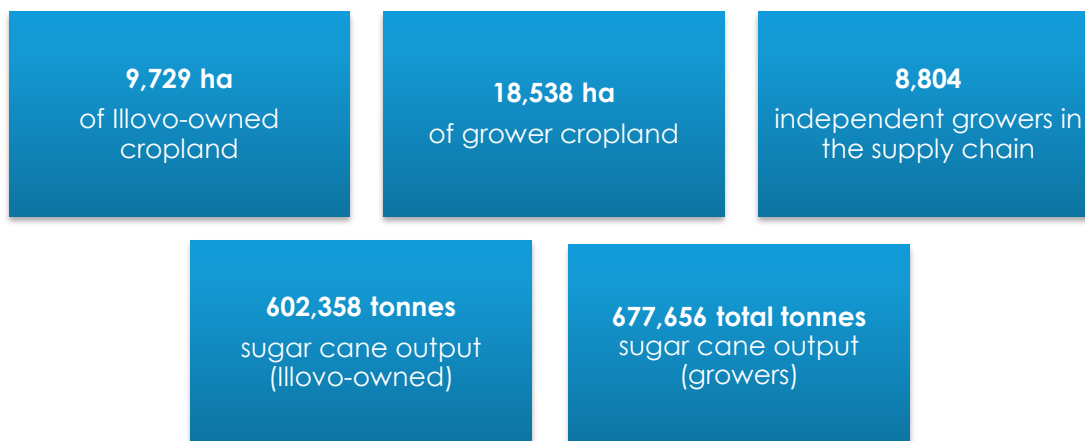
Creating value from local agricultural resources in a responsible, sustainable manner provides the opportunity for multiple stakeholders to share in the beneficial outcomes of commercially orientated community projects. Through Illovo Sugar Africa's transfer of knowledge and its ability to facilitate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

Key pillar findings:

KSCL has made significant investments in sustainable agriculture research and improvements. Key focus areas include investments in upgrading and expanding irrigation methods, changes to more efficient seed production methods and trialing green-cane harvesting.

Support is being provided for growers across several key areas through the company's grower extension support programme, with the area of grower-managed sugar cane expanding in recent years. However, growers identified a need for improved support for increased agricultural productivity and sustainable practices.

Climate impacts are starting to be felt, with concerns over water scarcity, disease and pests. Some initiatives are in place to mitigate these issues, however, there is room for more concentrated efforts.



KSCL's agricultural practices

KSCL has influence not only over the practices of 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 from converting land which may otherwise be used for other purposes, such as subsistence farming, or biodiverse wild habitats. For this reason, much of KSCL's overall approach to improving farming sustainability is to focus on increasing vertical growth through achieving higher yields per hectare of existing cropland, held both by KSCL and growers. This drives the positive social and economic impacts of sugar cane production while minimising additional environmental impacts from expanding land conversion.

Environmental management

KSCL manages its land and biodiversity impacts by implementing the [Sustainable Assessment Initiative \(SAI\)](#) Farm Sustainability Tool (FSA), with the first assessment having taken place in October 2022 (beyond the scope of this report). The FSA enables businesses to assess, improve, and validate on-farm sustainability.

Water use and crop irrigation

Tanzania has suffered from issues of water scarcity, with climate change impacting water resources via reduced water volumes in rivers and lakes and increased rainfall variability. Droughts are considered Tanzania's most significant climate-related hazard. Tanzania's agricultural dependence on rainfall further increases the sector's vulnerability to climate change.

KSCL has several initiatives in place to address water scarcity concerns, with irrigation as the site's biggest source of water usage. Currently, 64% of the company's farmland is irrigated, with 36% rain-fed. Various tools are used to maximise the water efficiency of irrigation systems. This includes the use of Cane Pro software to optimise irrigation scheduling which is continuously calibrated by the "touch-and-feel" method of moisture sampling and/or the use of soil moisture probes. Plans are in place for the implementation of Smart Water and Irrigation Management (SWIM) systems (see spotlight below) which current technology can feed into. This system will help the more efficient management of water use by ensuring water is applied only when needed.

In addition, drip irrigation is being piloted on-site. The dominant irrigation system is currently overhead sprinkler (see Figure 10) which can be inefficient and labour-intensive when compared with drip irrigation (see Table 3). The drip irrigation project is being piloted on 27.2 hectares of land. KSCL is also planning to implement a further trial of a new furrow irrigation system, the Sustainable Synergetic Surface Irrigation and Drainage System (SSSID). Our engagement noted this new irrigation concept has been trialled successfully in sugar cane farming in Zimbabwe and South Africa and has similar efficiency and uniformity to drip irrigation. KSCL will be trialling this irrigation method in one block, to begin with, while Illovo Malawi has already established its own trial block at its Nchalo operations.

Figure 10: KSCL-owned cropland area under different irrigation methods, 2018/19 – 2020/21

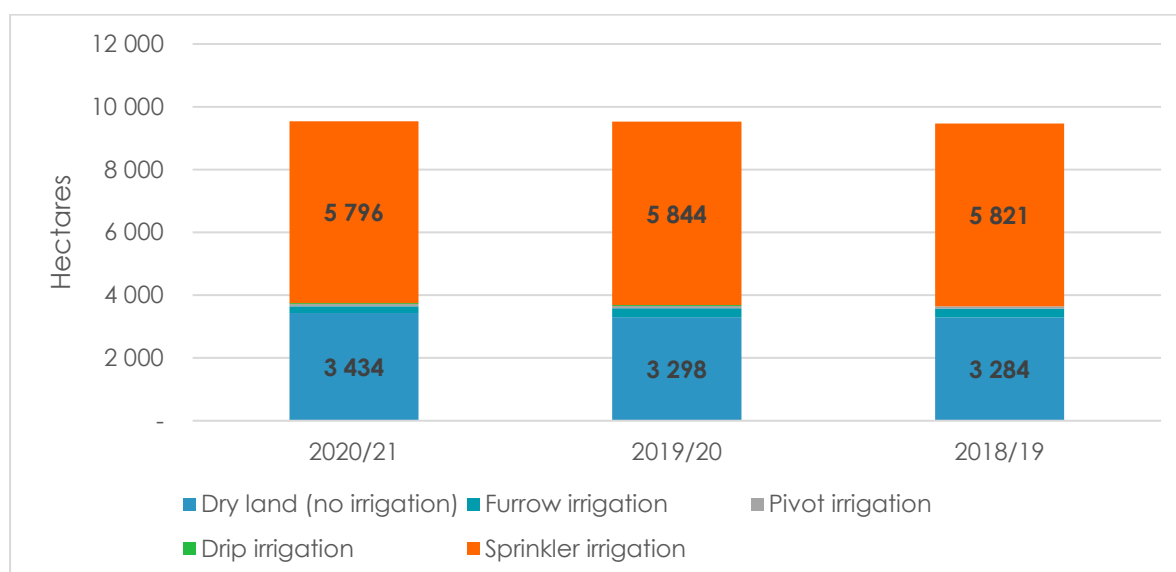


Table 3: Comparison between different irrigation methods.

	Definition	Benefits	Limitations
Furrow irrigation ⁷	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 ⁸	Movable pipe structure rotating around a centre pivot tower, equipped with sprinklers which irrigate the crop from the top	<ul style="list-style-type: none"> • Relatively High efficiency, • Relatively high distribution uniformity • Ability to irrigate uneven terrain • Relatively low capital • Automation possible • Relatively low maintenance, and management costs 	<ul style="list-style-type: none"> • Evaporation losses • Winddrift • Wheel Tracks
Sprinkler irrigation ^{9,10,11}	A method of applying overhead irrigation water, which falls in a way similar to rainfall	<ul style="list-style-type: none"> • Can be automated more easily than surface irrigation 	<ul style="list-style-type: none"> • Evaporation losses • High operating costs • Wind drift • Can be labour-intensive to move pipes and sprinklers around fields
Drip irrigation ¹²	A system of dripping water in/on the soil at low rates from a system of small diameter plastic pipes fitted with outlets called emitters or drippers	<ul style="list-style-type: none"> • No evaporation losses • High distribution efficiency • Delivers water and nutrients/chemicals to crop roots • Precise application possible • Minimum soil erosion and low weed pressure • Minimum labour required after implementation • Automation possible 	<ul style="list-style-type: none"> • High implementation cost • Blockage of emitters

⁷ [Greenmatters \(2020\), Furrow irrigation can help save water, but is it worth the labor?](#)

⁸ [Waller & Yitayew \(2016\), Center Pivot Irrigation Systems](#)

⁹ [FAO \(2022\), Sprinkler irrigation](#)

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

¹¹ Bjorneberg, D.L. (2013) *Irrigation | Methods*. <https://www.sciencedirect.com/science/article/pii/B9780124095489051952>

¹² [Sharaf, B. \(2022\), Advantages and disadvantages of drip irrigation](#)

Spotlight: Smart Water & Irrigation Management (SWIM) tool

In 2019, Illovo Sugar Africa's parent company, AB Sugar, launched an Innovate Irrigation Challenge, inviting applicants to submit ideas around ways to make irrigation more efficient. The Innovate Irrigation Challenge was held in partnership with Water Aid and the Centre for Industrial Sustainability at the University of Cambridge.

The winning idea, submitted by two civil engineers from Uganda, has now become "Project Smart Water & Irrigation Management" (SWIM). The SWIM system uses a system of flow and power meters with remote sensors and satellite data, which help to detect leaks, adjust irrigation schedules, carry out water audits and feed this real-time data back to a cloud-based tool.

Based on initial results, Illovo Sugar Africa believes this technology may be able to increase sugar cane yields by up to 3 tonnes per hectare using the same net water. This is a significant opportunity for the company's Tanzania estate.

Crop harvesting and the move to green-cane

Currently, KSCL 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 KSCL 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 specifically for the land sector and removals¹³.

Mechanised green-cane harvesting can offer various environmental benefits, primarily the reduction of air pollution from burning, and the improvement of soil health through increased crop residues being left to decompose and return to the soil. KSCL has introduced a 3-year green-cane pilot project which covers roughly 40% of the area under cane and is due to start in August 2022.

While the shift to mechanised harvesting may present a long-term risk around shifting employment patterns for seasonal cane cutters employed by the company, our engagement with the Agricultural team indicated that KSCL is aware of the risk and managing such a transition carefully has been highlighted as a priority for the company.

Chemical inputs: pesticides and fertilizers

KSCL currently uses selected agrochemical inputs for sugar cane farming. The use of agrochemical inputs such as fertilizers and pesticides must be balanced between the need to increase yields without area expansion, with minimal negative impacts on the environment.

¹³ [Greenhouse Gas Protocol \(2022\), Land Sector and Removals Initiative](#)

There are various motivations for the company to reduce the usage of agrochemical inputs where possible, including the rising costs of agricultural inputs, reducing human interactions with potentially harmful agrochemicals, soil health and reduced environmental impacts. Some methods are in place to reduce these, including the use of monitoring apps and GPS for more precise application of agrochemical inputs. Moreover, research is currently being undertaken by KSCL's agronomy team to understand ways of improving agrochemical use efficiencies.

Fertilizer

KSCL utilises by-products of the sugar production process as a fertilizer. Specifically, Condensed Molasses Solids (CMS) are blended with a nitrogen fertilizer to create the desired fertilizer blend. To minimise nitrogen losses through various pathways, such as volatilization or leaching, KSCL has changed their ratio of nitrogen application to be applied every 1-3 months. KSCL is also utilising nitrogen-fixing plants such as sun hemp as a cover crop to improve soil health.

Pesticides

The increased population of existing and emerging pests has posed a new challenge for agriculture in Tanzania¹⁴. This recent change can be partly attributed to climate change and rising temperatures, and therefore may be expected to worsen in future¹⁵. At the time of this report's engagement, yellow sugar cane aphids were highlighted as particularly challenging for sugar cane agriculture. KSCL is working towards integrated pest management, which involves integrating different methods of pest control to reduce agrochemical usage. For example, yellow sugar cane aphids can be managed through "beneficial" insects which feed specifically on the aphids. These beneficials can be used for spot treatment of pest outbreaks. A small programme has been run to test the effectiveness of this method, by harvesting beneficials and then manually moving them into the affected field. There is potential for drone application of beneficials in the future for more efficient dispersal. KSCL is also exploring the possibility to apply agrochemicals using drone sprayers in future, which would enable more efficient, targeted application. All usage of drones for any purpose by KSCL must adhere to protocols set out by the Government of Tanzania.

Soil health

Soil health is important for long-term productivity and biodiversity. Through our engagement in Tanzania, we found that KSCL has various initiatives in place to improve and maintain soil health including changes in harvesting techniques and reducing tillage. The move to green-cane harvesting will also improve organic matter content in soils.

¹⁴ [World Bank \(2017\), *Climate-Smart Agriculture in Tanzania*](#)

¹⁵ [FAO \(2021\), *Climate change fans spread of pests and threatens plants and crops, new FAO study*](#)

Spotlight: Speedling project

KSCL's agronomy team are innovating a new way to grow sugar cane seedlings for re-planting, which should be both more cost- and space-efficient than conventional methods. Presently, sugar cane is grown by planting stalk cuttings, grown over a period of 9-months and in large areas of land. However, KSCL's speedling requires significantly less space than whole stalks, which means that less land is needed for a seed cane nursery. KSCL's conventional methods requires 1 ha of seed cane to supply 5 ha of replants, whereas the speedling method requires 1 ha of to plant 37 ha with speedling.

This project will also involve the use of tissue cultures for seed production, enabling faster propagation of new seed varieties. This allows for the distribution of clean and reliable seed cane, which will also benefit growers.

Biodiversity

KSCL's economic development within the Kilombero area and agricultural intensification puts pressure on the nearby land and natural bush in the surrounding areas. KSCL's land is positioned in an area of significance for local biodiversity since the cropland belonging to KSCL and its growers are surrounded by the protected areas of Udzungwa Mountains National Park, Magombera Nature Forest Reserve (which previously belonged to KSCL and was released, see the spotlight on AWF below), and Nyerere National Park, along with some community forests. These environments are home to several endemic species and therefore a careful approach to maintaining local biodiversity while farming is of high importance¹⁶. KSCL is aware of its pressures on biodiversity and natural areas and has established policies, plans, programmes and partnerships to address these concerns.

Our engagement highlighted that species move freely within the sugar cane, including buffalos, snakes, birds and hyaenas. Policies are in place to protect these animals on KSCL land. For example, the presence of large wild animals is reported to the onsite security contractor, who notifies the relevant animal protection agencies to redirect animals into protected areas. For smaller animals such as snakes, KSCL employs specially trained control officers who humanely capture the animals and return them safely to their natural habitats. Moreover, KSCL has mapped out key nesting areas for birds, including the rare palm nut vulture which has been identified as occupying KSCL's land area, to ensure that appropriate protective boundaries and measures are in place.

In addition, there are several initiatives in place to protect biodiversity such as guarding the boundaries of the estate, protecting and restoring riparian boundaries and tree planting programmes. For example, in 2020/21 KSCL planted 593 trees in surrounding communities and 8,332 trees on the estate. Due to KSCL's biodiverse location and the limits of the company's control of land beyond its land borders, during our engagement, the company highlighted the importance of collaborating with NGOs such as ReForest Africa and African Wildlife Foundation (AWF) to protect land beyond KSCL's boundaries. KSCL has been in conversation with NGOs to partner with them on the tree planting initiatives and a planned 100-hectare-per-year Riparian Boundary project that is slated to run for 4 years.

¹⁶ [African Wildlife Foundation \(2020\), Protection of Biodiversity Takes Center Stage at Kilombero Cane Farmers' Day 2020](#)

Spotlight: Partnership with African Wildlife Foundation (AWF)

Established in Tanzania in 1962, the African Wildlife Foundation (AWF) is an international organisation focused on conserving Africa's wildlife and wild habitats. AWF first began collaborating with KSCL in 2016 on the conservation of the Magombera Forest. Magombera is a lowland forest at the foot of the Udzungwa Mountains, and home to several endangered plant and animal species, such as the Udzungwa red colobus monkey. Part of the forest was located on KSCL-owned land, but in partnership with AWF, KSCL released the forest to become a fully protected nature reserve.

AWF's current collaboration with KSCL aims to share best practice around sustainable farming and vertical growth, which minimises the need for extra land conversion which may affect local biodiversity. Initiatives that AWF and KSCL have collaborated over to promote sustainable farming in the region include a project increasing nursery provision to make more seed canes available to local communities, AWF-led trainings for KSCL's extension support officers to share best practice in agronomy and agricultural management and AWF technical support for growers with business plans and access to financing.

Grower livelihoods and agricultural practices

Grower livelihoods

KSCL works with a total of 8,793 small-scale growers and 11 medium-scale growers. It does not work with commercial-scale growers. The number of small-scale growers has increased by around 10% from our assessment in 2016/17 when KSCL worked with 7,989 growers. These growers currently supply 53% of KSCL's sugar cane, with the remainder coming from the company's own land.

These small-scale growers are independent farmers within the areas surrounding the company mills. KSCL's purchases from these growers provide income in rural areas where ~80% of the country's poor reside.¹⁷ Rural poverty continues to be an issue in Tanzania, where poverty is increasing as opposed to urban areas where poverty is decreasing. Moreover, nearly 60% of the country's working population works in agriculture. As such, KSCL plays a key role in providing agricultural income opportunities in areas where they otherwise may not exist.

¹⁷ [World Bank Group \(2020\), Poverty & Equity Brief: Tanzania](#)

Figure 11: Volume of sugar cane from company and grower land, 2018/19 – 2020/21

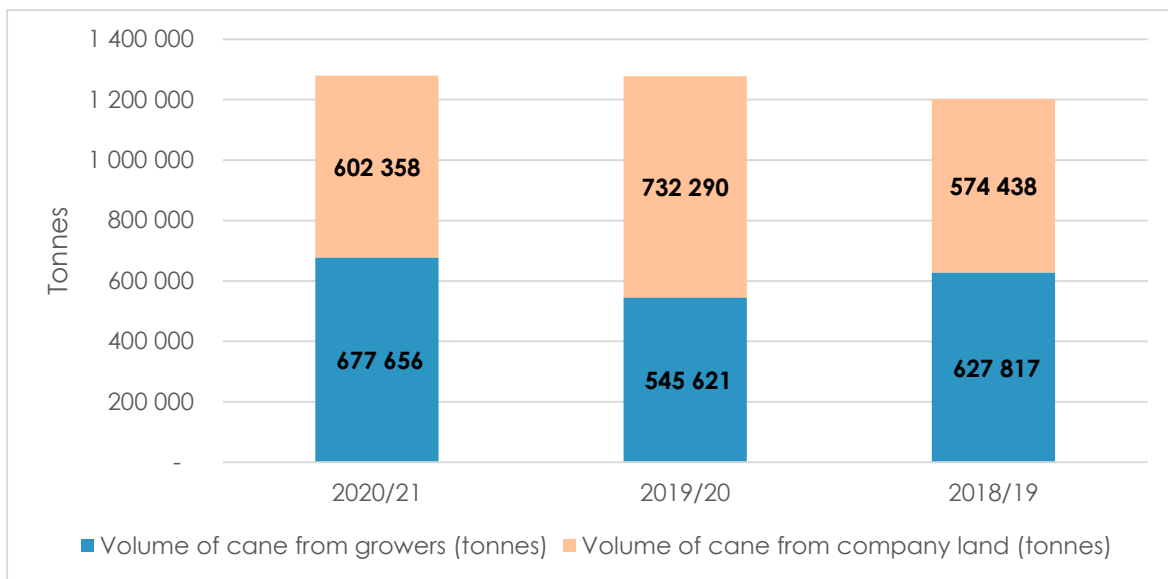
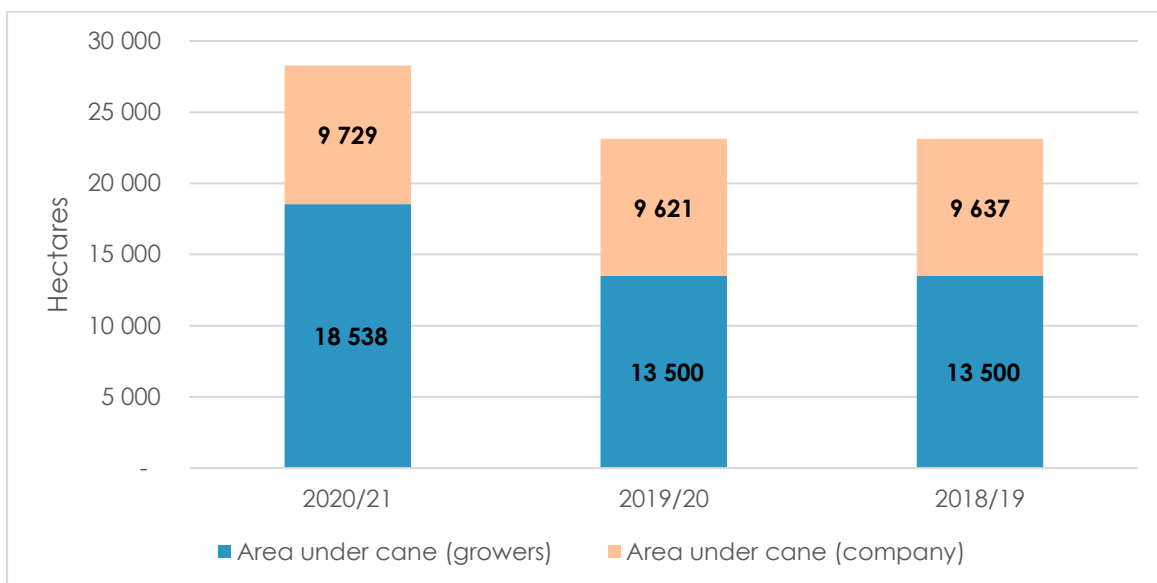


Figure 12: Area of land under cane for both growers and company land, 2018/19 – 2020/21



Grower agricultural practices

KSCL has a role in the community to not only provide employment but also to influence sustainable practices. KSCL stands to benefit from improved grower support, as traditionally the grower support department was small and focused on cane supply from growers. Our engagement indicated that changes are underway to expand grower extension support services and grower development programmes to promote greater productivity and improved sustainability across the 18,538 hectares farmed by growers during 2020/21.

KSCL employs extension support officers who provide capacity building to growers, with our engagement with grower co-operatives highlighting that they are primarily dependent on KSCL for support with agricultural management, rather than on government offices. This includes support for increasing both productivity and sustainability, with extension support officers providing access to good seed cane (see speedling spotlight on page 19) and agrochemical inputs. In addition, KSCL provides education and capacity building on agricultural best practices, along with support in accessing finance.

Our engagement with growers highlighted five key areas where growers currently face challenges and may benefit from increased support to grow their sugar cane livelihoods and increase yields:

- **Irrigation:** most growers lack the capacity and finances for implementing irrigation, with the majority relying on rain-fed farming.
- **Agrochemical inputs:** these are expensive, with many growers unable to afford fertilizer.
- **Disease and pests:** these are increasing in variety and intensity due to climate change impacts, with growers citing the black beetle and yellow sugar cane aphids as current challenges.
- **Climate change impact:** this is leading to changes in weather patterns, such as rainfall, droughts, floods, diseases and pests.
- **Women growers:** cooperatives already have initiatives in place to encourage female growers. KSCL could further support this, for example through further capacity building, or financial education.

FUTURE FACING CHALLENGES

While KSCL has made significant investments in sustainable agriculture, including support for grower livelihoods and productivity, there are several key challenges for future consideration.

The impacts of climate change, while already felt, are likely to worsen in coming years with increasingly unpredictable weather patterns, extreme events (droughts, floods) and changes to pests and diseases. Water scarcity is a rising concern as portions of KSCL's agricultural land, and much of the land of growers, remain dependent on rainfall.

Our engagement with growers highlighted a need for further support in five key areas: irrigation infrastructure, agrochemical inputs, disease and pests, climate impacts and specific support for female growers. These concerns intersect with issues of finance and limited capacity, leaving growers more at risk of climate impacts. Given KSCL's ambitious expansion plans, it will be important to maintain KSCL's ongoing investments into the extension support programme, to ensure that growers have the knowledge and resources to continue growing high yields of cane within the locally available land area.

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:

KSCL's operations embody circular economy principles, through generating electricity from renewable biofuels as a by-product of sugar production, which powers the majority of operations, and through recycling and re-using as many waste materials and by-products of the sugar process as possible. The factory K4's expansion presents opportunities to upgrade plant equipment to more efficient models, and the factory plans to increase renewable electricity generation capacity. Challenges presented by this expansion may include finding use for the increasing number of waste and by-products of the growing volume of sugar production.

KSCL is also committed to the development, wellbeing and protection of its employees. Company policy provides all permanent employees with a range of benefits and offer seasonal workers such as cane cutters performance-based incentives. Offering training both at a managerial and non-managerial level is also conducive to a dynamic workplace supporting career mobility at all levels. KSCL's communicative relationship with its employees is underpinned by wages well above national average and focused performance reviews intended to identify further opportunities for training.

Environmental impact of operations

KSCL drives sustainable best practices throughout its operations. This includes activities to improve efficiency and innovation within business operations, such as the use of renewable, non-fossil fuel sources for energy production.

96% of energy
production from renewable
sources

17% decrease
in scope 1 & 2 emissions
(2019/20 to 2020/21)

40 643 MWh
of electricity generated

Energy use and generation

KSCL, like the rest of Illovo's operating countries, generates renewable electricity as a by-product of its sugar processing operations. During 2020/21, 96% of KSCL's energy production came from renewable, non-fossil fuel sources in the form of bagasse, a fibrous residue left over after sugar cane crushing, in addition to woodchips. The remaining energy was generated from imported electricity and diesel and petrol.

During 2020/21, KSCL's factory produced 40 643 MWh of renewable electricity from bagasse and woodchips. This was all used to power the company's operations during 2020/21; no

surplus electricity was exported to the national grid, and none has been exported since 2016/17. By producing its own renewable energy, KSCL cuts costs and reduces reliance on the national grid electricity supply.

The factory currently has 9 megawatts of energy generation capacity installed. However, once the K4 factory expansion is complete, KSCL plans to increase its total electricity generation capacity to 56 MW, which is predicted to provide 10 MW of surplus power beyond the power needs of the estate. This will offer further opportunities to export renewable electricity back to the national grid.

Energy efficiency

KSCL has driven several energy efficiency initiatives during 2020/21. The company's Optimisation team has increased the efficiency of how imported electricity is consumed, which has led to savings of 12 million ZAR per year from lower electricity bills as it has shifted from purchasing energy to creating its own energy sources. This was achieved partly through energy efficiency initiatives and partly through increasing renewable electricity generation capacity.

As part of KSCL's expansion plans including the development of the new "K4" factory, K4 will be equipped with more modern and efficient plant equipment, meaning that the energy required to produce a tonne of sugar will be much less within K4. KSCL also has plans to upgrade plant equipment in K2 to improve this factory's efficiency in addition.

Operational emissions

KSCL currently measures its greenhouse gas (GHG) emissions from scope 1, 2 and some scope 3 activities. During 2020/21, 97% of KSCL's carbon footprint came from scope 1 activities and this category is dominated by emissions from burning bagasse (constituting 90% of scope 1 emissions). While emissions from bagasse are here reported as the majority of KSCL'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 field¹⁸. The potential impacts of this greenhouse gas sequestration are not yet measured or reflected in KSCL's emissions reporting. It is recommended that the company explores how to measure these impacts, for example using the Greenhouse Gas Protocol's Agricultural Guidance¹⁹, or upcoming guidance for land sector activities and carbon dioxide removals²⁰.

In addition to bagasse, other emission sources include diesel, petrol, emissions from burning biomass materials such as sugar cane and wood, and waste water processing (scope 1); emissions from imported electricity (scope 2); and some fuel emissions from 3rd party transport and distribution (scope 3). KSCL's total scope 1, 2 & 3 carbon emissions for 2020/21 were 370,850 tCO₂e, which represents 8% of Illovo Sugar Africa Group's total carbon emissions in 2020/21.

Currently, KSCL only measures emissions from selected scope 3 activities, limited to third-party transportation and distribution services. In future, it is recommended that KSCL assesses its full scope 3 emissions in accordance with the GHG Protocol's 15 categories²¹, to understand the full climate impacts of its value chain and associated climate-related risks and opportunities.

¹⁸ [O'Hara & Mundree \(2015\), Cogeneration of sugarcane bagasse for renewable energy production](#)

¹⁹ [Greenhouse Gas Protocol \(2022\), GHG Protocol Agricultural Guidance](#)

²⁰ [Greenhouse Gas Protocol \(2021\), Update on GHG Protocol Carbon Removals and Land Sector Initiative](#)

²¹ [Greenhouse Gas Protocol \(2022\), Corporate Value Chain \(Scope 3\) Standard](#)

Figure 13: KCSL's GHG emissions by source over time (tCO2e), 2018/19 – 2020/21

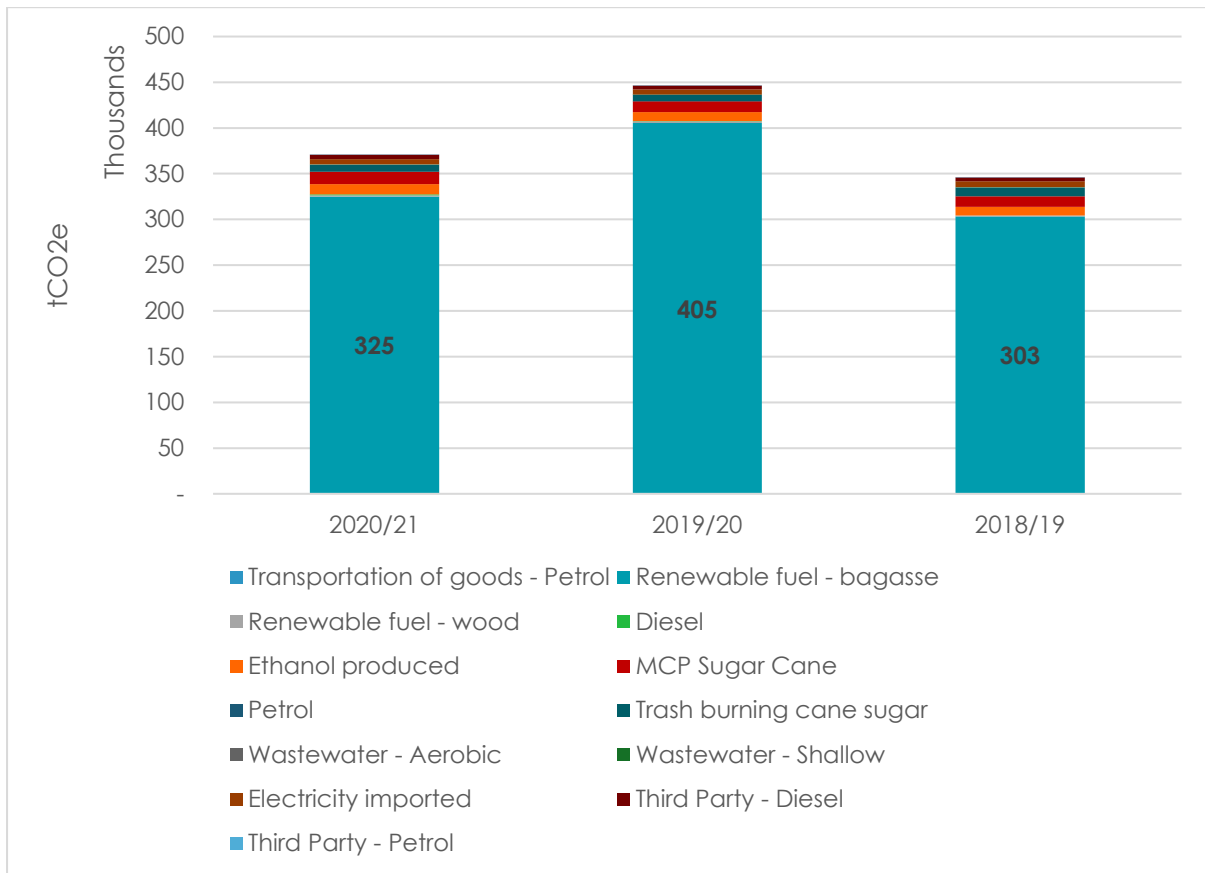
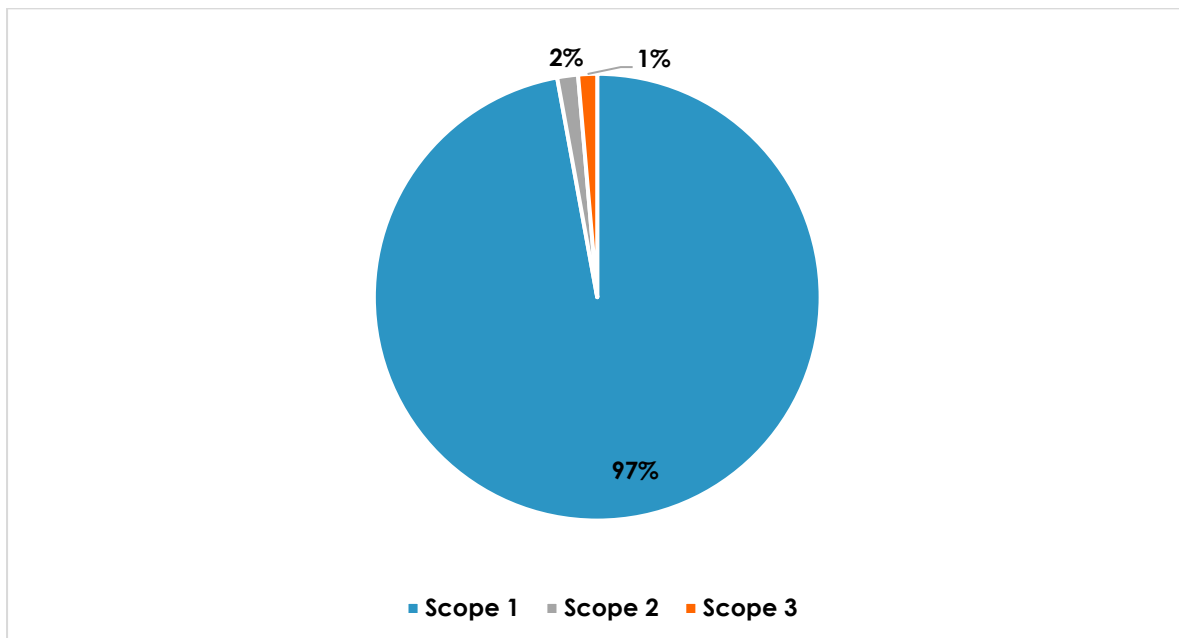


Figure 14: KCSL's GHG emissions by scope (tCO2e), 2020/21

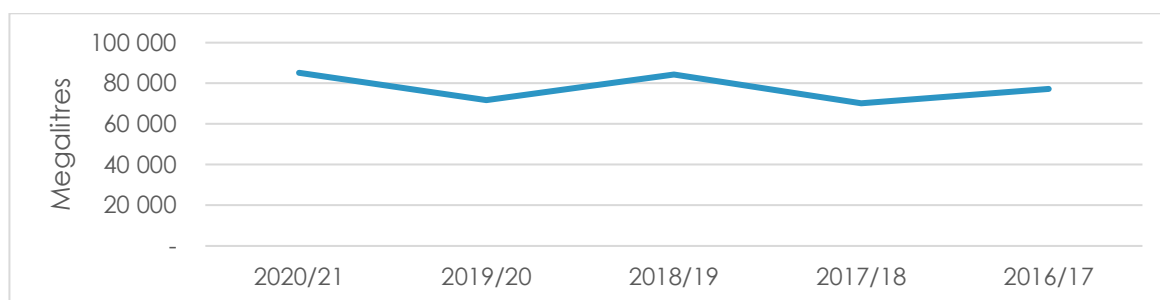


Water use and discharge

During 2020/21, KCSL withdrew a total of 85,172 megalitres of water, which was 100% surface water. KCSL's factory aims to recycle water used within its operational processes as much as possible. Water that has been used in factory processes is analyzed for effluent after use,

before being diverted towards crop irrigation. Water withdrawal fluctuations over time as portrayed in Figure 15 below, are largely reliant on drought and rainfall patterns in the region.

Figure 15: KSCL's total surface water withdrawal over time, 2016/17 to 2020/21



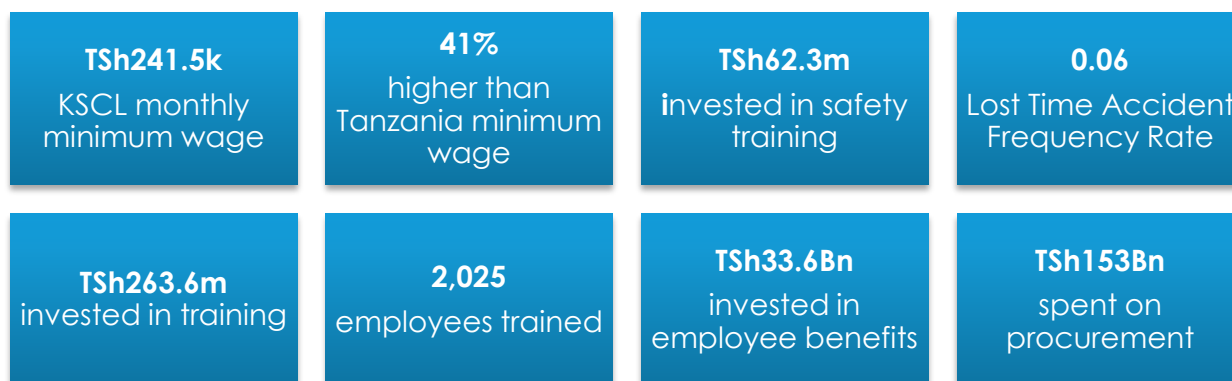
Operational waste

Many aspects of Illovo's factory operations embody circular economy principles. Generally, there is little waste in the sugar cane industry, with only what cannot be reused sent to landfill. In addition to bagasse from sugar production being used for energy production, during interviews with KSCL's factory management team, it was highlighted that the factory also re-uses the sugar residues generated as a by-product of sugar production, also known as molasses. Molasses is sent to KSCL's distillery, where it is processed into alcohol. With the expansion of K4, there will be more sugar molasses to handle. Through the distilling process, sugar molasses is converted to concentrated molasses solids (CMS) and mixed with nitrogen fertilizer to create fertilizer for agricultural use. With the increased amount of CMS that will become available from the expansion, KSCL is considering commercialising this fertilizer, beyond its application on the company's own land. This serves the dual purpose of diversifying revenue streams and also diverting the molasses from being released as an effluent by-product. Excess CMS can be applied to roads and surfaces for dust suppression.

During this report's engagement, it was also noted by the factory team that when the K1 factory will be shut down, various plant equipment will either be repurposed to the K2 factory, or some components of older equipment may be repurposed, such as valves and cables.

Decent work and quality of jobs

As a leading sugar producer in Tanzania, KSCL 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, and technical and business management. These issues will become even more important as the factory expands and production capacity increases.



Minimum wage

KSCL monitors salary levels to ensure that it is not only compliant with in-country legislative requirements, but that the lowest paid workers' minimum wage exceeds Tanzania's minimum wage.²² KSCL's minimum wage also far exceeds the local \$2.15 purchasing power parity poverty line.

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

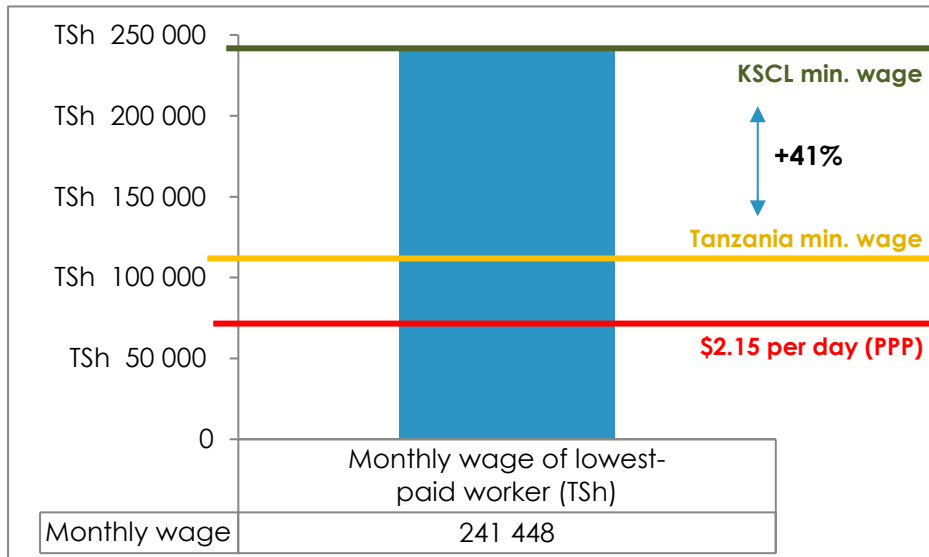
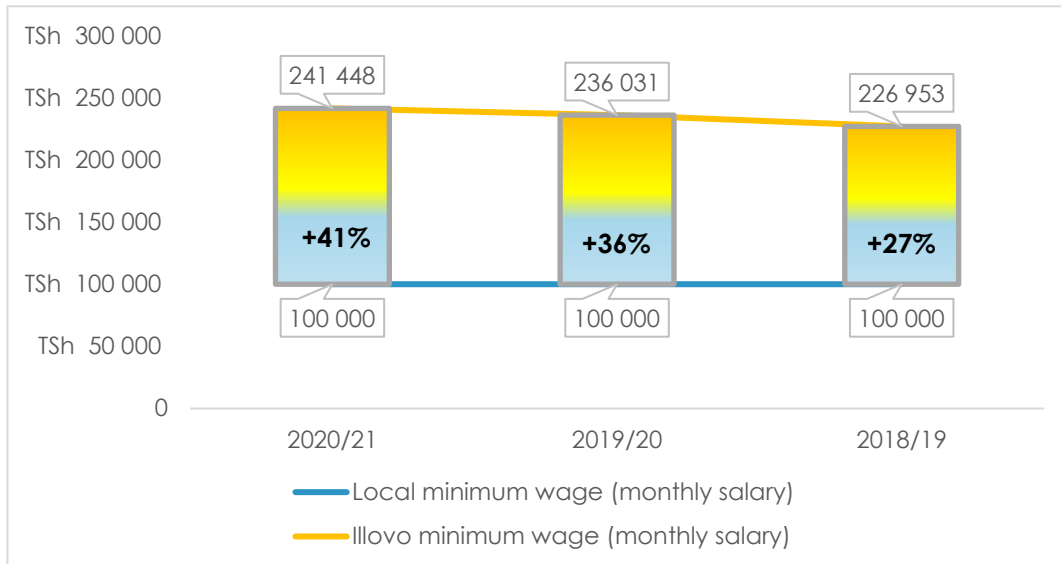


Figure 17: Rate of growth between KSCL's minimum monthly wage against the national minimum wage, 2018/19 – 2020/21



KSCL's minimum wage has increased steadily since 2018/19 and it has consistently offered better wages than the national minimum level at TSh100,000 for the past three years. Moreover,

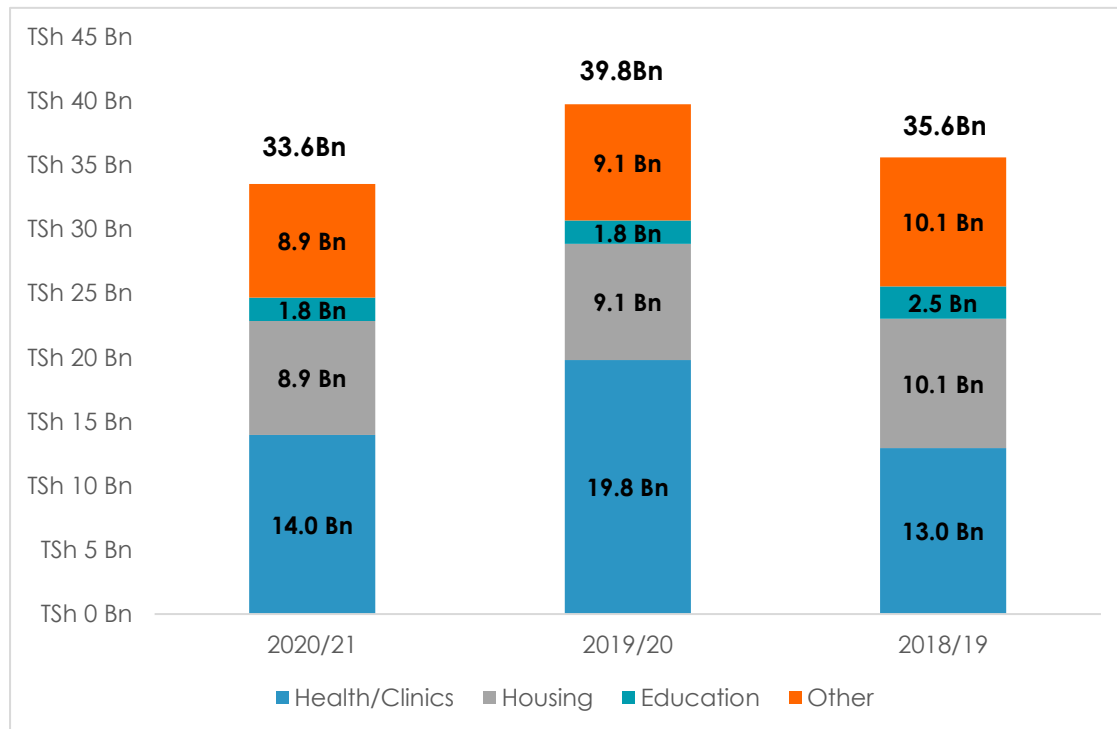
²² [World Bank \(2022\), An Adjustment to Global Poverty Lines](#)

the amount KSCL pays its employees over the line has been increasing year on year, from 27% more than the national minimum wage in 2018/19 to 41% in 2020/21.

Employee Benefits

KSCL employees are entitled to several different benefits in addition to salaries, relating to support with housing, access to health and education for family members.

Figure 18: Total spend on benefits offered to employees and their dependents, 2018/19 – 2020/21



KSCL spent TSh33.6Bn on employee benefits in 2020/21. Over the past three years, this is down 16% from the TSh39.76Bn spent in 2018/19, and a decrease of 6% from the TSh35.63Bn spent in 2019/20. KSCL attributed the 2019/2020 spike to COVID-19 medical expenditure.

Occupational health, safety & development

During discussions with KSCL representatives in HR, factories and workers, we found that the wellbeing of employees at KSCL is a priority, both in terms of health and safety, as well as career and personal development.

Spotlight: Employee Benefits at KSCL

KSCL provides all permanent employees with housing on the estate, equipped with free running water and electricity. If housing is not provided, the employee receives an allowance to locate where they would like. Employees and their families can use free transport to travel between the different sites on the estate and additionally can travel back home with an annual fare they receive.

All employees and their families receive free access to the company's high quality medical staff and facilities and in line with legal requirements, the company contributes 10% of an employee's salary towards their pension.

KSCL gives each non-management level employee 7 kilograms of sugar. For cane cutters specifically, a task completion bonus is in place to motivate the team as a whole to hit a target.

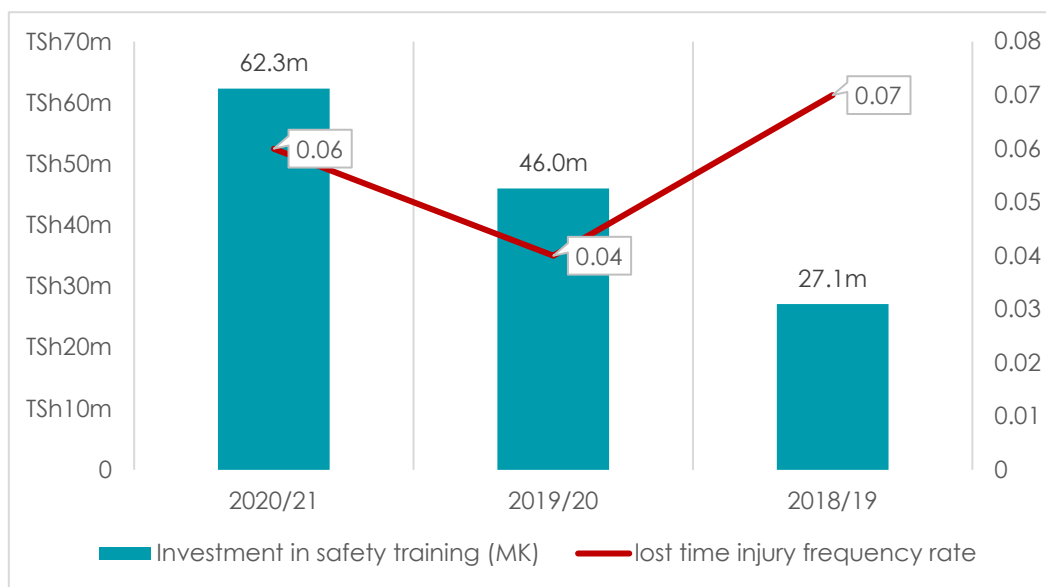
We learnt from our interview with a cane cutter that KSCL provides all health & safety training and equipment necessary for cutting.

Safety training

KSCL invested TSh62.3m in safety training in 2020/21, part of a steady rise in investment from 2018/19 where TSh27.1m was invested. The lost time injury frequency rate has fallen since 2018/19, down to 0.06 LTIs per 200,000 hours, with a low of 0.04LTIs in 2019/20. The correlation between these two data points may indicate the success of KSCL's efforts to improve occupational health and safety.

KSCL did record one fatality which occurred in August 2021, when a factory worker lost his life in an accident in a cane preparation area. During our engagement with KSCL, we did learn that mitigation actions have been taken since this incident. However, given that KSCL suffered a fatality the need to always maintain stringent health and safety standards across the company's operations should be continually reinforced.

Figure 19: KSCL's total investment in safety training (TSh) and LTIFR, 2018/19 – 2020/21

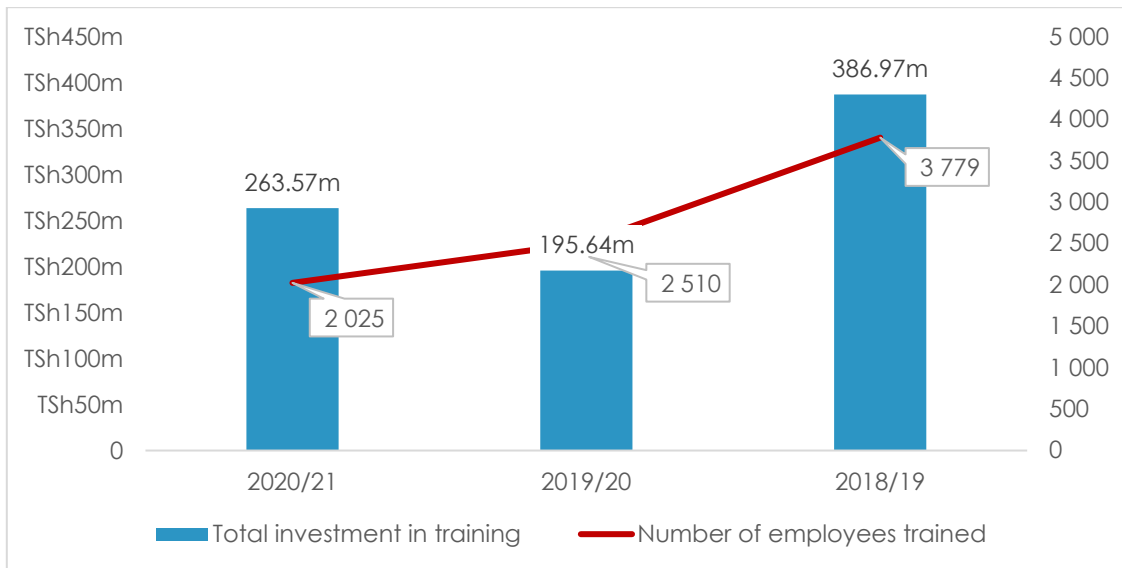


Other training & job opportunities

KSCL also invests in training employees. We learnt from our discussions with KSCL's HR about the internal employee review process to identify skills gaps to allow for more focused training. Our engagement also highlighted the need to upskill more employees in technology and that there is currently a Management in Training programme to help train junior colleagues to attain managerial positions within the business. In addition to internal training schemes, KSCL also facilitates government training initiatives.

KSCL invested TSh263.57m in training and development in 2020/21, involving 2,025 employees. Investment in training opportunities has fallen since the TSh387m invested in 2018/19, however, risen since 2019/20. This indicator was not captured in our 2017 impact assessment report, so we are unable to investigate longer-term trends, but KSCL did confirm that COVID-19 has been a key driver in the reduced training investment.

Figure 20: KSCL's total investment in training (TSh) and number of employees trained, 2018/19 -2020/21



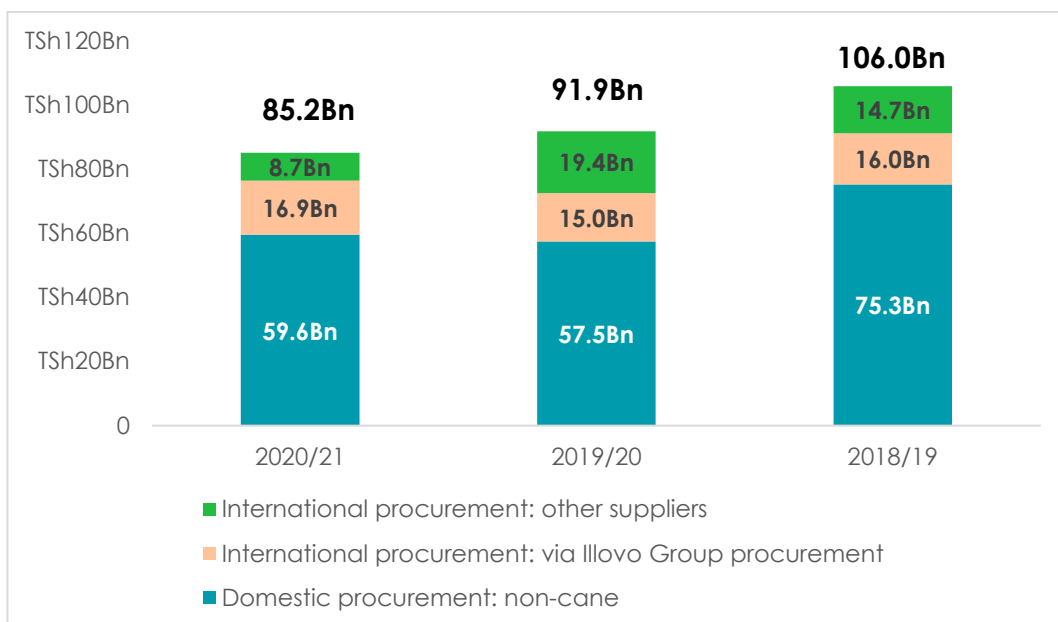
Value chain impacts

One of KSCL's more significant opportunities is the socio-economic impact it can create within its value chain, including both upstream (through procurement from suppliers) and downstream (through retailers of Illovo's products).

Procurement

In 2020/21, KSCL spent a total of TSh153.0Bn on procurement, with domestic procurement split between TSh67.8Bn on cane from growers and TSh59.6Bn on domestic non-cane procurement. Local sourcing is a strategic priority, making up 83% of total procurement spend, and our analysis indicates this is supported by a stronger focus on domestic than international procurement. In 2020/21, TSh127.4Bn was spent on local suppliers as opposed to the TSh25.6Bn spent on international suppliers. We did not receive historic data for the procurement of sugar cane for 2018/19 and 2019/20, so the table below is for non-cane supplier spending only.

Figure 21: KSCL's non-cane supplier spending, 2018/19 – 2020/21



Retail and distribution

KSCL has a significant downstream economic impact, as domestic sales involve many distributors/agents, wholesale chain stores, independent wholesalers, sub-wholesalers, grocers and tabletop vendors, who act as resellers to consumers. KSCL manages its relationship with these retailers and distributors through a network of sales representatives. They frequently meet with local sellers to understand their needs, which are then conveyed back to KSCL. This has allowed KSCL to develop a route-to-consumer programme which provides retailers and wholesalers with transport services to mitigate transit costs via promotions and its marketing department works with businesses on branding and other initiatives.

FUTURE FACING CHALLENGES

KSCL's approach to identifying development opportunities through periodic reviews is an effective way of improving the overall workforce on both an individual and collective level. This approach should continue being evolved to remain current, particularly in the technological space. The high levels of automation in the upcoming Kilombero Expansion indicate a shift towards a greater need for technological expertise and by upskilling workers in this space it offers both improved job prospects and long-term security.

"We would like KSC to be more engaging with cutters, so we can air out our concerns, and also for KSC to identify our challenges, and find resolution on any issues."

- Cane Cutter from Iringa

These reviews and training identification processes should also be extended to seasonal workers, i.e., cane cutters. Our discussions indicated that KSCL is less proactively engaged with cutters, who would like more guidance and opportunities for their ideas to be heard.

Additionally, as part of KSCL's plant expansion, future challenges may include finding re-use or disposal routes for by- and waste products of sugar production processes.

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:

KCSL's has a significant role as a business in providing support to its employees and families on its estates, along with addressing challenges such as human rights, child labour and diversity in its own operations and in the value chain.

While the company has started creating policies and partnerships to make it easier for women to participate in the workforce, it should consider creating more targeted programmes to give women the opportunity for higher-paying and skilled jobs.

KCSL has developed partnerships with local communities, civic organisations, and NGOs to help address some of the key social and economic challenges facing their wider community. However, our site visit highlighted that KCSL's success and associated population growth has increased pressure on utilities and services such as water, waste management, healthcare facilities and crime management. These impacts will become more acute as KCSL expands, meaning a proactive approach to addressing these issues is needed.

789
COVID-19
vaccinations

10%
women in the
workforce

TSh 5.9m
spent on the
community

72%
of KCSL's
employees are
unionised

There are many elements to creating thriving communities. KCSL's impacts range from how the business provides support to its employees and families on its estates, to how it addresses challenges such as human rights, child labour and gender diversity within its own operations and in the value chain. KCSL must also play an active role within the wider communities around its estates, including regular stakeholder engagement to understand local concerns and challenges, along with working with partners to address these.

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 workers and risks of child labour, where hazardous and exploitative working standards can exist. Illovo has a series of policies 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.

Through established collective bargaining agreements with unions and in-house country dispute resolution mechanisms, employees can raise grievances through formal means, called 'Speak Up'. 72% of KSCL's employees are unionized, down from 79% in 2017, including the employees in the trade union for Bargain Unity, as well as both unionized managers and non-managers. From our discussions with KSCL, we found that the company is proud of its efforts to promote employee rights, with clearly defined employment and labour relations, covering child labour, working hours and formal policies to support them.

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.

Employee diversity & inclusion

Diversity, equity and inclusion (DEI) especially as relates to gender is a topic at the forefront of the agenda for most companies globally. As a leading sugar producer within Tanzania, KSCL has an important role in promoting DEI across its own workforce and within the grower and broader community it interacts with.

In the workforce

"KSCL has developed a bursary scheme. Candidates who want to upskill can approach KSCL with a proposal, and KSCL will offer a bursary for that education if it sees fit. Corporate Affairs also informs local community about this, so external applicants can apply."

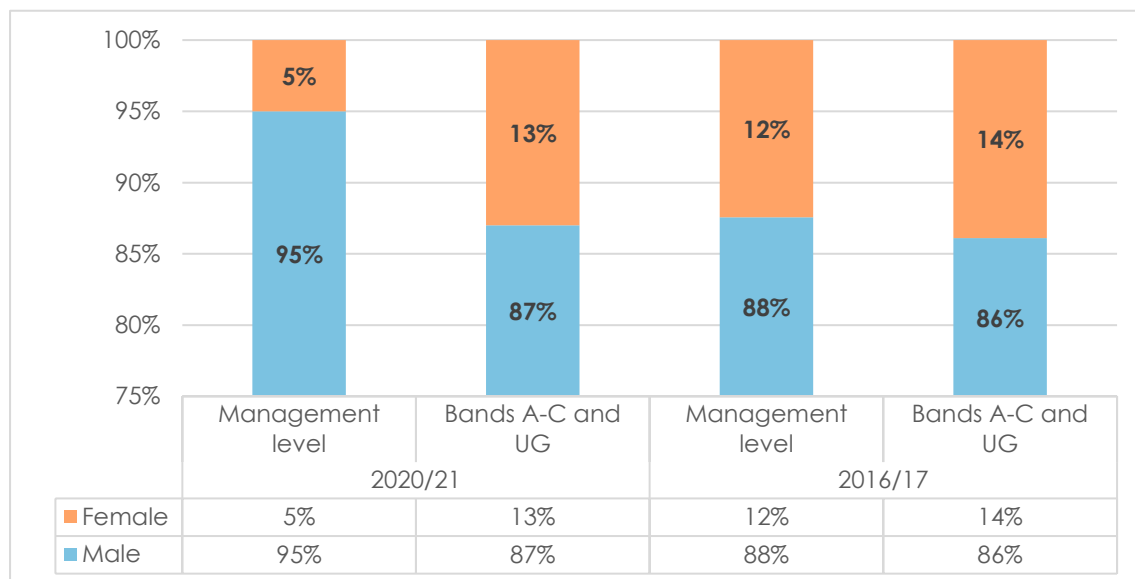
- Beda Marwa
HR Manager
KSCL

KSCL has put policies in place to try and make employment more accessible for women. There is a zero-tolerance Speak Up policy for sexual harassment and training is provided to encourage tolerance and respect in the workplace. Job advertisements specifically state that women are encouraged to apply. A flexible breastfeeding policy is in place that allows nursing mothers two hours per day at the time of their choosing to attend to their baby.

During our engagement, we met with three female employees from the business: an engineer, a logistics officer in the Agricultural department and a warehouse clerk. All three women had worked at KSCL for over ten years and highlighted that hard work is recognised within the company regardless of gender. However, they noted that all their managers are men and the culture within the workforce and region still makes it difficult for women to access the education they need for higher-paying and skilled jobs and feel comfortable being in the workforce.

"The flexible working hours policy is very helpful as a mother. If my children are sick, I can leave work and go and help them and finish my hours later."
 - Salome Milinga
 Warehouse Clerk
 KSCL

Figure 22: KSCL's permanent employees by gender, 2016/17 - 2020/21



Women in the community

Interviews with a local women's group organisation, the Imara Trust Fund, highlighted that KSCL's support had been beneficial for the women in the community through the years but additional support is needed. They expressed that people living in the area depend on KSCL for their livelihoods but also must live with the negative impacts of the rapid population growth in the area which include food scarcity, lack of access to water and land for residential development, insufficient medical care, and an increase in orphaned children as migrant workers leave their children in the community and move on.

KSCL previously ran the Kilombero Trust Fund which helped the community mitigate some of the negative impacts of rapid development by funding the creation of schools, hospitals, sanitation infrastructure and rural water access. However, in recent years, the Trust has shifted to a different model where molasses is given to the community to sell, and the profits are used to largely fund the children's orphanage. While this is helpful, the women of Imara Trust felt that it is not enough to appropriately meet the community's needs and that KSLC should bring back the original Trust model.

Community resources and services

KSCL provides various benefits, resources and services for employees, their families and the wider community outside of the estate.

The KSCL estate

KSCL has created two agricultural estates where its permanent employees can live with their families. KSCL provides potable water, electricity and other municipal services to over 1,800 housing units accommodating some 10,000 people. Temporary employees such as cane cutters are also provided housing on the estate for the duration of their employment. Those not living on the estate have an allowance to spend on accommodation.

Education

KSCL supplies and maintains electrical and building materials for five local primary schools, three day-care centres and two secondary schools. In addition, the company provides 14 primary schools and six secondary schools with books and other educational materials for students.

Healthcare facilities

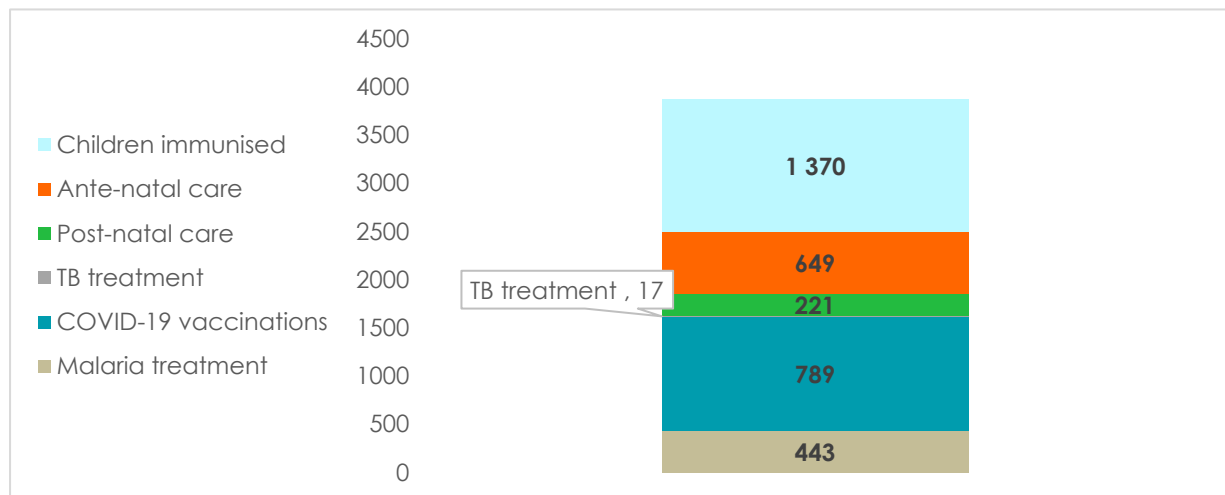
"Lack of medical insurance is the biggest issue for women in this area. Up to five years old children receive free care but women do not which means that maternal deaths are higher. Even if you go to a hospital and they give you a prescription there isn't any available medicine."

Imara Trust Fund

KSCL has also invested in the townships in the surrounding communities, including two health clinics and a 78-bed hospital. These facilities provide healthcare to both estate employees and the broader community.

This includes providing treatment for illnesses such as TB, COVID-19, and Malaria as well as ante & post-natal care. Additionally, KSCL has provided support for COVID-19 awareness through educational campaigns and visits.

Figure 23: KSCL's healthcare services by number of people receiving treatment, 2020/21

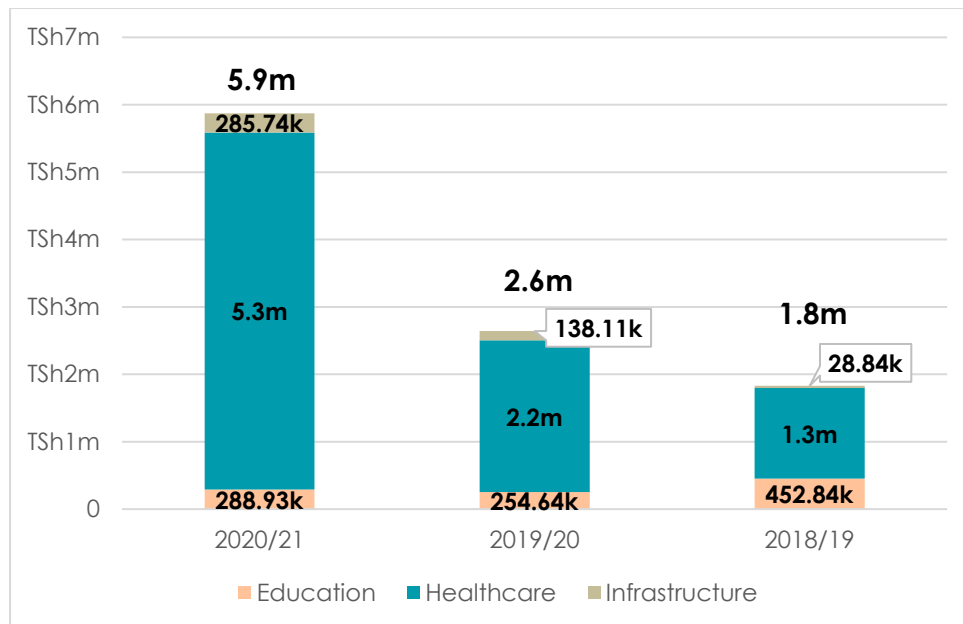


Inclusive stakeholder engagement

The company's communicative and collaborative relationship with the community extends to the local and central government officials. The company works closely with the local government and with the Kilombero District Commissioner highlighting that KSCL takes a proactive role in regional decision making.

KSCL's total community investment outside the estate was TSh5,874,676 in 2020/21. This is spread across education (TSh288,932), healthcare (TSh5,300,000) and infrastructure (TSh285,744).

Figure 24: Community investment in infrastructure, education and healthcare, 2018/19 – 2020/21



KSCL's success has resulted in associated population growth, with our engagement highlighting this has led to increased government revenues, employment, infrastructure and expanded local businesses. However, stakeholder engagement carried out in the country has highlighted that, while the company does play a positive role, its success has created further challenges as increasing populations place a strain on available resources and existing infrastructure.

Stakeholders indicated that the rapid growth in wider communities has put pressure on utilities and services such as water, waste management, healthcare facilities and crime management. Our engagement with a women's group highlighted that lack of access to medical care was a major issue in the community. While KSCL has made some previous efforts to provide medical insurance for growers, the insurance scheme is controlled by the bank and requires a minimum number of growers to register before the insurance programme can be activated. There is an opportunity here for KSCL to increase efforts to socialise the insurance benefits and increase grower registration numbers or find alternatives if the bank will not change the criterion for programme activation.

Challenges exist in determining KSCL's role in the broader community, as it can be difficult to identify where the company's responsibility ends, and the local government's responsibility begins. Greater engagement with stakeholders could help to clarify the company's roles and responsibilities within the wider community.

Spotlight: Kilombero Community Charitable Trust (KCCT)

Kilombero Community Charitable Trust (KCCT) was co-founded in 2003 between KSCL and their transport partners, UniTrans, with the aim of supporting and uplifting underprivileged people in the communities where it operates.

During 2019, the following projects were completed using funding from KCCT:

- Upgrading and maintenance of roads connecting the Nyandewo and Mkamba Hospitals
- Renovation of the Msolwa Good Samaritan Hospital
- Contributions towards building developments for two classrooms at the Iwemba and Tumbi schools including providing water and electricity supply
- Assisting small growers with cane rates negotiations.

FUTURE FACING CHALLENGES

A significant challenge for KSCL's workforce is gender diversity, especially in the permanent labour pool. While the company recognises that change is needed, continued efforts are needed to improve workforce diversity.

Similarly, our engagement identified that women in the broader community feel that the quality of support has altered in recent years. KSCL could strengthen its engagement with women in the community to improve the support provided.

Our site visit highlighted that KSCL's success and associated population growth has created some adverse impacts in the wider community. This includes increased pressure on utilities and services such as water, waste management, healthcare facilities and crime management. KSCL stands to benefit from greater stakeholder engagement to understand best how to manage these impacts and strengthen community relationships.

Recommendations

Recommendation 1

Upskilling for the expansion

While the anticipated K4 expansion will bring benefits such as increased production capacity and upgraded irrigation and electricity infrastructure, the three-fold increase in cane supplied from growers to meet the new factory's production needs will provide economic opportunities for the local community but could also exacerbate existing issues.

During our engagement with existing grower co-operatives, growers highlighted several key areas for increased support and training across five key areas: irrigation infrastructure, agrochemical inputs, disease and pests, climate impacts and specific support for female growers. These concerns intersect with issues of finance and limited capacity, leaving growers more at risk of climate impacts. As such, in anticipation of the expansion and the demand that will be placed on existing and new growers, KSCL could assist growers to increase their adaptive capacity to climate impacts and provide greater support for improved agricultural productivity. This will both build current and future grower capacity while providing KSCL with a more stable and resilient cane supply.

When speaking with individuals from the operational side of the business, interviewees stated that the need for upskilling in anticipation of the expansion also extends to existing employees who may need to shift their skill sets to adapt to the more modern factory. K4 will be a largely automated factory and likely require fewer but more highly skilled individuals. While in our engagement KSCL expressed that it will prioritise hiring internally, some jobs will require external hiring. KSCL also recognised that some employees will need additional training to find positions elsewhere in the supply chain. KSCL could continue to prioritise internal hiring, but also create a more formal programme to provide additional resources or training for those who may need to find jobs elsewhere in the supply chain. It could also consider working with local or regional educational institutions to ensure that graduates from the community are aware of the skills needed to gain employment with KSCL and that the courses are available to them.

Recommendation 2

Gender diversity focus

Our engagement with KSCL's HR team highlighted that various initiatives are in place to encourage gender diversity. Gender diversity in the industry and within the country is a broader challenge as structural and cultural barriers exist. However, given the consistently low representation of women in KSCL's workforce and its position as a best practice employer, the company has the opportunity for real impact in this area. Our interviewees stated that issues for women include workplace culture and difficulties for women in accessing the needed education for high-paying, skilled positions. KSCL could focus on women's empowerment, investing in specific education and training for female employees, suppliers and business partners and building partnerships with local organisations. In addition, KSCL should closely monitor the effectiveness of any new programmes it develops, to identify learnings and ways to improve.

Recommendation 3

Investment in climate-resilient communities, agriculture and infrastructure

Increasingly volatile and irregular weather patterns, with increased flooding, cyclones and other events are only likely to continue. This is likely to impact agricultural productivity and livelihoods. KSCL could benefit from further investment in climate-resilient agriculture and

infrastructure to prevent some of the worst impacts of climate events on agricultural productivity and livelihoods. Importantly, this work can be done with regional partners (e.g., major NGOs and governments) as these are issues affecting multiple stakeholders.

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 Budget Rates FY21	ABF Budget Rates FY20	ABF Budget Rates FY19	ABF 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 categories²³:

²³ 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.²⁴ 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.²⁵

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'.

²⁴ [IFC \(2013\), IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction](#)

²⁵ [ibid.](#)

- Imani-Capricorn (2001), *The Socio-Economic Contribution Of The South African Sugar Industry: A report prepared for the South African Sugar Association*.
- 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.

- Phoofole (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 ²⁶
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

²⁶ Sources for each country can be found in the corresponding country report.