

SilverStreet Capital

2018

Annual Impact and ESG Report The Silverlands Funds



Our Impact

We employ
6,200
people

Average incomes
increased from \$650 p.a. to
\$1,080 p.a.

200,000
people benefit
economically

Increased community
income of
\$86m p.a.

Secondary positive
impact for
1.2 million
people



800,000 tonnes
of food produced

Our improved
seed is benefiting
145,000
small-scale
farmers

300 SME's
earn over
\$7.7m p.a.
from our
operations

\$200,000
CSI donations benefiting
12,000 people

Welcome

Welcome to our sixth Annual Impact and ESG Report.

As investors we aim to achieve attractive returns for our investors as well as a substantial, positive social impact through our investments. Our investment area is the agricultural value chain and our target impact group are smallholder farmers in Africa.

The issues facing the African agricultural sector

Some 60-70% of the population in Sub-Saharan Africa live on smallholder farms, that are, on average, 1-2 hectares in size. Most of these farms are managed by women with the husband often working elsewhere. These families are typically farming low value subsistence crops such as maize or cassava. Farming techniques adopted tend to be sub-optimal and farmers often use farm-saved seed rather than improved seed which can multiply crop yields. Farmers generally do not have access to basic infrastructure such as storage or transport networks.

The results are low crop yields and low incomes. These families represent the lowest income group in these economies and they are caught in a poverty trap.

Our solutions

Our focus is on fixing these issues through investment and support:

- Developing world class development hubs to **create a market for a higher value crop for smallholder farmers**, typically through a processing plant development – farmers can make higher incomes by growing this higher valued crop.
- Providing **access to high quality, improved seed** to help increase crop yields.
- **Training in conservation farming techniques** and extension services helps raise crop yields for smallholder farmers, with a doubling in yields being a reasonable target.
- **Increasing storage and other infrastructure** availability to help preserve harvests and to help farmers sell when the prices are higher.

The results

The report highlights the extraordinary impact this targeted investment is achieving. At present some 200,000 community members are benefiting economically from our investments. The additional income that they are earning, compared to before we invested, is \$86m per annum and we believe that this is sustainable going forward. Most of the beneficiaries are women-led families.

We are pleased to have won three awards in the last year: Best in Ethical Investments, Best Impact Investor and Best African Agriculture P.E. Fund.

Thank-you again for your support. Please feel free to contact us if you have any questions or comments.



Gary Vaughan-Smith
Chief Investment Officer

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Glossary of Terms and Abbreviations

Achill	Achill Island Investments (Proprietary) Limited
CBL	Crookes Brothers Limited
CSI	Corporate Social Investment
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESAP	Environmental & Social Action Plan
ESG	Environmental, Social, Governance
ESIA	Environmental and Social Impact Assessment
IFC	International Finance Corporation
IPM	Integrated Pest Management
JV	joint venture
LT	Livestock Technician
NGO	Non-Governmental Organisation
PPE	Personal Protective Equipment
PS	Performance Standard (i.e. IFC Performance Standard)
QBV	Quinta da Bela Vista Limitada
RIC	Responsible Investment Code
SA	South Africa
SASL	Silverlands Agriculture Services Limited
SEMS	Social and Environmental Management System
Silverlands I	SilverStreet Private Equity Strategies SICAR
Silverlands II	Silverlands II SCSp
SLIC	Silverlands Livestock Improvement Community
SNL	Silverlands Ndolela Limited (previously NAPL)
SRL	Silverlands Ranching Limited
STL	Silverlands Tanzania Limited
SVL	Silverlands Vineyards Limited
SZL	Silverlands Zambia Limited
Zamseed	Zambia Seed Company Limited

1 Introduction

1.1 About this Report

This is our sixth Annual Impact and Environmental, Social and Governance (ESG) Report, and covers the period 1 July 2017 to 30 June 2018. This year, the report includes investments in both of the Silverlands Funds (Silverlands I and II).

The aim of the report is to provide investors with an update on the Funds' environmental and social impact and a review of ESG compliance within the investment portfolios. Detailed reports on each Portfolio Company are available on the Sungardd Data Room. For more information, contact jwakeling@silverstreetcapital.com or visit www.silverstreetcapital.com for updates and videos.

1.2 ESG and Impact Measurement Standards

In compiling this report, we have considered the UN Sustainable Development Goals (SDGs), relevant IRIS metrics, the International Finance Corporation (IFC) Performance Standards, our own Responsible Investment Code (RIC), the UN Global Compact and the UN Principles of Responsible Investment (UNPRI). SilverStreet is a signatory of the UNPRI. Reporting obligations of the Silverlands Funds are in the Appendix.

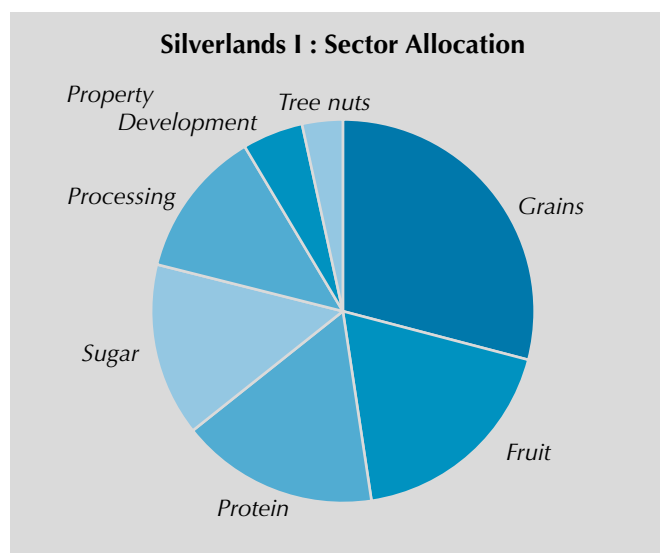
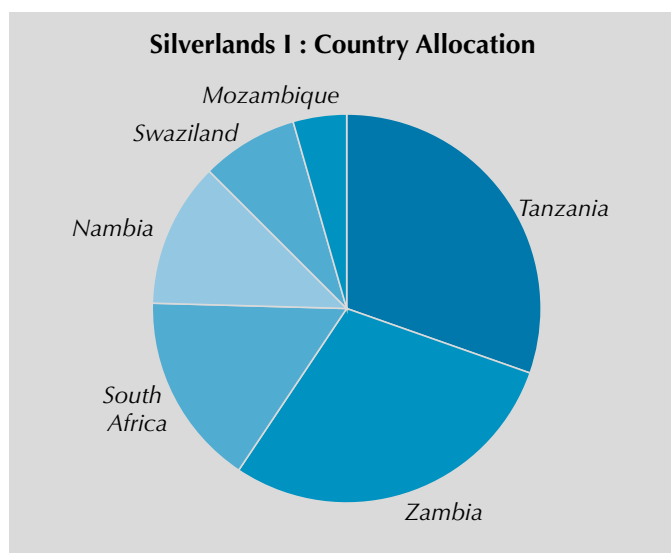


Silverlands Ndolela in South Western Tanzania has developed over 1,200 ha of cropping, silo storage, irrigation canal and hydropower facility.

1.3 Country and Sector Allocations

The Silverlands Funds are invested in ten Portfolio Companies across six countries in Southern and East Africa:

Portfolio Company Name	Abbreviation	Country	Business/Product
Silverlands I			
Silverlands Tanzania Limited	STL	Tanzania	Poultry, feed-mill, grains and cattle
Silverlands Ndolela Limited	SNL	Tanzania	Grains and avocados
Silverlands Zambia Limited	SZL	Zambia	Grains
Silverlands Agriculture Services Limited	SASL	Zambia	Grains
Silverlands Ranching Limited	SRL	Zambia	Cattle, cropping, feedlots
Quinta da Bela Vista Limitada	QBV	Mozambique	Bananas
Silverlands Vineyards (Proprietary) Limited	SVL	Namibia	Table grapes and distribution
Crookes Brothers Limited	CBL	Zambia, Mozambique, South Africa, Swaziland	Sugar cane, fruit (apples, pears, bananas), macadamia nuts
Silverlands II			
Achill Island Investments (Proprietary) Limited	Achill	Namibia	Table grapes and distribution
Zambia Seed Company Limited	Zamseed	Zambia	Seed sector



Location of the Silverlands Funds' Portfolio Companies Across Southern and East Africa

SILVERLANDS I
SILVERLANDS II

SILVERLANDS ZAMBIA LIMITED (SZL)
Grains Farm

SILVERLANDS AGRICULTURE SERVICES LIMITED (SASL)
Grains Farm

ZAMBIA SEED COMPANY LIMITED (ZAMSEED)
Seed Company

CBL / AGRI ZAMBIA
Sugar Cane Farm

SILVERLANDS RANCHING LIMITED (SRL)
Cattle, Cropping & Feed Lots

CBL / CROOKES PLANTATIONS
Sugar Cane Farm

SILVERLANDS VINEYARDS LIMITED (SVL)
& **ACHILL ISLAND INVESTMENTS LIMITED (ACHILL)**
Table Grapes: Farms & Distribution

TANZANIA

ZAMBIA

NAMIBIA

MOZAMBIQUE

SWAZILAND

SOUTH AFRICA

SILVERLANDS TANZANIA LIMITED (STL)
Poultry, Feed Mill, Grains & Cattle

SILVERLANDS NDOLELA LIMITED (SNL)
Grains & Cattle

CBL / MURRIMO MACADAMIAS
Macadamia Nuts & Annual Crops

CBL / MTHAYIZA
Sugar Cane JV Farm

CBL / MAWECRO
Sugar Cane & Bananas JV Farm

QUINTA DA BELA VISTA (QBV)
Banana Farm

CBL / RENISHAW / MPAMBANYONI
Property Development & Sugar Cane

CBL / DECIDUOUS
Deciduous Fruit: Farms & Fruit Processing



Murrimo Macadamias is a Crookes Brothers farm in northern Mozambique. The farm harvested 168 tonnes of macadamias (nuts-in-shell) this year, with production volumes set to increase as trees mature and additional orchards are planted.

2 Silverlands' Investment Strategy

2.1 Our Vision and Mission



Our Vision:

To provide the seed capital for a new era in African agriculture.



Our Mission:

To build profitable and sustainable businesses that permanently strengthen local economies, raise living standards and meet the needs of a rapidly growing population.



As an investor we aim to:

- Achieve attractive returns for investors;
- Strengthen the agricultural sector through investment in infrastructure, systems, and people; and
- Benefit smallholder farmers by providing technical assistance, creating markets, and encouraging entrepreneurial activity.

2.2 Challenges and Opportunities in Africa's Agricultural Sector

Sub-Saharan Africa continues to face some significant developmental challenges, including:

- High levels of poverty, persistent underemployment and poor nutrition;
- Some of the highest levels of population growth globally, with Central African countries growing at 2.5-3% per annum; and
- Increasing ecological damage.

Some 60-70% of the Sub-Saharan African population live on small-scale farms, typically 1-2 ha in size. Africa's small-scale agricultural sector has some particular challenges that are creating a poverty trap across much of rural Africa:

Challenges in small-scale agriculture	Contributory causes
<ul style="list-style-type: none"> • Small-scale farmers typically grow low value crops, such as maize and cassava, for subsistence and local community consumption. 	<ul style="list-style-type: none"> • Lack of a market for higher value crops/livestock products.
<ul style="list-style-type: none"> • Crop yields are well below global averages, typically at 1-2 tons/ha for maize for example, whereas 8-10 t/ha is achievable by commercial farmers in the region. 	<ul style="list-style-type: none"> • Shortage of inputs: hybrid seed and fertilisers, delivered and implemented on time. • Smallholder farmers utilise sub-optimal farming techniques.
<ul style="list-style-type: none"> • A lack of access to basic infrastructure such as storage facilities, transportation and processing facilities. Around 30% of the smallholder crop spoils due to a lack of storage facilities. 	<ul style="list-style-type: none"> • Poorly resourced commercial sector - and consequent under-investment in basic infrastructure, extension support and processing.

Small-scale Agriculture in Sub-Saharan Africa

Challenges	Causes	Opportunities
Low value crops	Lack of a market	Create a market for a high value crop
Poor yields	Shortage of inputs Sub-optimal farming techniques	Facilitate access to high yielding seed Provide training in conservation farming
Lack of basic infrastructure	Poorly-resourced commercial sector	Develop processing, farming and storage hubs

2.3 Small-Scale Farmers as a Developmental Target

Small-scale farmers are a particularly attractive target group for development opportunities:

- **A large and broad-based group:** An estimated 60-70% of Sub-Saharan Africa's growing population live on small-scale farms. This group is amongst the lowest income part of the population and is caught in a **poverty trap**.
- **High potential for a productivity step-change:** Productivity on these farms is typically very low, offering the potential to double the yields per hectare, significantly boost rural incomes and improve food security. This can be done through relatively low-cost and low-tech solutions, such as providing better inputs and improved farming techniques. An increase in maize yields from 1.5 t/ha to 4 t/ha results in almost a fivefold increase in net profits to the farmer.
- **Contribution to entrepreneurship and empowerment of women:** Targeted interventions in the sector offer significant opportunity to stimulate entrepreneurial activity, empower women, and drive broader development in the rest of the economy. Women benefit to a greater extent through interventions in the sector because a high proportion of smallholder farmers are women.
- **Promoting food security and social stability:** Boosting agricultural productivity contributes to the alleviation of nutritional challenges and improves social stability.

2.4 Responding to these Challenges: Our Investment Approach

SilverStreet's work seeks to address the root causes of these development challenges by realising some of the associated investment opportunities, informed by the following underlying objectives:

- 1 **Building profitable businesses;**
- 2 **Operating responsibly; and**
- 3 **Creating a significant positive social impact within communities.**

We believe that if value is created across Africa's agricultural value chain, then a sustainable infrastructure can be built that will permanently raise the standards of living for farmers, mitigate negative environmental impacts, and create a multiplier effect across local economies to increase overall prosperity. Our end goal is to help build a sustainable business environment that will survive the Funds and make a lasting contribution to producing stronger economies in Sub-Saharan Africa.

1 Building profitable businesses

Our approach to building profitable businesses is guided by the following premises:

- **Profits are essential:** Building successful commercial operations is at the core of Silverlands' social impact strategy, informed by the belief that business success underwrites the sustainability of the human and social development we seek. We bring infrastructure, high-quality inputs, and world-class expertise to pursue returns aggressively.
- **Long-term risk mitigation and diversification:** Silverlands sees its ultimate impact in terms of decades rather than years. In delivering on our long-term approach, we strive to mitigate risk through meticulous site and business selection. Our metrics include: climate and geography; access to water, transport, and labour; community willingness; and political risk management. Our portfolio is diversified across the value chain in six nations and various climatic regions.
- **Long-term investment partners:** We are backed by patient investors, managing institutional, family office or government funds, who share our objectives and who do not urge us to pursue short-term profits at the expense of long-term benefit.

2 Operating responsibly

We are committed to operating responsibly by pursuing ethical business practices, ensuring responsible environmental management, and maintaining a corporate social investment programme.

- **Ethical business practices**
 - Our investments are governed by a Responsible Investment Code. In addition, we adhere to the IFC Performance Standards and the UN Principles for Responsible Investment (UNPRI). We are looking into certification as a B-Corporation and signing up to the UN Global Compact. We adhere to international accounting standards, and have strong anti-bribery and corruption policies and training. Together with our partners, we support honest and transparent governance and reporting standards.
 - In adopting the IFC Performance Standards, we conduct regular external reviews. We monitor: environmental and social risk management activities; fair labour practices; the conservation of resources, preservation of biodiversity and reduction of pollution; community health and safety; and safeguarding of cultural heritage. We publish annual reports giving full details of our ESG compliance and actions in progress.
- **Environmental responsibility**
 - *Efficient water use:* By using the most efficient irrigation methods and automated systems, we minimise water requirements and increase our yields. Practicing minimum tillage on our farms, and teaching this to small-scale farmers, leads to increased moisture retention in the soil, reducing irrigation needs and enhancing drought tolerance in lower rainfall years. Using drought-tolerant seed also has water-use benefits.
 - *Reducing energy use:* We have implemented clean energy solutions and solar and hydroelectric power developments to help reduce reliance on fossil fuels and an unreliable grid.
 - *Improving soils:* This has a carbon benefit and reduces erosion and agrochemical use. We practice and teach small-scale farmers various conservation farming methods, such as minimum tillage, composting, mulching and crop rotation. These increase soil organic matter which has a carbon benefit, and reduces erosion and the need for fertiliser.
 - *Biodiversity benefits:* Keeping smallholder farmland productive reduces deforestation of woodlands and helps to preserve biodiversity. Extraordinary yield improvements, from 1-2 t/ha to 4-5 t/ha, are possible in a short space of time, raising food production without the need for the farmer to increase the area farmed.

- **Corporate social investment**

- Each Portfolio Company has a corporate social investment programme, donating towards community projects such as schools, clinics and agricultural education centres.

3 **Creating a significant positive social impact within communities**

We integrate work with communities into our business model. Our aim is for both the business and the community to have higher incomes. We have five modes of driving positive social impact:

- Creating a direct impact – through job creation, food production and technical assistance;
- Improving inputs;
- Providing a market;
- Improving infrastructure such as storage; and
- Investing in community joint ventures.

Direct Impact

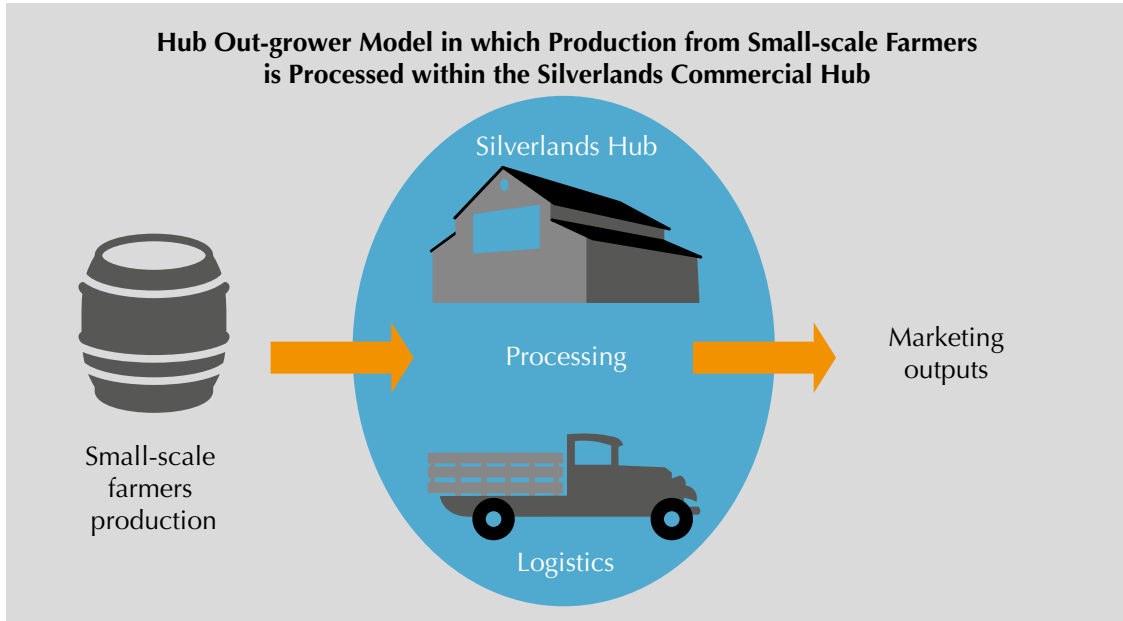
- *Employment:* A large-scale commercial enterprise brings direct benefits to an area, such as jobs on site and within surrounding services. Silverlands directly employs over 6,200 people who earn salaries totalling over \$26 million per annum. The multiplier effects suggest that total jobs created will be three times the number of permanent jobs, while the number of household members positively impacted will be at nine times total employment.
- *Food production:* Most of our produce is for consumption within country or region, strengthening local economies and increasing food security.
- *Technical assistance:* We provide training to small-scale farmers in conservation farming and animal husbandry, as well as access to infrastructural improvements and business advice. Employee training and management development programmes improve local expertise.

Improved Inputs

Silverlands also provides access to higher quality inputs for farmers, from seed and fertiliser to animals and poultry with better commercial viability. Providing hybrid seed that is adapted to local conditions has an enormous multiplier effect, boosting yields per hectare on average by 60-70%. Seed produced by Silverlands is deployed on over 350,000 ha of farmland, almost all belonging to smallholder farmers.

Providing a Market

A 'market' for most farm production is normally a processing plant: a wheat mill, a soya processor, a fruit packing and juicing plant. Our hub out-grower model deploys surrounding farmers as producers for a central processing facility, developed by the Portfolio Company. Silverlands benefits by having access to greater volume, while growers benefit by producing higher value crops that Silverlands processes and markets. Current outgrowing projects include soya, cattle, sunflower and chickens.



Improving Infrastructure

It is estimated that as much as a third of grains grown by smallholder farmers is lost through a lack of reliable storage. Businesses that improve crop storage, cold storage and the logistical aspects of transporting crops can have huge impacts on entire value chains.

Community Joint Ventures

A community joint venture structure allows the Silverlands team to help communities manage farms owned by the community and to implement a long-term skills transfer process.



Soya beans, grown in Southern Tanzania by smallholder farmers.

Awards

This year, SilverStreet won the following three awards:

1 Best in Ethical Investments 2018

Recognised for our significant contributions and innovation in the industry, this title was awarded to us by Corporate LiveWire within their Global Fund Awards 2018. These awards honour outstanding performance and continued excellence within the global financial services industry.

Our Chief Investment Officer, Gary Vaughan-Smith is quoted in the Corporate Livewire magazine:

“Our focus is on investing in attractive projects that will make a substantial, positive impact.

We believe that the only sustainable way to invest into the African agricultural sector is to focus on enabling smallholder farmers so that their incomes improve and their environmental impact reduces.

Our experience has been that this investment approach creates better return opportunities as well as extraordinarily positive social impact.”

Read the full article [online](#).



2 Best Impact Investor 2018 – United Kingdom

In the expanding field of impact investing, we are proud to be showcased as one of the most outstanding performers in this field. We were awarded this within Wealth and Financial International’s 2018 Alternative Investment Awards.

The Alternative Investment Awards highlight the firms from all sectors that have shaped the unique and dynamic alternative investment industry. The awards are given on merit to firms dedicated to client service, innovation and success.



3 Best African Agriculture PE Fund

This award was given specifically to our Silverlands Fund I for playing a vital role in shaping this new sector. The honour was also bestowed by Wealth and Financial International in their 2018 Alternative Investment Awards.

2.5 UN Sustainable Development Goals

The UN’s Sustainable Development Goals, developed in 2015, are aimed at improving the quality of life for all people and our planet.

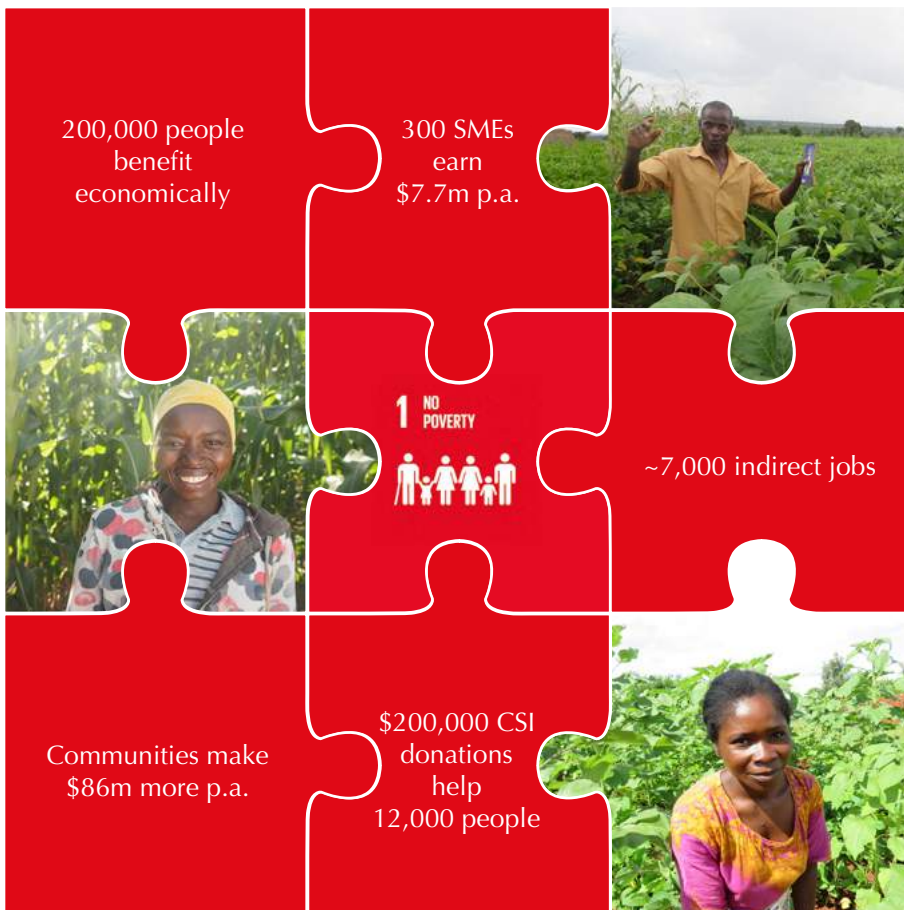
Most of our work is in rural areas where people are dependent on land, livestock and agriculture for their livelihoods. These people are typically the poorest in these areas. We feel that we are privileged to have the opportunity to take financing, knowledge and resources into these areas to make a significant difference to the lives of people in rural Africa.

Average GDP per capita is ~\$2,900 per annum in the six countries that we operate in. We really are operating in poor countries where we can have a large impact.

Country	GDP per capita, 2017 (\$)
Mozambique	416
Namibia	5,227
South Africa	6,161
Swaziland	3,224
Tanzania	936
Zambia	1,510
Average	2,912

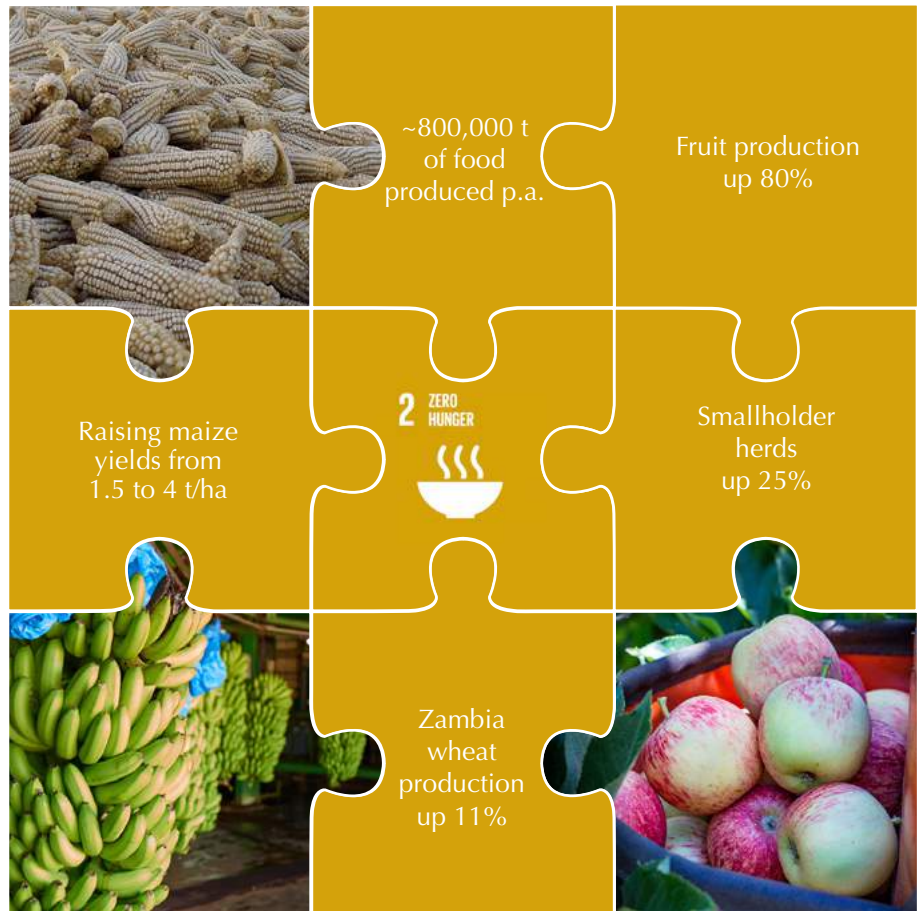
Source: World Bank

Our key impacts, structured within the framework of the Sustainable Development Goals, are described below.



- ~200,000 people economically benefit from our investments. On average they profit ~\$430 more per annum, and therefore an incremental profit of \$86m per annum is earned by third parties because of our investments - employees, smallholder grains and livestock farmers, and communities in joint ventures within our portfolio companies.
- Our businesses do business with over 300 SMEs who are paid over \$7.7m per annum for their goods and services (p61) We estimate that these SMEs hire over 3,000 people. In total, based on an IFC jobs study multiplier, we create ~7,500 indirect jobs in the industries and suppliers that we rely on (p52).
- CSI donations to communities around our operations total ~\$200,000, estimated to benefit ~12,000 people. Our projects focus on improving access to healthcare and education (p60).

- Our investments in the seed sector and outgrower programmes aim to increase smallholder farmers' yields from 1.5 to 4 t/ha. If this can be achieved in the countries that we operate in then it will remove hunger (p26, 38). We believe that smallholder farmers can achieve this simply through using the right seed and farming techniques.
- In Zambia, the smallholder cattle farmers we work with have seen their herds increase from 16 head to 20 over the last 4 years. This is a result of our extensive dipping and vaccination programme, which has reduced cattle mortality and improved calving rates. Over 18,000 cattle owned by more than 1,000 farmers benefit from this programme (p41-46).
- Production on our farms has increased substantially because of our investments. Fruit production alone has increased 80% since we made the investments (p57).
- Silverlands' Zambian grains farms have increased wheat production by 11% in Zambia (p58).



- Our impact is particularly strong in empowering women because the majority of smallholder farmers are women. As an example, our poultry project in Tanzania focuses on women, who make up 80% of smallholder poultry farmers. We estimate that ~22,500 poultry farmers are earning ~\$875 more per annum because of this project (p36).
- The majority of grains farmers in Central and Southern Africa are also women. This year, ~20,000 t of grains is being purchased from smallholder farmers (p29). Our seed is used by ~145,000 smallholder farmers and high yields are estimated to increase incomes by over \$300 p.a. per farmer (p49).
- Women are crucial to our operations, constituting 43% of our workforces. Women are particularly good at careful and technical work, such as managing our feedmill, handling fruit and poultry, and de-tassling maize (p53).
- At our ranch in Southern Zambia, a sunflower outgrower scheme focused on women and has provided sunflower cake for feed for our feedlot (p47).

- Silverlands has over 6,200 employees, up 30% from purchase (~4,700). Employee numbers have increased 4-fold in the Tanzanian and Zambian operations, associated with our large developments. Our businesses are key employers in their rural locations. Salaries too have risen and are up 23-fold since purchase – currently at \$26m p.a. (p50-51).
- Each operation has capacity and systems in place to ensure we follow world-class employment practices and ensure safe work environments for all employees. We adhere to the IFC Performance Standards with annual reviews of performance (p79).

6,200 employees

Paying salaries of \$26m p.a.

8 DECENT WORK AND ECONOMIC GROWTH

Safe work environments

Tanzanian and Zambian employee numbers up 4-fold

Salaries up 23-fold since purchase



Silverlands Tanzania’s feedmill, with a number of female employees including one of the managers (Sara Sanga, on the right of the photo), processes grains grown by smallholders into poultry feed. This is then sold mostly to smallholder poultry farmers. Feed sales this year are expected to be 26,500 t, more than double that of 2017 and 25% better than budget.

3 Our Community Joint Ventures

3.1 The Joint Venture Model

The joint venture model that we have with communities provides an excellent opportunity to empower these communities sustainably for the long term. Under this model, the Portfolio Company partners with a community for lengthy periods, typically 15-20 years. A joint venture company is established that leases the farms from the community, and pays a management fee to our Portfolio Company, with profits split between the community and the Portfolio Company. The community earns both by leasing their properties to the JV, and through their share in the profits, of which they typically own 51-55%.

The communities appreciate this model, because the farms are run professionally resulting in more reliable income. In addition, community members have opportunities to work for the JV, and to receive valuable training and skills transfer. Over time, the relationship between the company and community strengthens, contributing to the development of a positive sense of ownership by the communities.

This model is beneficial to the Portfolio Company because it has reduced capital requirements: the company does not need to buy the farm, yet still benefits from the stream of profits from the JV. The model works particularly well for crops that require scale and that are too expensive per hectare to be an option for smallholder farmers. It has been deployed in South Africa where a land transformation process is in place and where there is a shortage of skills to manage the farms post-transfer. We believe this is a perfect model for ensuring community development. Our JVs are shining examples of increased food production and profitability as part of the land restitution drive in South Africa.

Impact

JVs with communities benefit large numbers of families as profits are shared between the community and the management company. The fund has three JVs in South Africa: two in sugar cane and one in deciduous fruit. The JVs provide incomes to over 2,500 families, likely over 30,000 people. The average profit earned by the three JVs over the last 2 years was \$3.2m per annum, or \$1,111 per family. This is a passive income for these families. In most cases family members also have income from jobs elsewhere or managing their own businesses/farms.

Impact of Joint Venture Projects: Average for 2017-2018

Name of JV	Location in South Africa	Community	Number of Families Benefiting	JV Profit	% JV Owned by Community	Community Profits + Rental	Income per Family
Mawecro Farming	Komatipoort	Mawewe	558	\$2,950m	51%	\$2.499m	\$4,389
Mthayiza Farming	Malelane	Libuyile	1,964	\$0.283m	55%	\$0.378m	\$193
Bellecro Farming	Villiersdorp	Ex-employees	10	-\$0.027m	55%	-\$0.015m*	\$0
Total or Average			2,532	\$3,207m		\$2.813m	(Avg) \$1,111

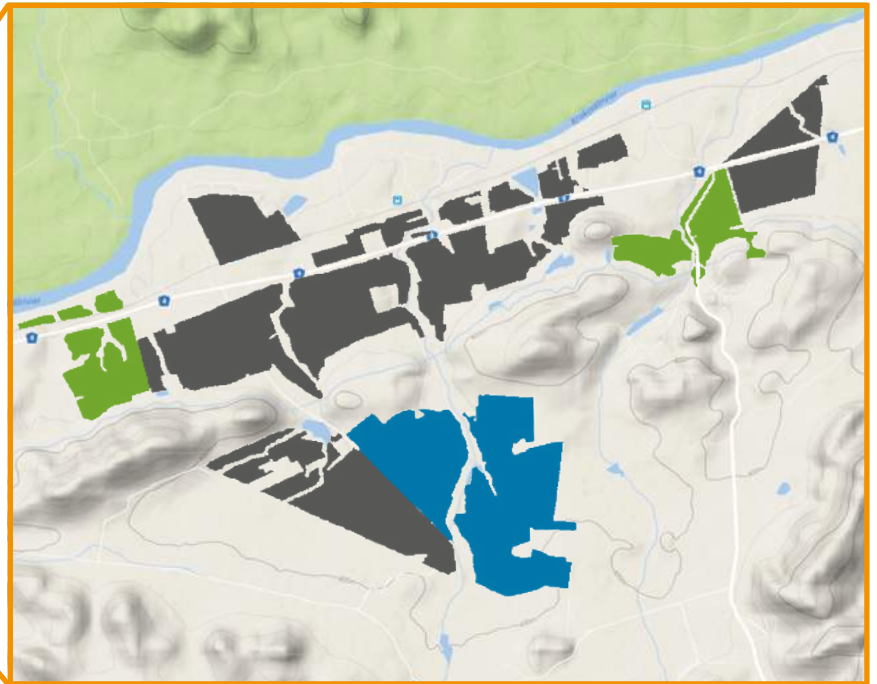
*No rental to Belleview JV as the government owns the farm.

“With land restitution gaining momentum [in South Africa], we believe that the group can make a substantial and increasing contribution to the government’s transformation initiatives through participation in these partnerships.”

Crookes Brothers Integrated Report 2018

3.2 Mthayiza Farming

- Mthayiza
- Mthayiza new area
- Crookes Brothers Ltd - owned



Mthayiza Farming operates on 1,200 ha of community land, including 300 ha of new area added in 2016. Two CBL areas are also managed by the JV.

Mthayiza Farming, a joint venture between Crookes Brothers and the Libuyile community, is a 1,200 ha irrigated sugar cane estate in South Africa that has been running for 10 years. Members of the Libuyile community were removed from the land in the 1970s to township areas, and the land was formally taken over by a number of white farmers. After successfully lodging a land claim, they moved back onto the land in 2006. A lack of capital and experience constrained their ability to run the large commercial farm. The community advertised for investors, and in 2008 they chose to work with CBL in the belief that they “appeared to be coming with the best model which we understood and we all accepted.” (Chief Khumalo).

When CBL was invited into the joint venture, the farm was run down and loss-making, with yields as low as ~60 t/ha. CBL injected capital and experience; and with continued re-investment of profits, yields have improved to around 100-105 t/ha and up to 120 t/ha where drip irrigation has been installed.

CBL has maintained a strong focus on education, providing bursaries and investing in the next generation to ensure their ability to run the farm themselves. Tshepo Sangwane, a community member who started as a trainee in 2010 and became Farm Manager in 2017, states: “My plans for the future is to stay here, work hard as a farm manager, get promoted and produce the best sugar cane around our area.”

Initially planned for 15 years, the success of the joint venture has led the community to extend the partnership for an additional 15 years. Another strong vote of confidence was the addition of 300 ha of land into the JV in 2016, taking the cropping area up to 1,100 ha. The community see the benefits of good yields and thus good profits, and the ongoing nurturing of their younger generation. In the words of one community member, Gift Khumalo, *“They have offered life itself: the whole bunch of aspects, whatever one can expect from a person in life: knowledge, skills and the administration of all kinds, finance, assets, land, everything.”*

The farm is seen as a model JV. Its success suggests that this approach could make a valuable contribution to addressing South Africa’s land restitution challenge.

We are now real farmers because of that partnership that we entered into with Crookes Brothers.

Chief Khumalo

Gift Khumalo

“Crookes Brothers educated our people that farming is like planting a tree. You plant now, and you reap only after eight years or so. And when you start reaping, you harvest little, steadily growing up bit by bit.

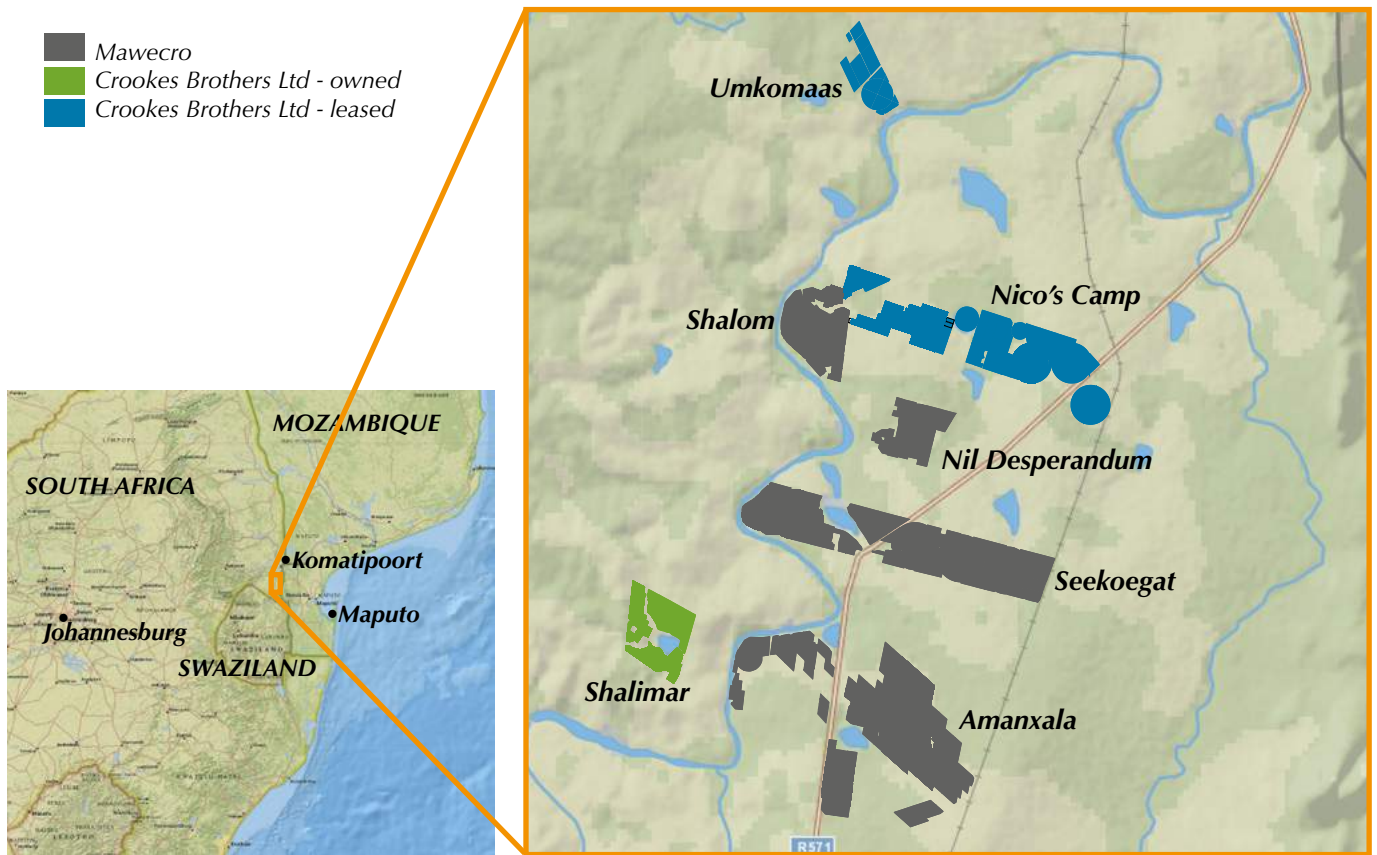
They taught us how to be patient and to wait for everything. To start from a small scale and let it grow with time.

To be with Crookes Brothers is to have gold in your pockets.”



Mthayiza Farming, a 1,200 ha irrigated sugar cane in South Africa, is a joint venture with the Libuyile community.

3.3 Mawecro Farming



Mawecro Farming is a joint venture between Crookes Brothers and the Mawewe Community. The JV manages 1,550 ha of sugar cane, and 259 ha of bananas. Previously, CBL owned the farm, which was then sold to the government in 2010, and leased back to CBL. This was converted to a 20-year JV with the Mawewe community in 2016.

The initial challenges of working with the community, who had little experience in farm management and corporate governance practices, have been partly overcome and continues to be work-in-progress.

The strong yields (109 t/ha) and profits of the JV's first year of operation were negatively affected by the drought in the following year, with yields dropping to 91 t/ha. It is anticipated that the replanting triggered by the drought will increase yields this year, which are forecast at 106 t/ha. Drip irrigation has been installed annually on fields being replanted and these fields are producing better yields: ~120 t/ha compared to 80-100 t/ha. This year, an additional 123 ha will be planted to drip, bringing 46% of the farm under the most efficient irrigation system.

Nearly 1,000 community members are benefiting from dividends, preferential employment, and a variety of CSI projects. As Lucky Myeni, Mawecro Community Liaison and CSI Manager, puts it: *"...as government said we are one of the best joint venture models in Mpumalanga, so that shows that as Mawecro we are doing well as a company. I would really recommend that communities which receive land through restitution go for a joint venture because it is beneficial to the community."*



Lucky Myeni: Mawecro Community Liaison and CSI Manager.



Mawecro Farming produces around 1,550 ha of sugar cane and 259 ha of bananas (shown here)



Abraham Mokobane - Banana Farm Manager

"We decided to rotate cane with bananas and the crop did very well. The average bunch mass is 38-39Kg – that's a high yield, about 75-80 tonnes per ha. This is marvellous! It helps to rotate between the two crops."

"I've got an amazing team and great support system on my side, especially the guys that I'm reporting to. I love farming."



Siphonhlehleko - Cane Farm Manager

"The management style of Crookes Brothers is completely different compared to other farmers. That's why we're always winning."

"Crookes Brothers give you the freedom of applying your skills, of doing what you think."

3.4 Bellecro Farming

Crookes Brothers previously owned Belleview farm, a 43 ha deciduous fruit farm in the Western Cape (South Africa). In 2012, Belleview was sold by Crookes Brothers to the Department of Rural Development and Land Reform as a land transformation project. In April 2017, after five years of government delays, Crookes Brothers were approved as the strategic partner for the JV, and the Government released the recapitalisation funds for the operation.

Crookes Brothers formed a JV company, Bellecro Farming, with ten former employees who own 55%. The JV partnership is for a period of five years. Belleview farm remains owned by Government and leased to Bellecro Farming. The board of Bellecro Farming comprises three previous employees, two Crookes Brothers members and an independent member. The board meets quarterly to review and plan operations. All profits from the first two years are being invested back into the farm, with dividend pay-outs planned for year three.



Agnes Lekhori (left) has been hired as an Administrative Clerk at Bellecro Farming. Hiring in for such skills, which were missing from the existing workforce, shows good governance.

KwaCele: Successfully Transferred Back to the Community

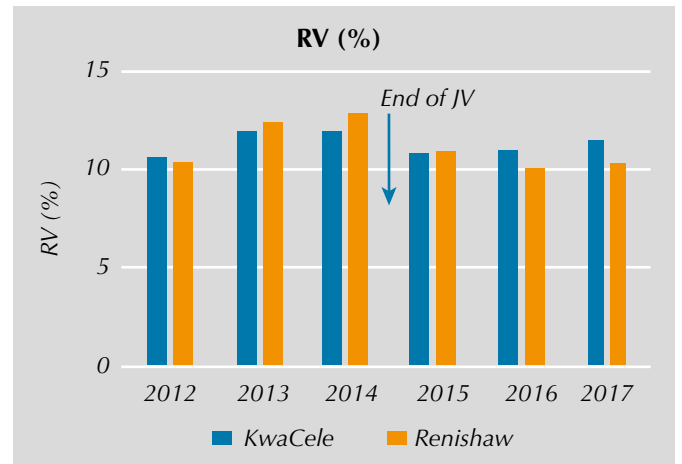
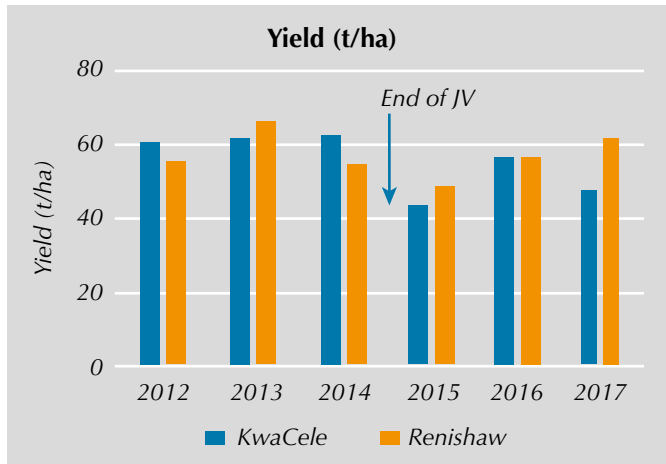
The ongoing success of the KwaCele operation is seen as proof of Crookes Brothers' ability to empower communities through the JV model and to achieve a successful transfer back to the community. The KwaCele community was in a 51:49 JV partnership with CBL from 2009 until 2014, when both the community and Crookes Brothers felt that the community was ready to stand on their own.

KwaCele Farming is now owned wholly by the KwaCele-Nhlangwini Communal Property Trust. The farm has increased the area under management since Crookes Brothers exited from around 1,500 ha to 2,000 ha, and increased employees from ~250 to ~370 people. Although yields have been affected by the drought in recent years, recoverable value (RV) sugar levels remain high.

The JV has shared value by creating employment for community members, through its social investment in various community initiatives, and by paying dividends. It is estimated that each of the 720 beneficiaries has received in the region of R4-5k (\$ 300-400) annually for the last 4 years.

The success of the business is attributable in part to the continued maintenance of the high governance standards implemented by Crookes Brothers including the farming, HR, training and management systems. The community management have retained an openness regarding budgets and goals and have nurtured a strong team spirit. According to Sibusiso Dlamini, the CEO of KwaCele-Nhlangwini Communal Property Trust, most community farming operations fail because there are insufficient governance processes.

“ We have seen land claim farms around us failing. We are committed to not being one of those. ”
Xoli Mdibaniso, KwaCele Farming General Manager



*KwaCele is compared to CBL's Renishaw estate. Both are dryland farms.

Our Community Joint Ventures



Mxolisi (Xoli) Mdibaniso

Xoli began at CBL's Renishaw estate in 1988 as a general labourer. He worked his way up to induna (foreman) then section clerk. In 2000 he became a trainee agri manager and in 2004 started at KwaCele. In 2015 he became General Manager, following CBL's transfer of the JV back to the community.



Zanele Biyela

Zanele is a trainee manager who began as a general labourer at KwaCele in 2007 and remains at the farm, now 100% under community management.

"Men don't think of a woman doing the job."



Boy Mahlosana harvesting apples on the 43 ha Bellecro Farming joint venture, South Africa.

4 Our Hub Out-grower Projects

4.1 The Model

In this model a business 'hub' is established that includes processing of a product and provides assistance to small-scale farmers to help grow this product. The key to achieving a positive impact is to provide a market to smallholder farmers for a high value crop. By doing this, the small-scale farmer can diversify from lower value crops and thus make a sustainably higher income. The hub can also provide technical support and training.

4.2 Silverlands Tanzania: The Hub Out-grower Model in Action

The Tanzanian Poultry Sector – Soya constraints

Despite high and sustainable GDP growth of 6-7% per annum over 10+ years, the Tanzanian poultry industry never developed properly. Chicken consumption per capita in Tanzania is around 10-15% of South Africa's.

Tanzania's population is prone to significant nutritional challenges - 34% of children under 5 suffer from stunting or chronic malnutrition and 14% are underweight (UNICEF, 2015). This is partly due to a lack of protein. As poultry and eggs are an efficient source of protein, there are obvious opportunities for growth in the poultry sector, with potentially significant positive impacts on population health. An important constraint was the lack of inputs for poultry feed, particularly the protein component. Globally, the protein content of feed is largely provided by soya. Before Silverlands' investment, there was virtually no soya grown in Tanzania, and the protein for poultry feed was sourced from unsustainable and salmonella-ridden fish from Lake Victoria.

With about 70% of Tanzania's population living on small-scale farms, there is significant opportunity to grow soya in the country. Conditions for growing soya are excellent in the south west of Tanzania, and there are numerous benefits to small-scale farmers. Traditionally farmers have not been growing soya as there wasn't a market for the product. With a population of 54 million, Tanzania presented an investment opportunity with considerable positive social impact and excellent returns. SilverStreet invested \$49.7 million in Silverlands Tanzania, creating an integrated social impact enterprise.

Building the Country's First Soya Processing Plant

In 2014 Silverlands Tanzania built the first soya processing plant in Tanzania, to process soya beans into soya 'cake' to be used as the protein component of animal feed. We also built 32,000 tonnes of grain storage, a 40 tonnes/hour capacity feed-mill, the largest known feed-mill in East Africa, and a poultry breeding operation. Silverlands Tanzania's products are day-old chicks and poultry feed.



The Silverlands Tanzania feed mill housed in the shed with silos behind.



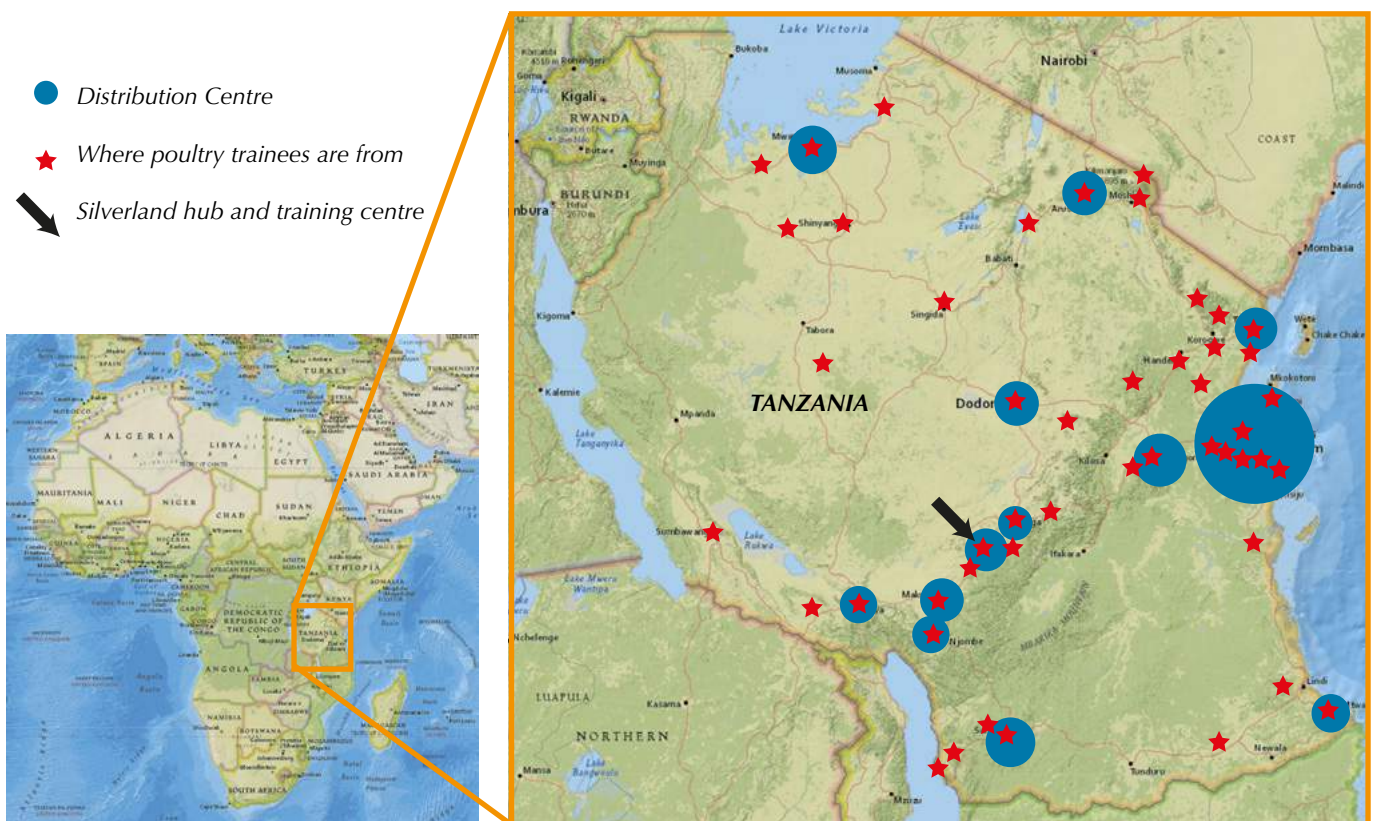
The 40 tonne/hr feed mill was opened by Tanzanian president, His Excellency Dr John Magufuli (3 May 2018).

To complete the business 'hub', a distribution network was developed from scratch to reach smallholder farmers across the entire country, which is similar in size to France. Silverlands Tanzania now has 13 distribution centres and nearly 190 agents, and provides products and skills transfer to 33,000 poultry farmers, an achievement that has galvanised the Tanzanian poultry sector.

The following map shows the distribution network which has been created from scratch.

Silverlands Distribution Centres Across Tanzania

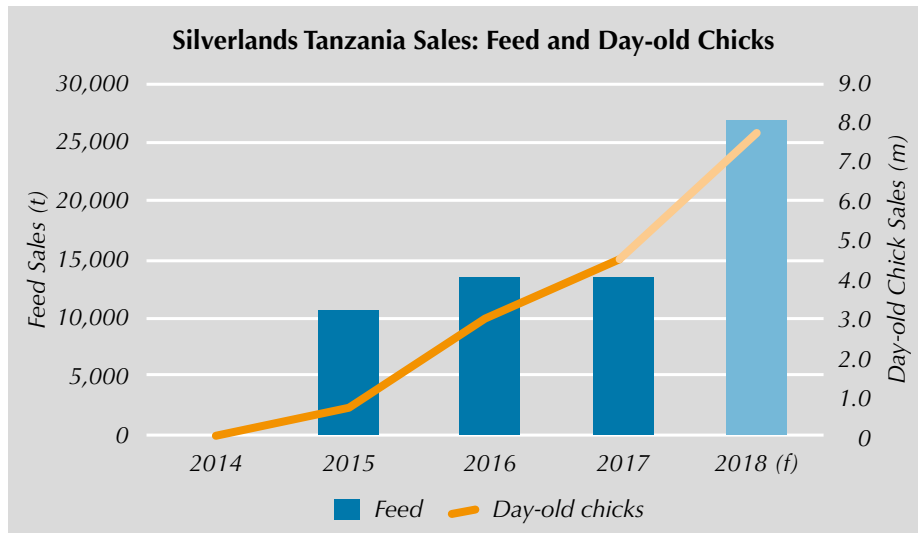
Point sizes represent relative sales magnitudes



In other countries, integrated models are common in the poultry sector, in which the business grows its own soya, processes it, rears poultry, processes the poultry and sells the finished product. This model would have missed a massive development opportunity in Tanzania. The key success of the Silverlands project was to focus on two groups of smallholder farmers, those providing inputs for the feed and poultry farmers who could purchase and rear their own poultry. Additionally, we recognised that women smallholder farmers would benefit to a greater extent.

The Business in Numbers

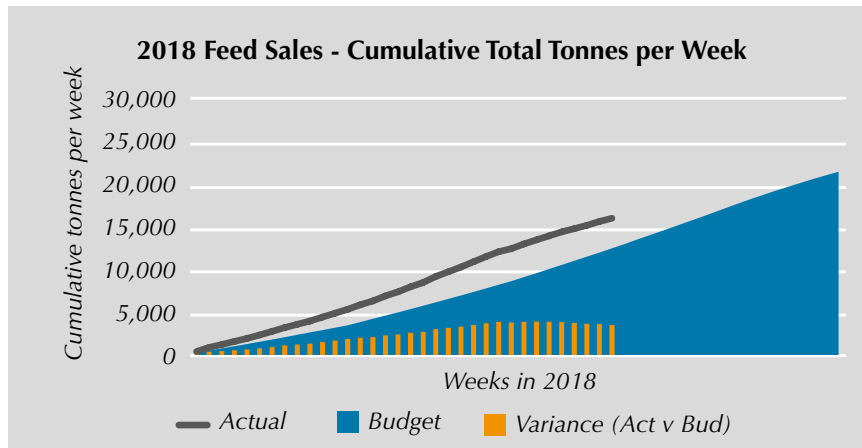
The business has grown rapidly, with over 26,500 t of feed and 7.6 million day-old chicks forecast to be sold in 2018 representing a year-on-year growth of over 100% and 84% respectively. These are impressive production figures, up from zero in 2014. From a standing start in 2014 we have benefited over 42,000 grain farmers, around two-thirds of whom are women, as well as 33,000 poultry farmers, over 80% of whom are women. In total, 76,000 smallholder farmers have benefited directly. Incomes per farmer have increased from ~\$600 p.a. to over \$1,000 p.a., implying an increase in smallholder net incomes of \$33m p.a., an extraordinary multiplier effect. Looking at it another way, the once-off investment of \$49.7m is enabling other people to earn incremental profits of \$33m each year.



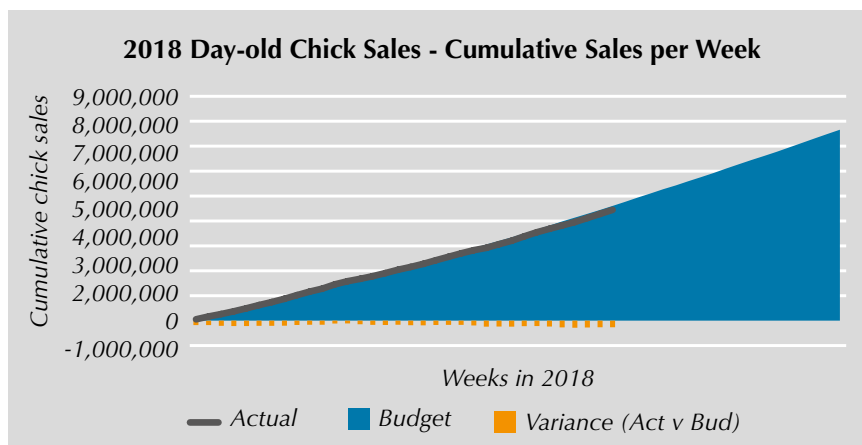
Silverlands Tanzania’s hatchery near Iringa is a world class facility with capacity of 150,000 chicks per week. The hatchery is managed by Emmanuel Chusi (right).

Proving the Business Model

Earlier in 2018 we presented forecasts showing feed sales would increase 65% from last year, and day-old chick production would increase 85% from last year. These figures may have seemed aggressive but, as the following charts show, the operation is hitting, and even surpassing targets on those crucial KPIs. It is expected that feed sales will reach 26,500 tonnes by the end of the year, ~25% better than budget and more than double the sales in 2017. Sales of day old-chicks and hatching eggs are in-line with budget, which if continued, would represent an 84% increase on 2017.



Feed sales are expected to be 65% above of the original target: >100% year-on-year growth is estimated.



Silverlands Tanzania are targeting 85% year-on-year growth

The dynamic growth of the business underpins our original thesis. The success of the project has arisen because the business has successfully ‘fixed’ the key issues in the poultry value chain in Tanzania: no soya processing plant, inadequate storage, poor poultry breeds, no proper distribution network, and poor farm management techniques.



Silverlands Tanzania have established a network of 13 distribution centres across Tanzania. Chicks are transported in controlled environment vehicles by an experienced team of drivers.

4.3 Tanzania: Working with Small-scale Grain Farmers

Silverlands Tanzania’s soya processing facility is perfectly situated in Iringa, to make the most of the potential production in the highly productive south western Tanzania. The mill triggered the start of soya production by small-scale farmers in the area. Silverlands worked with various NGOs, including Caritas who provided training to small-scale farmers on the benefits of soya production and facilitated the purchase of crops by encouraging farmers to work in groups.

↓ Silverlands hub feed mill
 - Optimal soya growing area



Huge Increases in Soya Bean Production

The annual production of soya has increased significantly, from almost nothing in 2014 to 80 t in 2015 and up to 4,000 t in 2018 grown by ~8,000 smallholder farmers in this corner of Tanzania. The availability of soya in southern Tanzania has stimulated interest in the region, with buyers from neighbouring countries now purchasing the Tanzanian soya.

Benefits of Growing Soya Beans

Farmers are taught conservation farming techniques, such as minimum tillage, rotation, mulching and composting. Previously, farmers in the region generally mono-cropped maize, leading to medium term issues with disease pressure and low soil fertility. Farmers have now started rotating maize with soya. As a legume, soya fixes nitrates in the soil, naturally replenishing the soil and resulting in higher maize yields the following year. By rotating crops, the farmers also reduce disease pressure, as maize and soya are from different families (grass and legume families respectively) and pests and disease tend to be specific to plant groups. Also, composting and using crop residues as mulch reduces carbon emissions and fertiliser requirements.

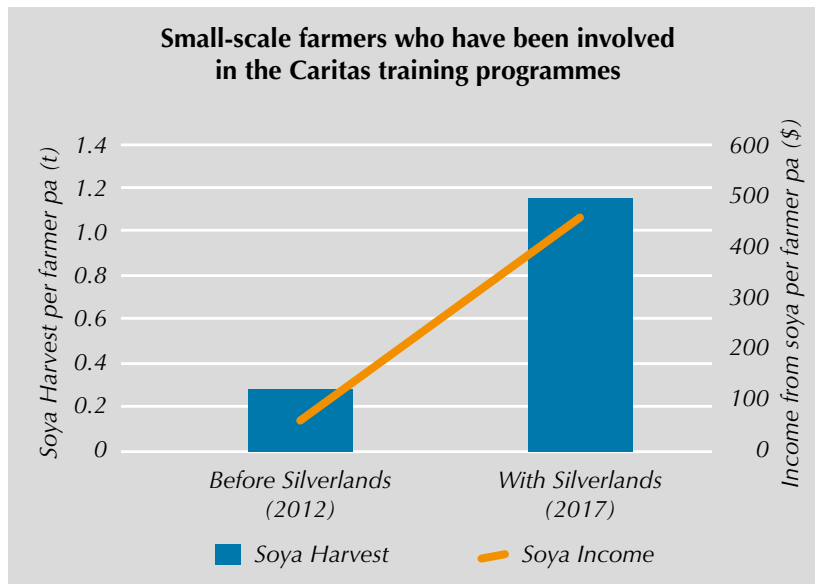
“Soya beans, culturally, are a women’s crop. Women are now able to send their children to school, they are tackling the issue of health, and even caring for their husbands. Because, for the African, the women are everything in the family.”

Remen Nyange, Project Coordinator, Caritas

Survey Results: Soya Farmers

Income & Areas

Farmers' incomes from soya have increased nine-fold since the Silverlands investment (from \$50 to \$490 per year), primarily due to a 4x increase in average farmer production (from 0.3 t to 1.2 t) and aided by an increase in soya price. Farmers acting as out-growers have allocated a greater proportion of their farming area (44%) to growing soya, with the remainder planted to maize. This is 1.4x the area of those who hadn't had training.

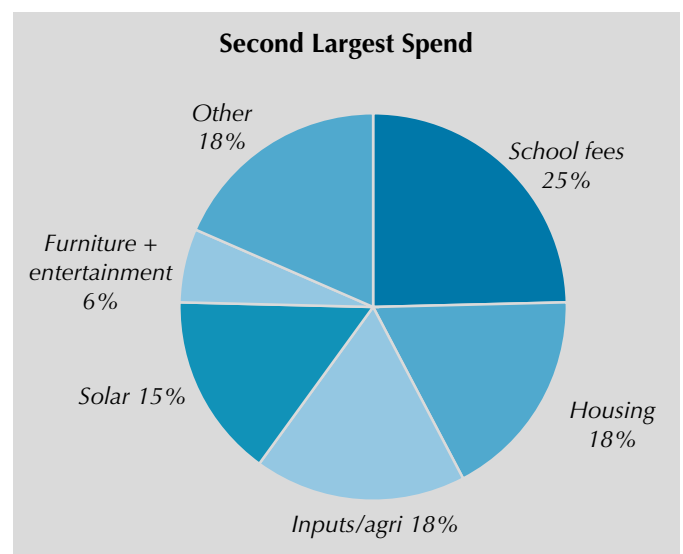
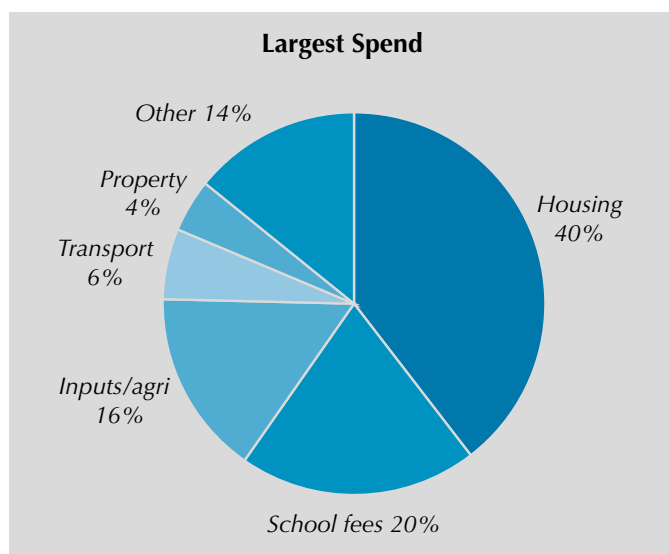


Our Hub
Out-grower Projects

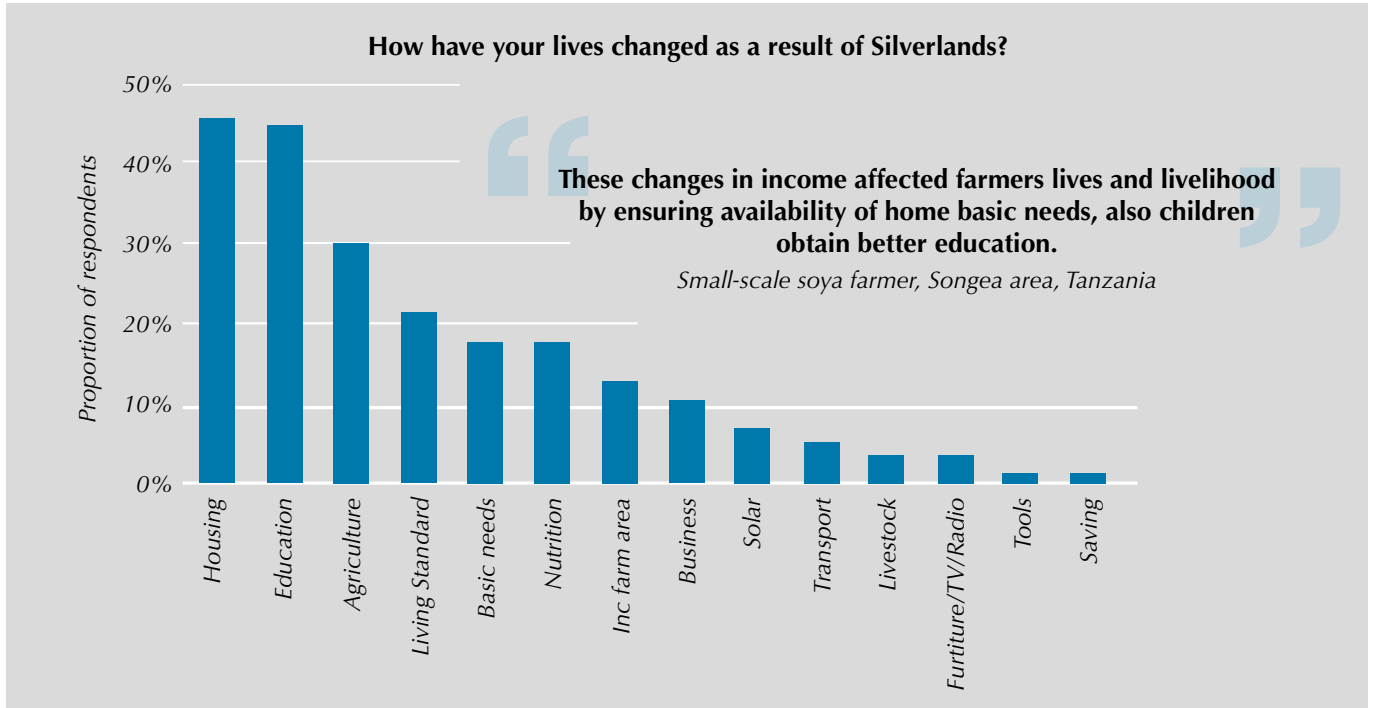
Uses of Extra Income

Our survey shows that farmers spend their additional income primarily on housing (40%), education (20%) and re-investing in agricultural production (16%). Secondary spends include purchasing solar lighting, furniture, radios and TVs, and livestock.

How Farmers Spent Their Additional Income from Soya Production:



Farmers have reported that the main improvements to their livelihoods from their sales to Silverlands are from the increased ability to spend on education and housing.



Case Studies

Gaudencia Turulca

Prior to growing soya, Gaudencia struggled to get cash by only producing maize. Soya adds to her household income, spent on house renovations, school fees, buying a small shop and supporting her grandparents. They have also purchased a TV.

Gaudencia and her husband Julius have 5 ha of land: 3 ha of maize, 1 ha of soya and 1 ha fallow on rotation. They have increased their land planted to soya four-fold (0.25 ha to 1 ha), and soya earnings were \$90 in 2016 and \$220 in 2017. They did not sell all they harvested and processed some soya in their own mill to add a key protein source into their diet.

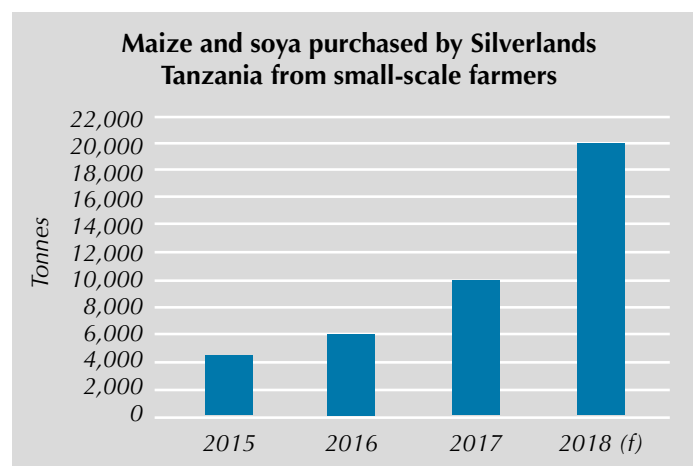


Jessica Kiwili

Jessica, married with three children, began growing soya in 2014. In 2016/2017 she earned \$580 from her 1.6 ha of soya. Along with building houses, buying a motorbike and continuing to run her shop, she also bought a TV with her profits on which she screens soccer matches for people in her village. She charges \$0.22 per person per game which is estimated to be earning her an additional \$230 - \$340 per year. She aspires to sending her children to quality tertiary education and buying a vehicle to drive her harvest to market.

Small-Scale Maize: Yield Improvements and Market

One major benefit has been an increase in maize yields seen by smallholder farmers who introduced soya beans into their rotation: we estimate that yields have increased from 2-2.5 t/ha to 3.5 t/ha. If this is correct, this means ~50% increase in yields, 50% more tonnes and therefore 50% more revenues. This is an extraordinary step function demonstrating the substantial impact that can be achieved in relatively little time.



Maize is another key ingredient in poultry feed. Last year Silverlands Tanzania purchased a little under 6,300 tonnes of maize from small-scale farmers. With the dramatic increase in production at the feed mill (from 12,950 tonnes of feed last year to 26,530 tonnes this year), the maize purchases this year are in the order of 20,000 tonnes up from zero in 2014. It is estimated that these 20,000 tonnes of maize are produced by over 9,500 farmers.

The Next Step: Grain Storage

STL is buying 20,000 tonnes of maize this year from over 9,500 farmers. Over 1 million tonnes of maize is grown in the region, presenting an opportunity to provide further assistance to farmers.

Storage is one of the most significant problems for small-scale farmers. Storage facilities in rural areas tend to be poor, with ~30% of small-scale grains potentially being lost as a result. This forces farmers to sell their grains at the time of harvest, when prices are typically lowest. Solving this could add significant profits for farmers plus have a huge effect on food security.

The Warehouse Receipt Programme

Silverlands is implementing a Warehouse Receipt Programme in Southern Tanzania. The goal is to help provide safe and dry storage for smallholder farmers so that they can sell when the crop price is more attractive as well as to reduce losses.

Silverlands is rolling out this Warehouse Receipt Programme with Caritas, the East African Grains Council and a \$160,000 grant from Danida (the Danish Ministry of Foreign Affairs), via the Danish Investment Fund for Developing Countries (IFU), along with Silverlands Tanzania's commitment of \$110,000.

The programme depends on farmers working in groups and bringing high quality grains for storage. The initial pilot programme will target 1,000 small-scale farmers with training to be conducted in 2018 and 2019.

The programme has three components:

1 Farmer Group Formation

Farmers are to work together in Agricultural Marketing Cooperatives (AMCOS), producer groups that facilitate the amalgamation and quality checking of grains. Five AMCOS had already been registered by mid-2018, with another five planned for 2019.

2 Training on post-harvest handling of maize and soybeans: grading and moisture content

Maize stored above 14% moisture is prone to insect damage and more likely to be affected by mycotoxins such as aflatoxin (which causes liver cancer in humans and animals). It is very important to only purchase and store grains free from mycotoxins. Training is being provided to farmers on the need for proper drying of grains prior to storage. Moisture meters will be used for quality checking grains during purchasing. Training sessions have already started, and these will continue as new AMCOS are formed in 2018 and 2019.

3 Training in good agricultural practices

To improve smallholder production of maize and soya beans, farmers will be taught the benefits of good agricultural practices using demonstration plots. Improved agricultural practices include crop rotation, conservation farming techniques – such as composting, mulching, precise placement of inputs, planting in lines, and timing of planting – and using improved maize and soybean varieties. Twenty-five demonstration plots will be established, beginning in December 2018, and continue into 2020.



Small-scale grains and poultry farmers benefit from training programmes, aimed at improving the productivity of farming practices and increasing incomes. Charles Mtwewe (left) and Grace Sanga (right) are both based in the Iringa region of Tanzania.

4.4 Tanzania: Working with Poultry Farmers

Silverlands Tanzania sells day-old chicks and poultry feed to farmers throughout Tanzania. The aim is to develop the poultry industry and improve health and nutrition across the country by providing chicks with better food-conversion ratios, as well as high quality feed and training.

Silverlands sold 4.5 million day-old chicks in 2017, up from 3 million the year before and zero in 2014. Sales in 2018 are on track with a target of 7.6 million and these are being sold to small-scale farmers to be reared as layers or broilers. Key to Silverlands' success has been the production of a breed that matures relatively quickly compared to traditional village chickens, but that is robust enough to cope with free-range activities typical of smallholder poultry farmers. The main breed focused on is the Sasso bird, which Silverlands has exclusivity on in Tanzania.

Silverlands' Poultry Training Centre was built to provide training for smallholder poultry farmers, with an additional 34 extension officers providing technical support. This extension work is assisted by a \$3.6m grant from the World Poultry Foundation, which was allocated to STL in January 2017. The project specifically targets women who make up 80-90% of smallholder poultry farmers in Tanzania.

Quality Feed

High quality poultry feed is crucial for efficient poultry production. The Silverlands feed formulations are specially designed by a professional international nutritionist to align with the breed standards. A range of different feeds is produced for the varying energy and nutritional requirements of birds of different ages, breed and whether they are egg-laying or broilers.

An important differentiator is Silverlands' production of pellets, which tend to produce better food-conversion ratios. By eating pellets, chickens receive all the important micronutrients and proteins in a single pellet. When pecking mash, a chicken will miss the smaller grains that may contain vital nutrition.

Quality control is essential for maintaining product excellence. The composition of every batch of feed is tested using near-infrared (NIR) spectroscopy. Feed is also periodically tested in laboratories for more in-depth analyses.



Poultry performs extremely well when fed with Silverlands feed. The operation has received many satisfactory reports from both small scale and commercial users. Quite simply, *"If you give your chicken good food, they grow fast"*, according to one small-scale poultry farmer, Helen Mapunda.



Checking feed composition with a near-infrared spectroscopy machine.



Different chickens require different feed.

Better Food-Conversion Ratios

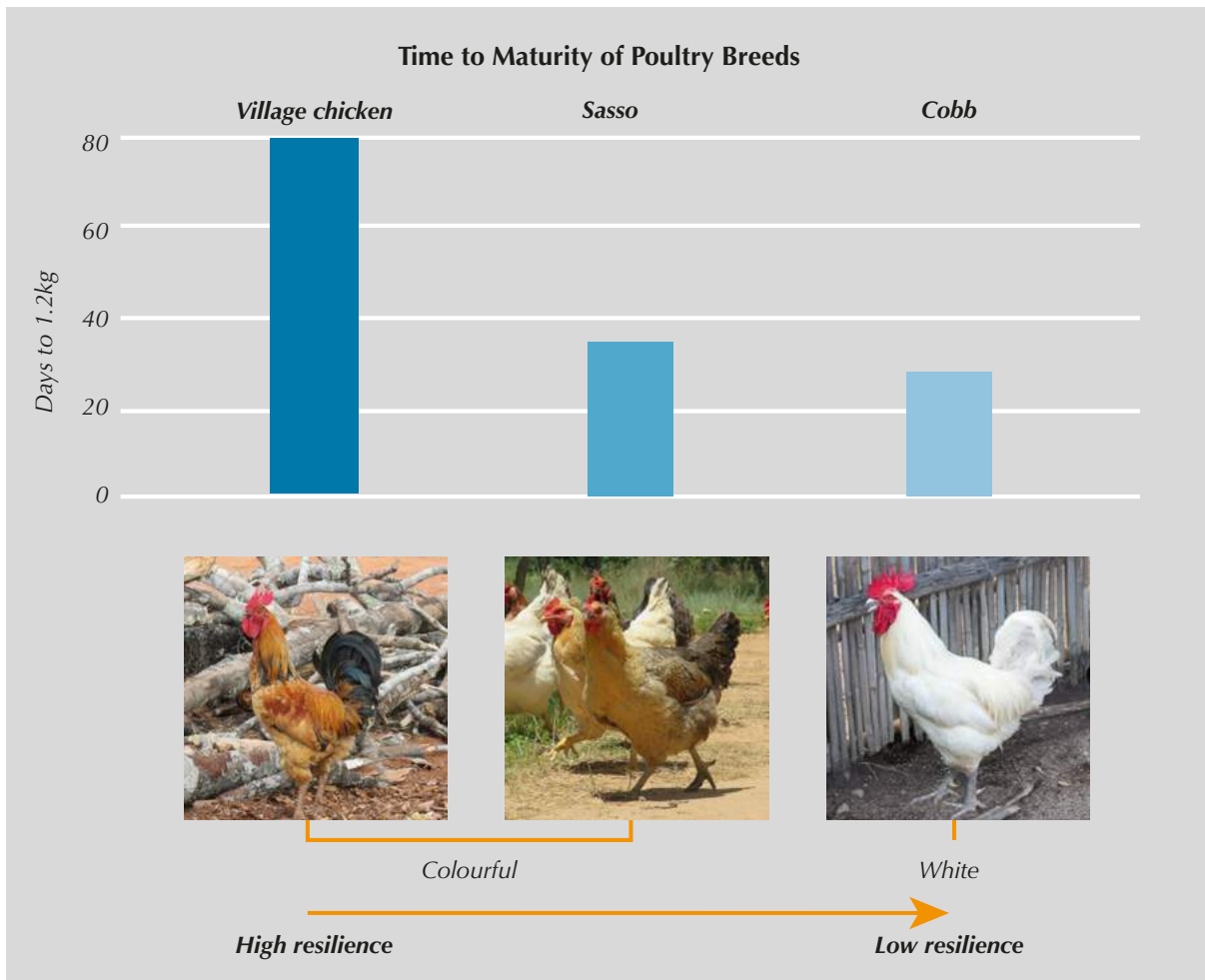
Chickens have been bred into a variety of breeds that maximise different efficiencies and vary widely in colour and look. Broilers grow rapidly and are good for meat production, and layers produce high numbers of quality eggs.

Silverlands has introduced a new breed to Tanzania, originally developed in France, and has exclusivity on it in Tanzania. This Sasso breed has multiple advantages. Importantly, it is a 'dual-purpose' bird that can be used both as a broiler for meat or for laying eggs. In other words, it performs well both in terms of time to maturity and egg production. This flexibility greatly helps smallholders manage changes in demand and the prices of poultry. Most modern breeds are focussed on either meat or eggs, but not both.

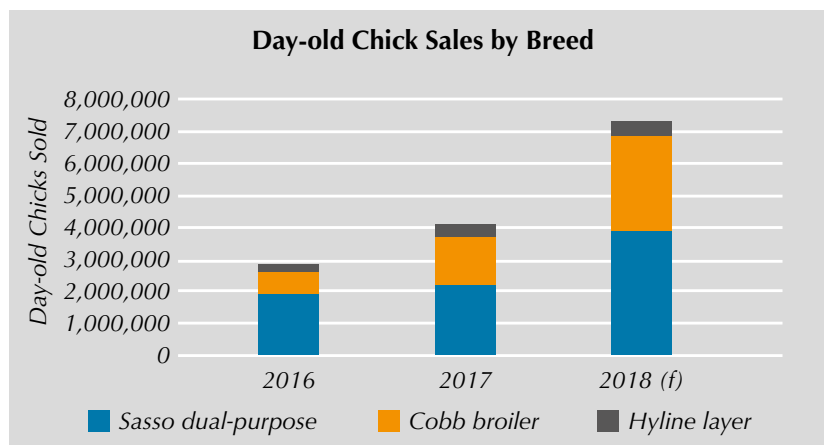
As a multi-coloured bird the Sasso is also preferred within rural Tanzania, where traditionally chickens are multi-coloured. It is also generally more resilient to the local climate, pests and diseases, a significant benefit against the 'normal' broiler such as the Cobb or Ross that is used widely in the West. These broilers are generally not adapted to a free-range environment.

Small-scale farmer, Helen Mapunda, says she likes the Sasso breed as it's harder than the Cobb broilers she had before. She claims the change in breed has reduced the mortality in her broods from 6% to 1-2%.

Chickens are generally considered full size at about 1.2 Kg. It takes a traditional village chicken about 80 days to reach this size, compared with 28 to 35 days for breeds sold by Silverlands. Farmers therefore feed the poultry for shorter periods, which saves on feed and improves smallholder farmer profits.



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Poultry Training Centre

Each week the Poultry Training Centre runs a five-day course for poultry farmers who travel from across Tanzania to attend. Nearly 400 poultry farmers have attended the courses, 53% of which are women (up from 44% women last year). The courses combine theory and hands-on practical work.

Poultry Training Centre, Iringa



Poultry training houses (left) and a group of trainees at the end of a training course (right).

Courses focus on specific types of poultry breeding:

Course	Focus
Brooder	Rearing day-old chicks to 3-4 weeks for sale to other farmers. The most difficult phase of chicken rearing is up to three weeks.
Broiler	Rearing day-old chicks or brooders up to 4-6 weeks and then selling for meat.
Layer	Rearing egg laying hens. This includes egg handling and hygiene.

All courses include the following basic principles, for successful poultry rearing:

Poultry Management	Hygiene	Business Management
<ul style="list-style-type: none"> • House design • Brooding • Feed • Water • Vaccination • Environment management 	<ul style="list-style-type: none"> • Cleaning and fumigation • Biosecurity • Bird health 	<ul style="list-style-type: none"> • Planning • Record Keeping • Marketing • Finance Management

African Poultry Multiplication Initiative

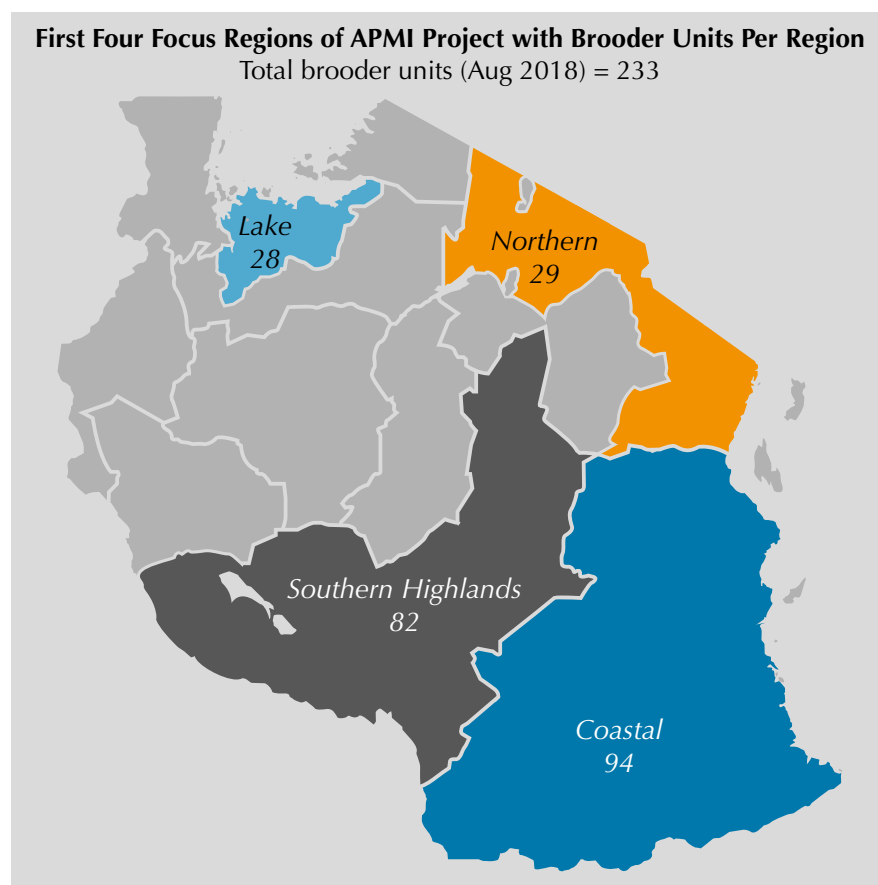
The African Poultry Multiplication Initiative (APMI) is a project run by Silverlands Tanzania with a \$3.6m grant from the World Poultry Foundation (WPF). The aim of the project is to increase poultry production by women across Tanzania, with the overall vision of stimulating rural income growth.

Benefits to Women

Women are typically disadvantaged in a rural setting. However, raising chickens is generally deemed women's work, and they typically keep the profit from sales of eggs and birds. By focusing on poultry-rearing by women, it is anticipated that this project will benefit the productivity, income and nutrition of the whole household, and significantly empower women.

The Extension Officer Team

Silverlands has hired a project manager, sales assistant, 17 technical advisors, and 17 gender specialists across the four key agricultural regions in Tanzania (map below).



Eva Komba:
Gender and extension officer
"Women are being empowered by the poultry business. They want to expand and send their children to school."

Brooder Units

To ensure that day-old chicks survive their first 28 days, when they are most vulnerable, they are reared in brooder units. Specially trained farmers will run these units after attending courses at the Silverlands Poultry Training Centre, funded by the APMI, with Silverlands extension officers providing ongoing technical support for the brooder units. The brooder farmers will then sell young healthy chickens to poultry farmers in the area, for use as either layers or broilers. By mid-2018, 233 brooder units were operating.

Thus far, over 250 farmers have attended the course on managing brooder units. 51% of these attendees have been women, and we anticipate this to increase to reflect the situation in the country where 80-90% of poultry farmers are women.

Currently brooder units mostly rear 500 chicks per brood (56%), with less rearing 1,000 chicks per brood (36%). It is anticipated that more units will rear larger (1,000) broods as market demand increases.

Quantifying the Impact

The varying economics of each type of poultry farmer:

Type of Poultry Farmer	Project Participants from Community (#)	Average Household Income (\$)	Average Household Income for Participants (\$)	Total Value Added to Community (\$ per annum)
Brooder unit	233	\$600	\$2,709	\$491,397
Semi-commercial broiler farmers	803	\$600	\$3,078	\$1,989,834
Semi-commercial layer farmers	270	\$600	\$3,720	\$842,400
Small-scale / rural	21,278	\$600	\$1,373	\$16,447,894
Total	22,584	\$600	\$1,475 (Avg)	\$19,771,525

This excludes the 10,700 farmers who only purchase feed, and not chicks.

Case Studies

Each of the following smallholder farmers employ 2-3 people, who are generally the sole earners in their families and who would otherwise not have work. These are examples of the additional ~1,200 jobs created within the sector because of this project.

Rena Mmasi: Highly profitable egg production

At 50, Rena has worked at the post office for 30 years, earning \$220 per month. In 2006 she started keeping 600 chickens, buying chicks and feed from Dar es Salaam 500 Km away, and selling eggs. She switched to buying feed and chicks from Silverlands Tanzania when it launched. Rena now has the largest of the 200-300 poultry farms in Iringa. Her 4,000 chickens lay ~1,900 eggs (67 trays) a day, and she profits \$3,500 per month. She now has customers as far away as Dar es Salaam. Despite this, she is still working at the post office until the end of the year. She is determined to stay so that she can receive her pension from the post office.

Rena says it feels good being able to spend *her* money how she likes, in particular on educating her children. One is now a qualified doctor, another is studying aeronautical engineering and two more are at private schools. She and her husband share the costs, but she says that she couldn't have afforded this expensive education if she only worked at the post office. A slight understatement for this highly entrepreneurial woman.





Thelesia Salinwa: Smallholder poultry farmer

Before 2015, when Silverlands started selling chicks and feed, Thelesia would have to get them at a much higher price shipped from Dar Es Salaam. She says poultry farming has had an impact on the whole family and she can now do things because of her increased income, that she wouldn't have been able to do before.

Alice Simonile: Running a brooder unit

Alice and her sister run a brooder unit. The Silverlands training taught them to be more precise in how much feed and water to supply their chicks; and improved hygiene and biosecurity. This has reduced the mortality in their broods from 10% to 2%.

Before Silverlands began operating, Alice would have to travel 270 km to buy chickens but can now get them nearby. She wants to buy a bigger property and dreams about having her own chicken company.



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Out-grower Projects



Pendo Dulle: An agent selling Silverlands chicks and feed

Pendo owns a small shop in Iringa town from which she exclusively sells Silverlands' chicks and feed. She previously sold a variety of brands but says she's happier since she only sells Silverlands product as she makes better profits. She also travels around outside of Iringa selling feed, and plans to buy a bigger shop.

4.5 Zambia: Working with Grain Farmers

Survey: Smallholder Farmers

To understand some of the challenges in the Zambian agricultural sector, we conducted a survey in 2017, in communities in Central Zambia near the SZL and SASL farms. The survey highlighted the challenges summarised in section 2: low crop yields (1.7 t/ha for maize, 1 t/ha for soya), low value crops, poor agronomic techniques, lack of storage and limited availability of good inputs.

Working with Foundations for Farming

Foundations for Farming is an NGO running various training programmes, including training for interns, groups of small-scale farmers, and farm workers, with a focus on farming methods such as minimum tillage, mulching and crop rotation. One success of Foundations for Farming is that their teachings are practical and relevant for rural settings where access to equipment and resources is limited. Training also includes financial and family principles. Once farmers have learnt the basics, training in vegetables, agroforestry and poultry rearing can be added.

Extraordinary results have been achieved on Foundation for Farming's demonstration plots near SASL using the same implements as small-scale farmers. Yields of 4 t/ha have been achieved on the demonstration plots for soya, compared with an average of 1 t/ha achieved by smallholder farmers, with maize yields of 9 t/ha compared to 1.7 t/ha in the same area. There is clearly substantial scope in the region for boosting yields and increasing rural incomes.

Silverlands has assisted with the construction of the Foundations for Farming training centre to facilitate their work, and we have sent employees to training sessions to improve skills in the labour force.

Silverlands' Demonstration Plots

In the last season, Foundations for Farming helped to set up demonstration plots at both SZL and SASL. These plots trial different varieties of maize and soya, which is useful knowledge for both our commercial farms and small-scale purposes. Sugar/dry beans and groundnuts have also been planted, as they may be a more useful crop for small-scale farmers with higher yields and prices than soya beans. One area was planted as a time-trial to show the influence of planting date on yield.

This was the first year that these Silverlands farms have run demonstration plots. Some difficulties included a variable wet season at SASL, pests such as fall army-worm, and theft of some crops prior to harvest. Several training sessions were held with small-scale farmers from the areas using these plots as a 'classroom'.



Multiple varieties of maize and soya were planted in demonstration plots at SZL and SASL, where training days were held for smallholder farmers.

Conservation Farming Techniques

Conservation farming includes a range of practices, each important to ensure careful plant management, improved soil quality and ultimately greatest possible yields.

All the methods can be undertaken using the resources available to small-scale farmers, requiring minimal financing.



Rotate with legumes.



Straight lines and plant spacing to maximise light.



Composting.



Precise placements of inputs.

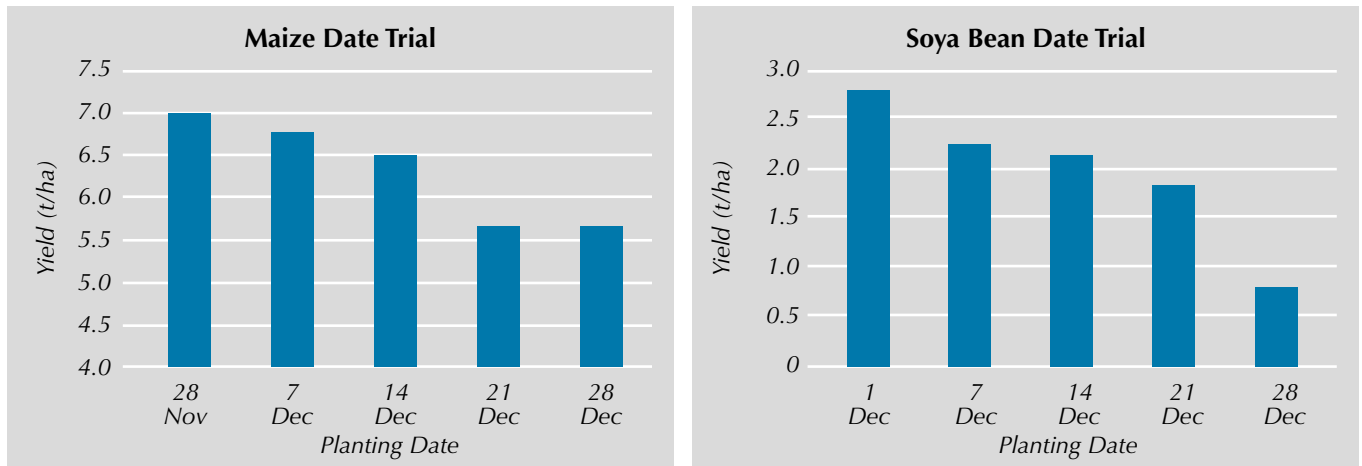


Minimum tillage and mulch.

Our Hub
Out-grower Projects

Demonstrating to Smallholder Farmers: Timing of Planting

Planting a crop on time is a key message to communicate because the timing of planting has an enormous influence on crop yield. A trial at SASL showed that maize yields reduced 20% (7 t/ha to 5.6 t/ha) simply by planting a month later (28 December vs 28 November). Over a similar period, soya yields reduced an extraordinary 70% (2.8 t/ha to 0.8 t/ha).



These results were likely influenced by inconsistent rain during the season but show the trend clearly.



Potential Profit Increases Due to Increased Yields

Increasing small-scale farmer yields from 1.5 t/ha (similar to that in the SZL/SASL area) to 4 t/ha increases net profit per hectare five-fold from \$87 to \$402. Demonstration plots have shown that such an increase is realistic and achievable.

Management level (with varying production costs)	Yield target (t/ha)	Net Return per Hectare (\$)
Zero	0.5	33
Low	1.5	87
Medium	4.0	402
High (manual)	6.0	528
High (mechanised)	8.0	507

4.6 Zambia: Working with Cattle Farmers

Impact Summary

Description of Impact Activity	Project Participants from Community (# farmers)	Average Household Income (\$)	Average Household Income for Participants (\$)	Total Value Added to Community (\$)
Cattle farmers	1,019	\$600	\$1,100	\$639,760

Silverlands has an expanding positive impact on the communities surrounding its ranch in South Western Zambia, a prime region for rearing cattle. Silverlands Ranching manages over 5,000 cattle on its ranch, covering some 21,000 ha (in red on the map following). The key thesis when acquiring the ranch in early 2014 was:

- To develop cropping and add irrigated pasture to intensify the farm use
- To integrate up the value chain through the addition of feedlots and processing
- To build an out-grower program with surrounding smallholder farmers.

A large dam (~13m³) was completed on the farm in 2014, and ~500 ha of irrigation was added in 2015. This has allowed the planting of irrigated pastures and crops to help feed the cattle and intensify farm usage. To develop the value-chain, a feedlot was built in 2016. This has successfully proved the model and helped to provide a market for smallholder cattle farmers. There are now plans to develop an abattoir and processing plant to complete the beef value chain.

Our Hub
Out-grower Projects



The new 'hub' of Silverlands Ranching, including 13m³ dam, cropping, housing, offices, stores and workshop.

Silverlands Livestock Improvement Community ('SLIC') Programme

The communities around the ranch grow some crops for food and sale, but the primary focus to sustain their livelihoods is on cattle. Cattle are their 'bank', being sold for cash when required.

In 2014, Silverlands consulted extensively with the communities surrounding the ranch, establishing 'Livestock Committees' with the communities. This consultation identified three main issues faced by these communities:

- 1 High cattle mortality rates, due to disease, particularly tick-borne diseases;
- 2 A lack of operational dipping stations and no veterinary support; and
- 3 A lack of a market for cattle and high vulnerability to traders; around 40% of cattle transactions were between community members as there was no reliable market.

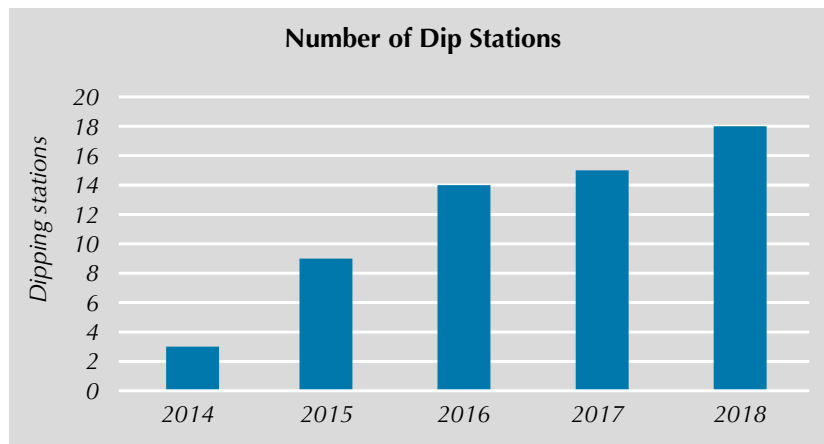
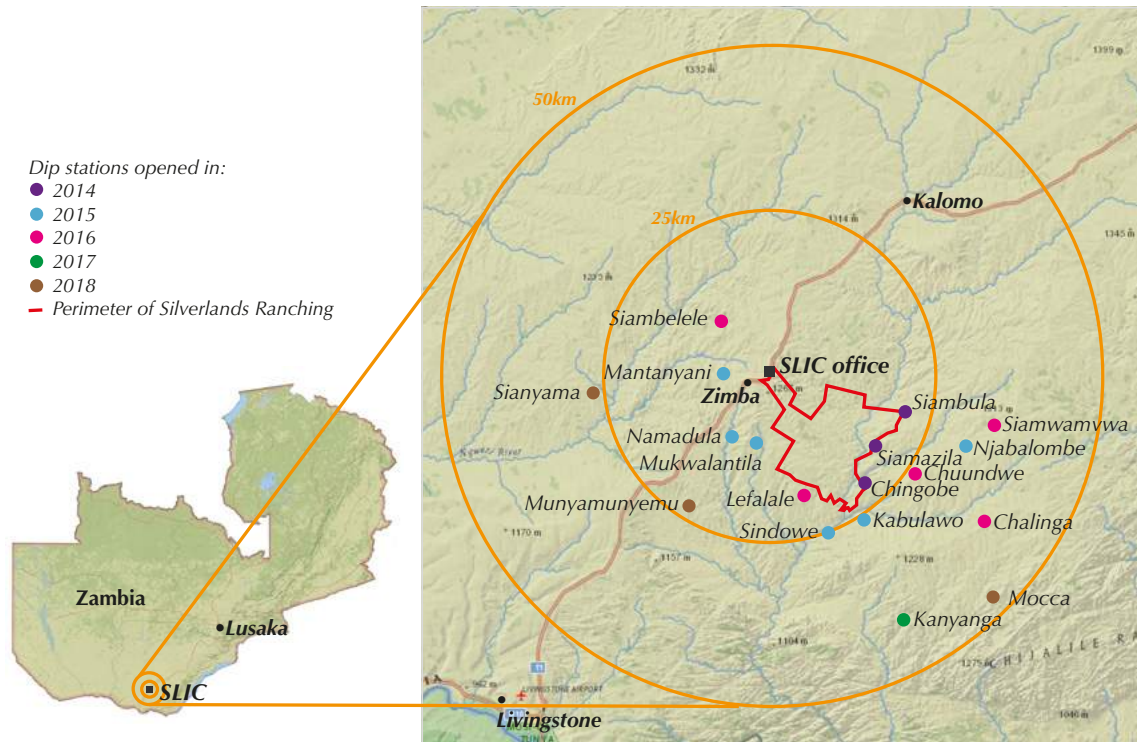


Meeting with one of the communities in 2014.

Smallholder farmers' need for a reliable market confirmed the thesis to develop a beef value chain. This helped the business case because it meant the beef value chain and the whole business could grow to a far greater scale than if it relied on off-take from Silverlands Ranching alone.

Prior to Silverlands' arrival, cattle disease was rife in the region; livestock mortality was high and frequent diseases resulted in low calving rates. Farmers had to travel long distances to sell their cattle. In 2014, Silverlands Ranching established an extension service, hiring the first three 'Livestock Technicians' each with veterinary training. They assisted in refurbishing several non-functioning cattle dipping stations in the community areas. This was undertaken with the communities' help. Surprisingly, the communities had not been 'dipping' their cattle for 17 years. The project was named the Silverlands Livestock Improvement Community ('SLIC') programme.

Silverlands Ranching and the Surrounding Communities in the SLIC Programme



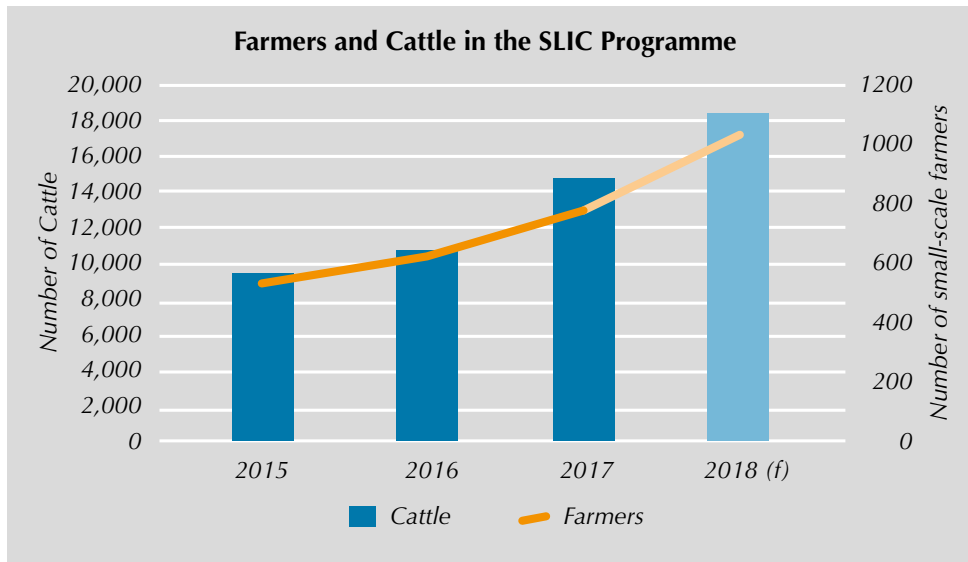
The programme has increased the number of dipping stations from zero to 18 in 4 years



The construction of a new spray race in the Munyamunyemu community means not only healthier cattle, but improved livelihoods. Seeing the sprays working for the first time truly is a joyous thing for community members!

Our Hub
Out-grower Projects

The dip stations immediately attracted the attention of communities in the region. Through SLIC, Silverlands continues to be invited by communities into their areas and asked to refurbish old dip stations or to set up new spray races where no dip station existed. Today, 18 dip stations are running, allowing ~1,000 farmers to bring a little over 18,000 cattle bi-weekly to the dips to get rid of ticks and accompanying diseases. There are currently over 40,000, and sometimes as many as 50,000, cattle ‘dippings’ a month, up from zero just four years ago, an impressive logistical feat.



Over 18,000 cattle owned by more than 1,000 farmers are being dipped at SLIC dipping stations, an increase of ~30% over the last year

SLIC’s Livestock Technicians are present at every dipping day, managing the acaricide (pesticide targeting ticks), water levels and pH in the dip tanks. They are trained in agrochemical handling, so community members need not be involved. The Livestock Technicians also come from a veterinary background and train community members in cattle management, as well as assisting with vaccinations, dehorning and other support when necessary. When required, expert veterinary advice is provided by Dr Moosa, the vet who oversees the Silverlands’ herds.



Cattle become fully immersed in the plunge dips.



Livestock Technician, Mazuba Munamwanze, monitors cattle filing out of the dip.

Adding more dip stations has reduced the distances travelled by farmers and cattle to 1-2 km instead of over 10 km in some cases. This has helped many of the farmers, allowing each farmer and animal to receive more careful attention from Livestock Technicians.

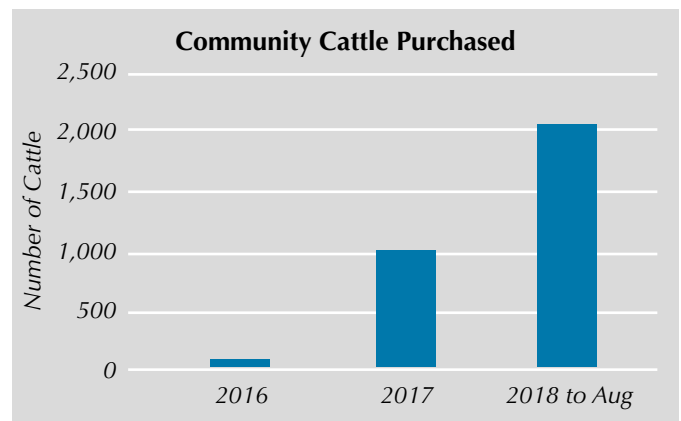
Part of the success of SLIC is due to the buy-in from communities. A community committee runs each dip station, keeping track of attendance, collecting fees, providing water and maintaining infrastructure. The dipping fees (ZMK 1 or \$0.10/animal) fund the daily expenses of the programme; the dip stations are self-financing with all financing managed by the community itself. Silverlands operate as invitees into the communities providing technical support and advice.

Another success of SLIC is that the programme is integrated into the business model of the Silverlands commercial hub. Community cattle are needed to help stock the feedlot. More than 3,000 community cattle have been purchased thus far, starting from a mere 53 purchases in 2016.

This market provides valuable income for small-scale farmers. In 2018 (to August), \$675,000 (ZMW 6,749,831) of funding has flowed into communities from the cattle purchase programme.



Community cattle are held in a feed pens prior to transfer to the feedlot, to assess their health and give them time to adjust to a fodder-based diet.



Our Hub
Out-grower Projects

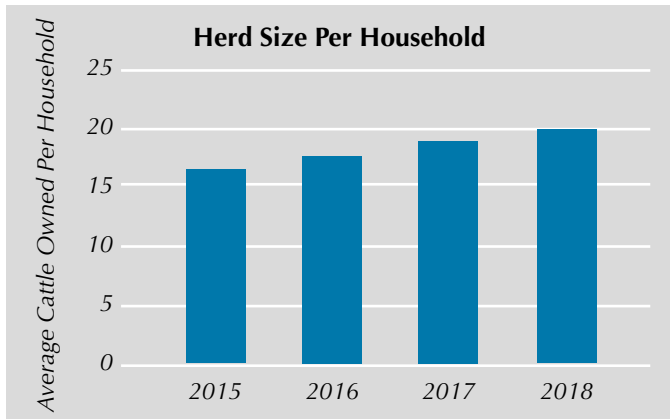
“ My animals are doing much better due to the dipping. I sold three cows to Silverlands this year. The price was better than any of the other abattoir and I was very happy with the sales process as they explained everything to me well. ”
Mr G Simbi, cattle farmer

Collaborating with NGOs

At the initiation of the SLIC project, Silverlands partnered with the NGO Musika. Musika provided some donor support, advice on implementation and helped with community surveys. Silverlands Ranching ran the out-grower programme. In addition to this ongoing relationship, and to further expand on the achievements of the project, AgDevCo have provided \$320k in donor funding through their Smallholder Development Unit for use over three years (2018-2021). To facilitate the expansion of SLIC, an Assistant Administrative Manager (Chipuya Simooya) has been hired and a learner centre for workshops and training sessions constructed.

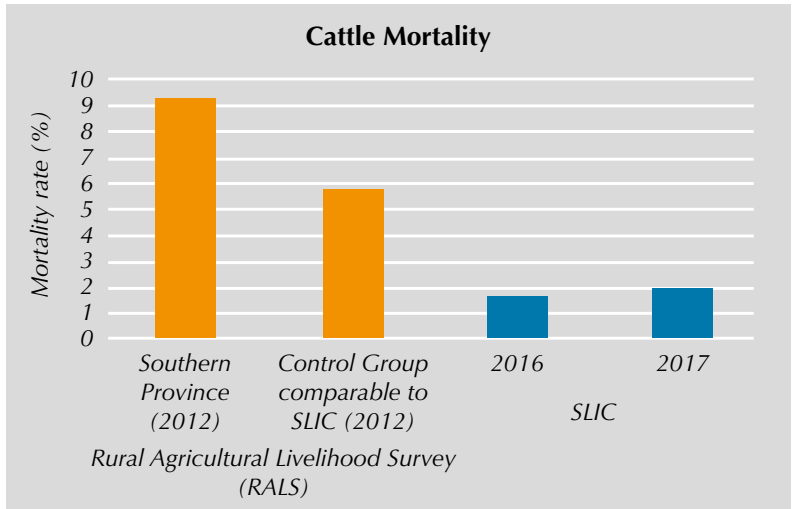
The Benefits for Smallholder Farmers

The programme has resulted in remarkable improvements in the community herds. Average herd size per farmer has increased from 16 to 20 over the last three years. Assuming a value of \$330 for each head, the total herd value for each farmer has increased by ~\$1,300 over the same period, a substantial uplift in an area where average incomes are probably in the \$250-\$400 per annum range. Accounting for improved mortality and calving rates, each family has access to a potential additional income of ~\$465 per year (\$474k across the whole programme) (using 2017 data).

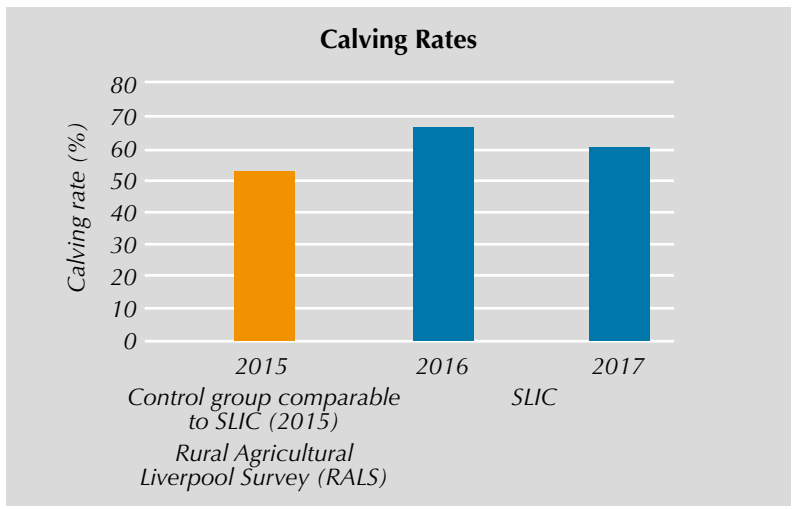


Average herd size per family has increased consistently each year. *2017 figures updated with detailed results

The health of the community cattle has improved dramatically with the SLIC Programme.



In 2012, cattle mortality rates in the Southern Province of Zambia were 9.3%, with 70% of households reporting that their herds had been affected by cattle diseases (Rural Agricultural Livelihood Survey, 2012). Mortality rates amongst cattle that are part of the SLIC program reduced to 1.5%-2.1% in 2016/2017, implying a substantial benefit for these farmers.



Calving rates improved from 53% in 2015 to an average of 64% in the 2 years 2016/17, 25% higher than before the programme started. The slight reduction in smallholder calving rates from 67% in 2016 to 2017 was largely because of the effect of the 2015/16 drought. Updated data was not available for this year.

More than just a Dip Station

Dip stations are not just a functional facility for cattle management; they have also become central community meeting places. Each dip station has one dipping day per week, where community members often bring produce to sell or barter.

Supporting Smallholder Cropping

SLIC has created an additional income stream for farmers, by integrating small-scale crop farming support into the business hub. Farmers grow small areas of crops (~3 ha) to supplement their primary income source from cattle. The main crop grown is typically white maize (over 70% of income, 2017 Silverlands survey), a poor performer in dry climates. SLIC are introducing farmers to a variety of different drought-tolerant crops such as sunflower and sorghum via demonstration plots near the dipping stations. Families can then spread their risk across a diversity of crops and benefit from the assorted nutrition they provide. Excess crops can then be sold to Silverlands and others. Silverlands is processing these crops into cattle feed for the feedlot.

Training with Demonstration Plots

Demonstration plots have been planted to train farmers in improved agricultural techniques and to introduce them to a diversity of drought-tolerant crops. In the 2017-2018 summer season, six demonstration plots were used to display two varieties of sunflower, as well as yellow maize which is more resilient to drought than white maize. It is planned that many more demonstration plots will be planted, and training days held in the coming season.

Sunflowers: Drought Tolerant and Good Cattle Fodder

As a crop, sunflowers are well suited to drier climates. Sunflower seed may be processed into cooking oil for human consumption and sunflower 'cake' for addition to cattle feed. To facilitate the purchase of sunflower cake, three sunflower seed presses were commissioned at the SLIC hub in June 2017. Farmers bring their sunflower seed for pressing and take away the sunflower oil, paying for the service with the sunflower cake.

Starting in June, 420 t of sunflower cake was purchased during 2017. In the first five months of 2018, 200 t of sunflower cake and 37 t of sunflower seed had already been purchased, equating to ~\$34k of cash into the community. In time, the feedlot will require about 1,000 tonnes of sunflower cake a year, and it is hoped that most or all of this will be supplied from neighbouring small-scale farmers.



I have taken 50Kg of sunflower for pressing oil. I am very happy with this as they don't charge me for the service, unlike other places in town. I will grow more sunflower next season to take here and tell all my neighbours to use this service as well.

Brenda Simukumbe, small-scale farmer

Working with Women

Cattle are traditionally owned and managed by men in the community, with women usually focusing on cropping. Silverlands are working with women's groups to promote sunflower production, which previously only comprised 16% of incomes (2017 survey). We have begun engaging with 28 existing women's groups (456 women) in the proximity of eight dip stations. Silverlands is also encouraging the formation of groups in other areas. This project empowers women with knowledge and increased income, both valuable in a male-dominated society,



Women tend to focus on crop production. By providing a market for sunflower cake, Silverlands are empowering women, in a typically male-dominated society.

Aggregation Points

To facilitate the aggregation of crops within communities, Silverlands, in partnership with Musika, has built six storage sheds at strategic points, with plans for another four. These are also used as trading points where fertiliser and seed may be distributed to farmers. For the first time in decades, farmers have distribution points near to them, reducing the logistical costs and difficulties of buying inputs and selling grains.



Storage sheds, such as this one at Muzyia, facilitate the aggregation of crops and the distribution of inputs to farmers, a service they have been lacking for decades.

Next Steps

The programme is continuing to grow, focusing on the following areas:

- Providing technical advisory services and expanding the dipping stations from 18 to 28 by the end of 2020, with four new dip stations started in the past year;
- Increasing access to a formal market for community cattle by expanding the Silverlands feedlot and developing an abattoir and processing facility;
- Facilitating support from input suppliers for small-scale grains farmers;
- Expanding the production of smallholder sunflowers and Silverlands' purchasing of sunflower cake for the feedlot.

In Summary

Silverlands Ranching and the SLIC programme are the hub out-grower model in action, benefiting both the communities and the business. The Silverlands 'hub' provides a market to smallholder farmers for cattle and grains, as well as ongoing technical support that raises calving rates, reduces cattle mortalities and increases smallholder farmer incomes. Silverlands Ranching benefits from the increased scale possible in the feedlots and processing, both business areas that require scale.

Despite the programme's significant impact, its running costs are relatively low, and its low-tech nature works well in rural Zambia. Integrating SLIC into the business model is resulting in significant improvements in small-scale farmer incomes that will continue into the long-term.

Media: *Silverlands Ranching got some airtime in the Africa Outlook magazine Issue 60.*



4.7 Increasing Access to High Yielding Seed

We aim to improve other farmers' yields through the production of high quality seed that is suited to local conditions. This year the nearly 9,400 tonnes of seed produced (mostly maize seed) may be used to plant over 350,000 ha of crops by small-scale farmers, mostly in Zambia and Tanzania. Overall, we estimate that this seed will be grown by over 145,000 small-scale farmers. With increased yields of 60-70% from growing our higher-yielding seed, each farmer's profits should increase by over \$300 annually. That's an additional \$46m that farmers are making from the seed that we're growing.

Farmers Growing Crops with Hybrid Seed

Farm	Current year seed production by our operations (t)	Area planted with our seed (ha)	Project participants from community (#)	Average household income for participants (ha)	Total value added to community (\$ million pa)
Silverlands I					
SZL + SASL (Zambia)	435	17,400	8,700	\$840	\$2.1
STL (Tanzania)	2,070	82,800	33,120	\$900	\$9.9
SNL (Tanzania)	3,192	128,520	44,544	\$987	\$17.2
Silverlands I Total	5,697	228,720	86,364	\$939	\$29.3
Silverlands II					
Zamseed (Zambia)	3,665	126,938	59,000	\$882	\$16.7
Overall Total	9,362	355,658	145,364	\$916	\$45.9



Growing seed maize is a specialised task. Male plants (with tassels) pollinate the female plants to result in a good genetic blend in the resulting seeds. Every female plant must be "de-tasseled" to prevent self-pollination. This leaves two rows of male plants for every six rows of female plants.

5 Our Direct Impact

5.1 Boosting Employment

Our portfolio companies are key employers in their operating areas, which are typically rural and with little other high-paid work available. Since making the investments, there has been a material increase in the total number of people employed.

Silverlands now employs over 6,200 people, up 30% from the number employed when the businesses were purchased (~4,700). The table below shows the employment figures by business. In all the businesses – apart from SVL, CBL and Achill, which were already established companies and large employers – the number of people employed has increased by a multiple of the original number, typically three- to four-fold. Reduction in employees at the table grape operations in Namibia is due to the conversion to in-field packing; this requires slightly fewer seasonal employees during harvest yet has a significant positive effect on grape quality as they are only handled once. Employment at Achill is however expected to treble from current levels once the expansion plan is completed.



SVL and Achill now pack in-field, requiring fewer seasonal employees yet increasing the grape quality as they are only handled once.

Most of the increase in employment has occurred in those countries that have lower average incomes per capita. If we exclude South Africa and Namibia, both middle-income economies with GDP per capita of ~\$4,000-5,000, then the balance of the portfolio is in Zambia, Tanzania and Mozambique, all countries with lower incomes per capita. In these countries, we have raised employment by over 300%, from ~500 to ~2,000.

Increase in Employment

Portfolio Company	Number of Employees			
	At purchase	Current	Change	Increase
Silverlands I				
Silverlands Tanzania	248	784	+ 536	3.2 x
Silverlands Ndolela	78	477	+ 399	6.1 x
Silverlands Zambia	53	255	+ 202	4.8 x
Silverlands Agriculture Services	16	218	+ 201	13.6 x
Silverlands Ranching	86	243	+ 157	2.8 x
Silverlands Vineyards	1,104	1,053	- 51	1.0 x
Crookes Brothers*	2,365	2,516	+ 151	1.1 x
QBV	4	23	+ 19	5.8 x
Silverlands I Total	3,954	5,569	+ 1,615	1.4 x
Silverlands II				
Achill	555	486	- 69	0.9 x
Zamseed	201	201	0	-
Silverlands II Total	756	687	- 69	0.9 x
Overall Total	4,710	6,256	+ 1,546	1.3 x

*CBL numbers adjusted for farm sales and outsourcing seasonal workers.

“When you invest, you touch a lot of lives. People get employment. People get better food. People get better jobs. And ... lives change.”

Mwanamvua Ngocho, Project Manager, Silverlands Tanzania

5.2 Boosting Salaries Through Expansion

By employing more people, we put more money into our surrounding communities. Salaries are up 25-fold since purchase and the payroll is now over \$23m for Silverlands I.

The large increases in salary bill in Zambia, Mozambique and Tanzania are partly due to the huge increase in employee numbers that have increased 3- to 14-fold. Additionally, the increases in salaries are more magnified than the increases in employment because the incremental jobs are higher paid.

Using Silverlands Tanzania as an example, employment numbers have risen by 3.2x. However, the jobs that have been created are higher paid than those generally available in the area, as they involve the management of the processing plant, poultry and farm's irrigation. The Silverlands Tanzania annual salary-spend increased from \$ 119,000 to \$ 2.8m over five years. This staggering 34x increase in regular incomes injected into the surrounding community has resulted in a noticeable increase in development in these areas in particular housing and retail.

Salary Spend: Up ~23-fold Across Portfolio Companies

Portfolio Company	Annual Salary Spend				US\$ Value of Current Annual Salaries
	Currency	At purchase	Current	Increase	
Silverlands I					
Silverlands Tanzania	TSH	191m	6,410m	33.6 x	2.8m
Silverlands Ndolela	TSH	148m	2,725m	18.4 x	1.2m
Silverlands Zambia	ZMW	0.5m	11.4m	22.8 x	1.1m
Silverlands Agriculture Services	ZMW	0.1m	8.7m	87.0 x	0.9m
Silverlands Ranching	ZMW	0.7m	11.7m	16.7 x	1.2m
Silverlands Vineyards	NAD	23.2m	37.3m	1.6 x	2.8m
Crookes Brothers	ZAR	95m	176m	1.9 x	13.2m
QBV	MZN	0.2m	4.8m	24.0 x	0.1m
Silverlands I Total				(Avg) 25.7 x	23.3m
Silverlands II					
Achill	NAD	9.2m	13.4m	1.5 x	1.0m
Zamseed	ZMW	19.6m	-	-	2.0m
Silverlands II Total				3.0 x	3.0m
Overall Total				(Avg) 23.0 x	26.3m

5.3 The Employment Multiplier Effect

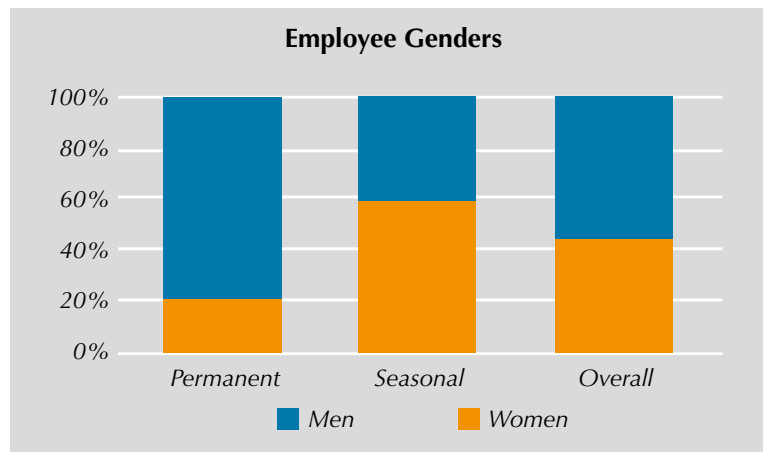
We are employing ~6,200 people and their employment has 2 main multiplier effects. Firstly, direct, indirect and induced jobs created as a function of each permanent job we create. (The 3x multiplier is for the agricultural sector in Tanzania, from an IFC jobs study.) Secondly, every employee's family benefits from their income. We have used a 9x multiplier here.

Our Impact Through Additional Jobs Created and Household Persons Benefiting

Portfolio Company	Business/Product	Country	Employees			Job Creation Effect from Employment	Household Person Impacted	Total Impact
			Permanent & Seasonal	Permanent	Seasonal	Direct, Indirect, Induced Jobs (3x perm. jobs)	Employment (9x total employment)	
Silverlands I								
Silverlands Tanzania	Feed, poultry, grains and cattle	Tanzania	784	388	396	1,164	7,056	8,220
Silverlands Ndolela	Grains and cattle	Tanzania	477	213	264	639	4,293	4,932
Silverlands Zambia	Grains	Zambia	255	174	81	522	2,295	2,817
Silverlands Agriculture Services	Grains	Zambia	218	124	94	372	1,962	2,334
Silverlands Ranching	Cattle, cropping, feedlots	Zambia	243	224	19	672	2,187	2,859
Silverlands Vineyards	Table grapes and distribution	Namibia	1,053	134	919	402	9,477	9,879
Crookes Brothers	Sugar Cane, Fruit, Macadamias	SA, Swaziland, Mozambique, Zambia	2,516	1,066	1,450	3,198	22,644	25,842
QBV	Fruit (bananas)	Mozambique	23	11	12	33	207	240
Silverlands I Total			5,569	2,334	3,235	7,002	50,121	57,123
Silverlands II								
Achill	Table grapes and distribution	Namibia	486	44	442	132	4,374	4,506
Zamseed	Seed company	Zambia	201	101	100	303	1,809	2,112
Silverlands II Total			687	145	542	435	6,183	6,618
Overall Total			6,256	2,479	3,777	7,437	56,304	63,741

5.4 Women in Our Workforce

Although agriculture is typically male-dominated, we employ a significant proportion of women. Of our total workforce, 43% are women, although there are more in the seasonal / temporary labour force (58%) than in the permanent staff (21%). Women tend to be better at the more careful jobs, such as handling fruit, caring for poultry, quality checking, scouting for pests, or de-tassling and de-cobbing maize. Many women have also been appointed in key management positions. Hiring women continues to be a focus for each operation, and over time cultures are changing to allow women to leave their responsibilities at home at seek employment. Some case-studies are presented below.



**CBL data was unavailable at the time of reporting*

Stella Mgavano has worked for Silverlands Tanzania since the farm was purchased in 2014. With her savings, she pays school fees and has built a house for her family.

She supervises a team of women who do labour-intensive jobs such as de-tassling, harvesting and de-cobbing seed maize. As the work is seasonal, the women in this team are temporary workers. Some of them would prefer to be permanently employed, but Stella says that it suits some others' way of life, as they can have time to tend to their own businesses and farms at home. Either way, if they did not have this work, they "would have a difficult time".



Three of the temporary employees working under Stella:

- **Emma Kiswaaga** (left) lives with her parents and two younger brothers; she appreciates that she can help feed and care for her family because of the employment.
- **Emma Ngulo** (centre) likes her job which enables her to pay school fees and buy things for herself.
- **Yusta Ndendya** (right) uses her salary to care for her mother and send her youngest child to school.



Desire Sekele: Assistant Farm Manager, Mthayiza Farming (Community JV in Crookes Brothers)

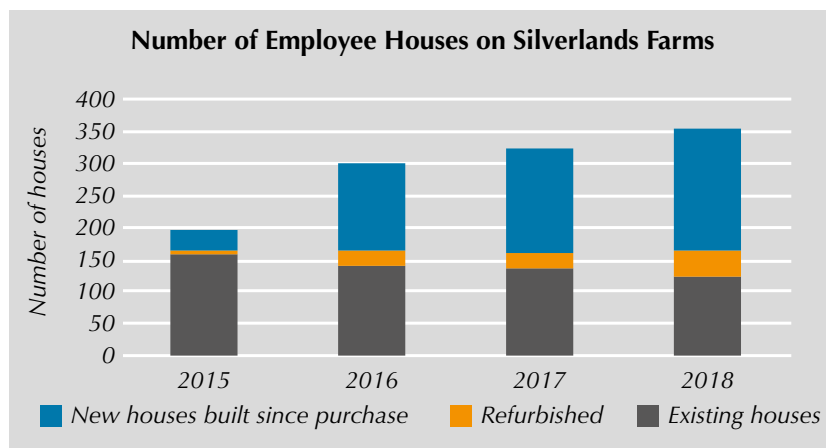
“I get to experience a lot of things: mostly through girl-power. Most people think farming is male-oriented yet I’m a female and I’m excelling in it.

I just love my job, I love what I’m doing and it’s great. The experience, the exposure, the people that I work with, my superiors, the community that I work for.”

5.5 Improving Employee Housing

The availability of quality housing in a pleasant environment, is key to ensuring the wellbeing and productivity of the workforce.

The Silverlands farms were mostly not operational at acquisition. The limited housing that was present mostly needed upgrading. Housing has thus been a priority focus of farm development over the last few years. At the three Silverlands operations in Zambia alone, 190 new houses have been constructed over the last four years. While also constructing dams, management hubs, developing cropping lands, and installing pivot irrigation, this has been no small feat.



In remote areas, housing is not enough for employees. Silverlands Zambia have started a school this year for employees’ children (left). For some of these children, it is their first schooling experience. In Namibia, Silverlands Vineyards and Achill have opened a creche to take care of employees’ young ones during work hours (right).

5.6 Skills Development

A trend across all our Portfolio Companies is a general shortage of skills, particularly among general workers and junior-middle management. Our operations are world class and we aim to raise the bar of skills within the workforce. Much of this is through on-the-ground training, with our experienced senior managers feeding knowledge into their teams, supported by a wide variety of formal training.

Theme	Specific Topics
Safety	Fire-fighting, health and safety, first-aid, safe handling of chemicals, emergency response.
Health and wellness and disease control	HIV/AIDS education; malaria spraying, testing and knowledge dissemination.
Operating machinery	Tractor, grader, excavator, motorbike, forklift, knapsack, chainsaw, combine harvesters, pump stations, pivots, etc.
General agricultural skills	Plant production, irrigators, pruning, pest and disease scouting, sprayers, conservation farming.
Livestock	Biosecurity, cattle handling, poultry production, poultry brooder management.
Finance, IT	Payroll, Excel, tax, capital allowances, internal auditing. Also, basic financial understanding and planning for general and seasonal workers.
Governance	Anti-bribery and corruption, harassment, whistle-blowing, etc.
Other	GlobalGAP, Hazard Analysis and Critical Control Points (HACCP), teambuilding, etc.



At the Renishaw property development (left), Crookes Brothers are working with the Construction Education and Training Authority (CETA) and have engaged 25 previously unemployed youth (18-25 years) from neighbouring areas in a training programme (right). The one-year programme includes classroom and practical learning after which contractors working on the Renishaw development will hire the top three students for three-year apprenticeships.



We require world-class technical skills at our operations, including those to operate the feedmill in Tanzania (left), and large farming equipment such as combine harvestors (right). Much training has been required to raise the bar of skills in the remote areas of our operations.

Krish Naidoo: Crookes Brothers, South Africa

For three years Krish has been Farm Manager at Crookes Brothers' Mpambanyoni Farm (Renishaw estate). But his journey with Crookes began the day he was born, on another Crookes estate where his father was a supervisor and his mother in the planting team. After completing school in 1976, he was formally employed by Crookes Brothers as a section clerk, where he remained for 15 years. In this time, he would join the Assistant Farm Managers to learn about the farm, after his office work was done. He worked his way through the ranks, attending formal training on sugar cane production, becoming an Assistant Farm Manager, before being appointed Farm Manager in 2015.

Although he attended formal training, much of what he learnt was on-the-job from his superiors. He has also passed his years of knowledge on to others. Xoli Mdibaniso is one such person, who is now General Manager of KwaCele Farming (see JV section). Krish is very caring and believes that much can be solved with good communication and by understanding your employees and their backgrounds. Krish personifies the Crookes family culture.



5.7 Increased Production

Food production has trebled at our farms since purchase (excluding sugar cane which distorts the figures because of the large volumes). Across all our operations, production for the last cropping season was nearly 800,000 tonnes. Fruit production has risen 80%, row crops (mostly grains and soya) are up more than seven-fold, and cattle numbers are up by a factor of eight.

Silverlands Tanzania is expected to produce ~26,500 tonnes of poultry feed in 2018, more than a doubling from last year, with over 7m chicks, up from 4m last year. This is particularly impressive given that there was no production four years ago.

Silverlands I - Production Volume Summary

Product	Year Prior to Acquisition	Current Year	Multiple of start value	Cropping Area (ha)
Livestock				
Cattle	778	6,454	8.3 x	
Day Old Chicks	-	7,410,231		
Processing				
Poultry Feed (t)	-	29,927		
Row Crops				
Barley (t)	460	4,671		738
Seed maize (t)	1,401	5,289		851
Commercial maize (t)	-	8,157		1,093
Soya beans (t)	125	11,664		3,138
Seed beans (t)	-	358		179
Potatoes (t)	-	1,601		141
Wheat (t)	6,614	24,652		3,136
Silage (t)	-	5,479		196
Snap corn (t)	-	255		20
Canola (t)	-	276		92
Edible Beans (t)	-	110		55
Seed sunflower (t)	-	50		25
Row Crops Total (t)	8,600	62,561	7.3 x	9,664
Plantation Crops				
Sugar Cane (t)	552,728	675,785	1.2 x	6,988
Fruit Crops				
Grapes (t)	3,198	3,192		352
Deciduous fruit (t)	14,900	32,961		661
Bananas (t)	12,618	18,575		411
Fruit Total (t)	30,716	54,728	1.8 x	1,424
Tree Nuts				
Macadamia nuts (t NIS)	-	168		361
Total Crops (incl sugar cane)	592,044	793,243	1.3 x	18,437
Total Crops (excl sugar cane)	39,316	117,458	3.0 x	11,449

Silverlands II - Production Volume Summary

Product	Year Prior to Acquisition	Current Year	Multiple of start value	Cropping Area (ha)
Row Crops				
Commercial seed (t)	4,801	3,665	0.8 x	1,019*
Fruit Crops				
Grapes (t)	868	1,117	1.3 x	135
Total Crops	5,669	4,782	0.8 x	1,154

*Zamseed outsources the majority of production. In 2018, seed was grown on roughly 600 ha of outgrower farmers' land plus 419 ha of Zamseed's own cropping (summer and winter).

5.8 Reducing Imports and Carbon Footprints

In the context of increasing atmospheric carbon dioxide levels, there is a critical need to ensure environmentally responsible food production practices across the food value chain. Food production at our farms is reducing the need for food imports into those countries, reducing both the carbon emissions from transportation, as well as the cost of food in-country.

Wheat: In Zambia, our wheat already contributes notably to national production levels. Silverlands is projected to produce over 11% of the national production of wheat in 2018, up from 9% in 2017 and 0.1% prior to Silverlands' purchase.

Wheat production in Zambia	2012	2017	2018
Zambia national production (t)*	254,000	194,000	200,000
Silverlands Production (t)	300	17,062	22,689
Proportion grown by Silverlands	0.1%	8.8%	11.3%

* [IndexMundi](#)



Wheat production at Silverlands Agriculture Services in Kakushi.

Soya: Before we began Silverlands Tanzania, and implemented the country's first poultry feed mill, Tanzania was importing its entire soya requirement. By creating a market and buying soya for processing in our feed mill, we have triggered the local production of soya by small-scale farmers. This year, 8,000 farmers produced 4,000 tonnes. Tanzania has become more self-sufficient, and locally the small-scale farmers' yields have improved as a result of crop rotation reducing the need for expanding cropping areas. We expect Tanzania to become fully self-sufficient in soya over the next 8-10 years through our initiatives.

Fruit:



Apples and pears are sold through Two-a-Day (of which CBL own 19%). Sold into 65 different countries, the volume directed into local African markets has increased, reducing the associated carbon footprint.



Packing bananas produced by Crookes Brothers and marketed through Lebombo Cape (29.88% owned by CBL), South Africa. Producing bananas locally reduces the import requirement from Latin America. Since investing in Crookes Brothers, banana production has increased 1.5x (12,618 t in 2012 to 18,575 t in 2018).

Minimum Tillage Reduces Carbon Released to the Atmosphere

Our farmers practice minimum tillage. All the small-scale grain farmers we work with are also encouraged to practice conservation agriculture, which includes minimum tillage. Not tilling the land maximises the carbon retained in the soil as organic matter. Along with improving soil structure, moisture, nutrient levels and yields, this also reduces the carbon dioxide and other greenhouses gases that are released from the soil into the atmosphere.

5.9 Supporting SMEs who Support Us

Our operations cannot run without the support of a diversity of SMEs, including transporters, builders, electricians, caterers, and various smaller suppliers. In some cases, our businesses have enabled these SME businesses to expand, increasing their workforce and having knock-on positive effects into the local economies. Our businesses rely on upward of 300 SMEs in Tanzania, Zambia and Namibia. Annually, over \$7.7m is paid to these SMEs, which filters into our surrounding economies. We estimate that each SME has ~10 employees on average and this implies that some 3,000 jobs are supported by our business.

5.10 Corporate Social Investment

Donations to the communities around our farms can have long lasting impacts on lives. Each year we provide donations and assistance where we can, and every farm contributes in some way. These initiatives are also an important mechanism for meaningful interaction with our surrounding communities. This year ~\$200,000 of CSI donations have benefited ~12,000 people.

Our general focus is on improving access to healthcare and education through contributions to the construction of schoolrooms, teacher houses and clinics, donating desks, beds and training materials, and spraying around housing to prevent the spread of malaria. Some of our sponsorship has also been directed at sports teams and celebrations. Crookes Brothers alone have benefited more than 4,000 people with their ZAR 1.6m worth of donations and assistance.



Training students, such as those visiting SASL from the Mansa Trades Institute (left) and Chalata Secondary School (right), is not included in CSI spends, but is a great knowledge-sharing opportunity.



Repairing bridges and roads is an enormous help for communities who lack the resources for such repairs. Most farms have the right equipment for the job and can schedule this between farm operations. The photograph shows the repair of the road to communities near SASL.



Crookes Brothers reconstructed the Nabui school, on the Murrmio Macadamia farm boundary.



The Muwimbi dispensary, which received funding from Silverlands Tanzania, was opened on 25 May 2018.

5.11 Tax Contributions

Portfolio Company	Country	Tax Paid
STL	Tanzania	Nil
SNL	Tanzania	Nil
SZL	Zambia	Nil
SASL	Zambia	Nil
SRL	Zambia	Nil
QBV	Mozambique	Nil
SVL	Namibia	Nil
CBL	South Africa, Swaziland, Mozambique, Zambia	ZAR -5.1m

Nil values are because companies had tax credits or were in a loss position for tax purposes arising from large capital spending programmes. All data is for the financial year ending December 2017, except CBL which is March 2018.

6 Long-term Social and Climate Strategy

The Portfolio Companies maintain a strong focus on implementing ESG measures and maintaining compliance with the Responsible Investment Code. They continue to improve the sustainability of the businesses by understanding and managing ESG-related risks and effects.

We encourage discussion and planning in relation to long-term factors such as climate change, water supply risks, clean power sources, soil management, community relationships, smallholder farmer incomes, supplier ESG standards and encouraging best agricultural practices.

6.1 Community Engagement

Our aim is to support the communities in which we operate. In addition to the numerous community engagements described in the impact sections above – such as employment, CSI projects and interactions through our JVs and hub out-grower models – we also strive to understand and positively impact the communities immediately surrounding our farms. Community liaison personnel regularly meet and keep up to date with our neighbours. Strong relationships with communities are essential to the success of our operations.



Regular community meetings ensure strong working relationships with our neighbours. These photographs are from Silverlands Zambia meetings with the Milumbe Hills Community.

6.2 Climate Responsibility

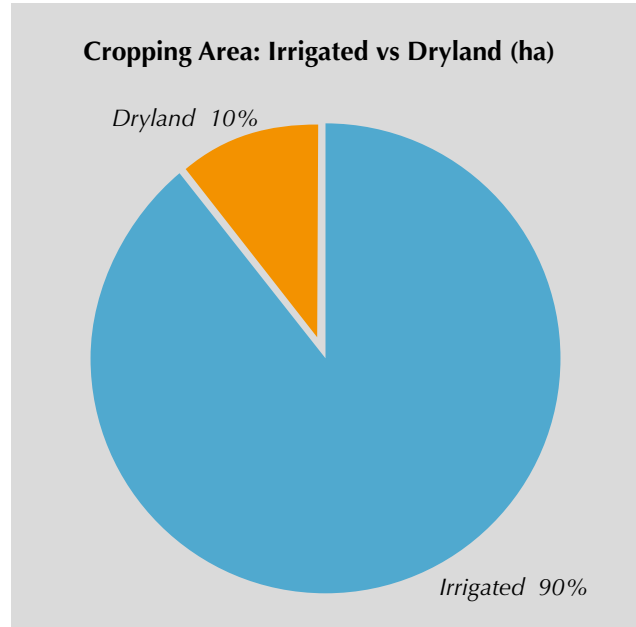
Climate change models predict greater volatility in weather, with more variable rainfall patterns. Recognising the potential challenges associated with rising temperatures, and potential droughts and floods, we seek to mitigate climate-related risks through the following measures:

1 Irrigation

We follow an irrigated cropping strategy for over 90% of the hectares cropped. ‘Dryland’ cropping is more of a small ‘bolt-on’ to the core irrigated strategy and in the minority. With irrigation, a crop can receive supplemental irrigation to help it through a dry period mid-season. This is particularly important at certain times in the crop’s life. As an example, during the crucial two-week period when soya beans flower, a lack of rain can reduce the crop yield by around 25%. The ability to add irrigation at this critical point is obviously very beneficial.

Irrigation Summary

Farm	Summer 2017/18		Winter 2018	Total
	Dryland ha	Irrigated ha	Irrigated ha	ha
Silverlands I				
Tanzania				
Silverlands Tanzania (STL)	233	354	269	856
Silverlands Ndolela (SNL)	-	1,019	770	1,789
Zambia				
Silverlands Zambia (SZL)	-	1,557	1,509	3,066
Silverlands Agriculture Services (SASL)	575	906	1,327	2,808
Silverlands Ranching (SRL)	-	501	356	857
Namibia				
Silverlands Vineyards (SVL)	-	352	-	352
Mozambique				
Quinta Da Bela Vista (QBV)	-	-	-	-
Crookes Brothers (CBL)				
Mpambanyoni / Renishaw	652	-	-	652
Deciduous Fruit	-	661	-	661
Mthayiza and Malelane Farms	-	1,421	-	1,421
Mawecro and Komati Farms	-	2,446	-	2,446
Swaziland	-	2,442	-	2,442
Hagiar Kim, Mazabuka, Zambia	-	438	-	438
Murirmo Macadamias, Mozambique	-	801	-	801
Silverlands I Total	1,460	12,898	4,231	18,589
Silverlands II				
Zambia				
Zamseed	450	-	69	519
Namibia				
Achill Island Investments (Achill)	-	102	-	102
Silverlands II Total	450	102	69	621
Overall Total	1,910	13,000	4,300	19,210



2 Water Storage

Where possible, we seek to store water rather than rely on the run of rivers. In an environment where the rainfall is predicted to become more volatile, having the ability to catch sudden downpours can assist in maintaining effective crop management. Most of our projects already use stored water, with the following exceptions:

- Silverlands Ndolela: The water risk is very low given the large size of the river and that there are no major water users either up or down stream.
- Silverlands Tanzania (Iringa farm): A holding dam is currently being built.
- Silverlands Zambia: The team is working with others in the catchment area on the construction of a dam, which would supply all the users in the area.
- Silverlands Vineyards and Achill: Although the farms do not have their own dams, several dams feed the Orange River upstream in its large catchment area. The key risk is one of mismanagement of these dams, which are largely under government control.



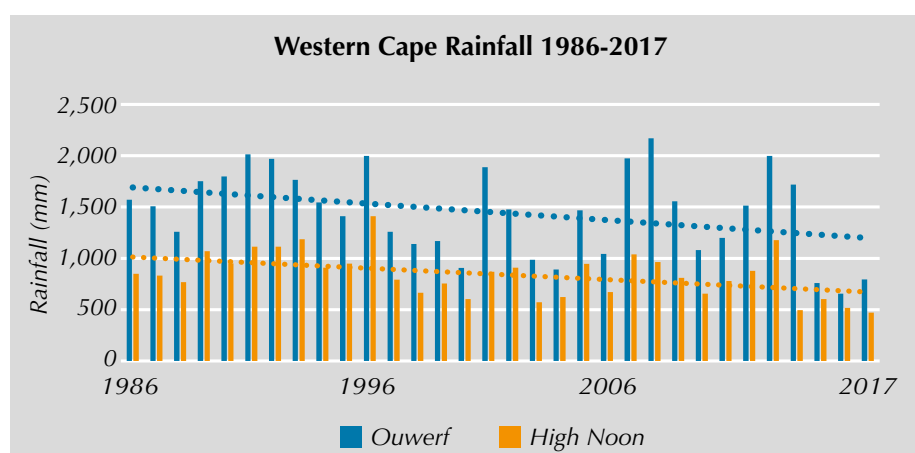
The Kakushi Dam on Silverlands Agriculture Services was completed in mid-2016 and spilled in March 2017. This is the only dam on the Kakushi River, with a catchment that appears to perform better than surrounding areas as it's at a higher altitude.

3 Climatically Optimal Locations

We look for operations in climatically optimal locations for the specific crops we want to grow. We are careful in selecting areas where water security is highest. As an example, we believe that Central Zambia and Southern Tanzania have optimal climates for growing grains and soya.

Deciduous fruit farms in the Cape

The extreme drought in the Cape area in the last few years has highlighted that the Crookes Brothers deciduous fruit farms are in better locations than others, and also the excellent management of water resources by the teams on the ground. The Crookes' farms in the Elgin-Grabouw-Vyeboom-Villiersdorp (EGVV) area were less affected than farms in drier areas such as the Ceres valley. This is going to become increasingly important, given the long-term trend of reduced rainfall in the Cape.

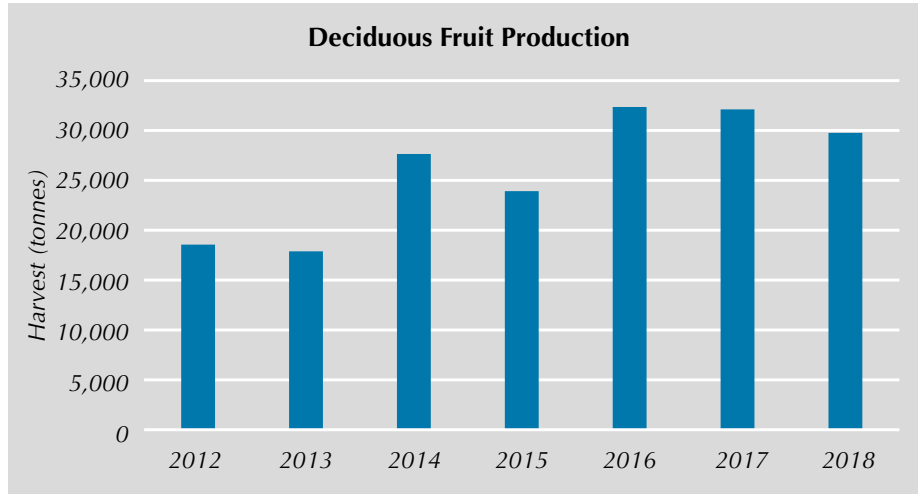


The drought was partially mitigated by adding the use of underground water at several of Crookes Brothers' deciduous fruit farms. The farms also run automated irrigation systems, allowing management to apply water when most effective, such as at night to avoid day-time evaporation. The volumes of deciduous fruit declined by 7% year-on-year due to the drought, with 29,768 tonnes in 2018, down from 32,126 tonnes in 2017. Given the magnitude of the drought, this was a very good result and well ahead of other farmers. The major impact was on fruit quality with a larger proportion of smaller apples and pears.

Fortunately, the Cape has received relatively normal rains this year and the dams are filling. Although it is likely that the trees will take some time to recover, given the large areas of replanting in the last few years, yields and production volumes are set to increase with new varieties coming into full production.

Comparison of Dam Levels August 2017 versus August 2018

Dam	Farm	Aug 2017 (%)	Aug 2018 (%)	Change
Theewaterskloof	Ouwerf	25	44	+19
Elandskloof	Bellecro	29	87	+58
Ouwerf	Ouwerf	60	100	+40
Vyeboom	Vyeboom	30	47	+17
Bateleur	High Noon	48	100	+52
Apiary	High Noon	15	100	+85
Average		35	80	+45



The Ouwerf Dam (~70%) in December 2017. At that time Theewaterskloof Dam was already at only 23% full. The strong summer winds were lifting a dust-cloud of sand from the mostly empty dam, as seen in the background.

4 Variety Selection

Every year, advances in breeding produce varieties that are better adapted to climate variations, particularly drought. Informed by industry expertise and their own trials, our farmers select the best varieties for their areas. This is not only for the diversity of crops in the portfolio (such as sugar cane, soya, maize, beans, wheat, barley, macadamias, apples, pears and avocados), but also in terms of livestock. The cattle reared at Silverlands Ranching are suited to the dry climate of southern Zambia, while the Sasso poultry breed is better adapted to the free-range environment of rural Tanzania than traditional 'Western' poultry breeds.



Trials at Silverlands Ndolela are used to identify which varieties of maize, soya, sunflower and other crops perform best in the remote region of Tanzania.

7 Efficiency and Sustainability in Resource Management

7.1 Efficient Water Management

Our managers are committed to optimising water use, both through appropriate technology and improved on-the-ground management practices. Technologies to aid in water management and improve water use efficiency include flow meters, variable speed drive pumps (VSDs), drip and micro-sprinkler irrigation systems, soil moisture probes, weather stations, evaporation pans and automation methods.

Challenges in tracking water usage per area, and per tonne of product, for each crop include: localised rainfall in different areas on the same farm influencing the supplemental irrigation required, and flow meter measurements only being available for broad areas of irrigation rather than individual fields. Despite these challenges, we continue seeking to monitor water use per crop.

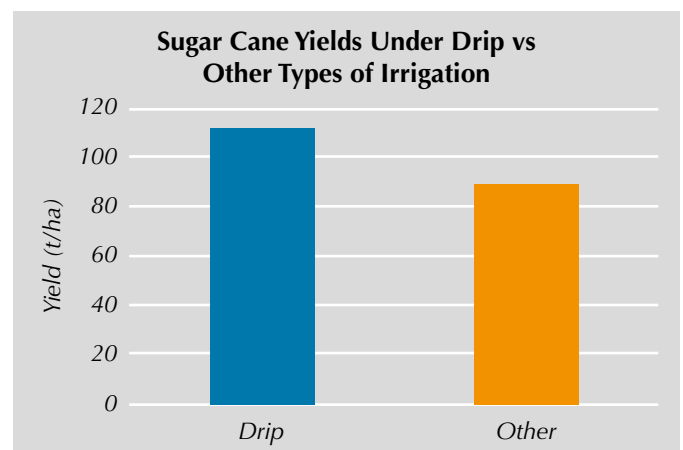


Weather stations are used to tailor irrigation plans to be most efficient.

Conversion to Drip Irrigation

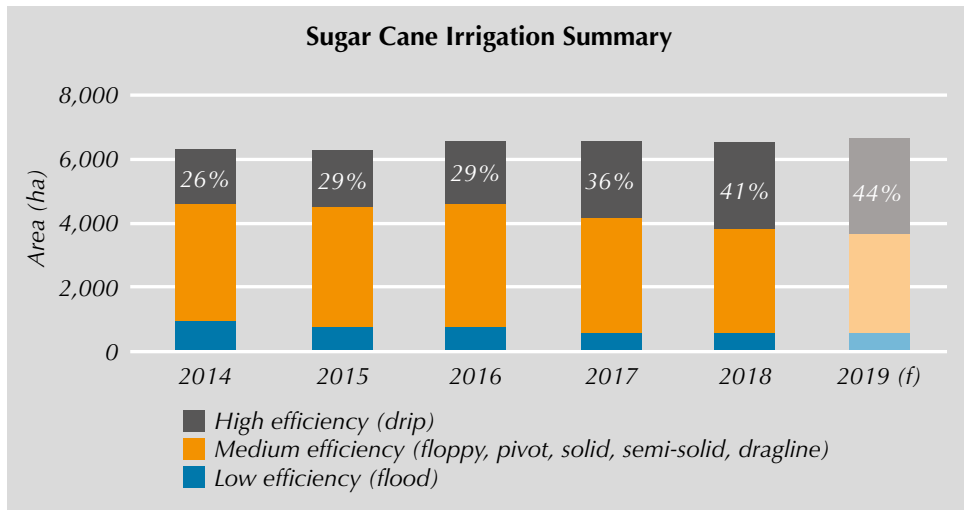
As most of our Silverlands investments are new developments or expansions, these can implement the most efficient irrigation systems from the start. Crookes Brothers, as an established company, is doing well to continuously upgrade to the most efficient irrigation types, as budget allows.

Drip irrigation is best for sugar cane, both from a water usage and profit perspective. Under drip irrigation, yields increase ~30% while using 25% less water, a remarkable saving that maximises water efficiency and reduces electricity costs. The better performance of the areas under drip irrigation is particularly noticeable during drought periods when water supply is restricted. This significant increase in yields – from around 89 t/ha to 113 t/ha – brings with it substantial increases in profitability. The revenues on a farm can be thought of as ‘tonnes of produce *times* price per tonne’. Any increase in the tonnes per hectare goes straight to the bottom line.



Sugar cane is re-planted roughly every 10 years, with about 10% of a farm’s cropping area replanted each year. This is the best opportunity to change the irrigation, so cannot be done all at once, but rather consistently each year as replanting takes place and budgets allow. Crookes Brothers is continuing to convert their areas of cane to drip irrigation.

Four years ago, approximately 26% of Crookes Brothers’ sugar cane (1,600 ha of 6,300 ha) was under drip irrigation. This has been increased to 36% of the area (2,676 ha of 6,517 ha), and is planned to increase to 44% by 2019.



Automation in Deciduous Fruit Farms

On deciduous fruit farms – where orchards are small in comparison to row-cropping fields and where the different varieties and tree ages in each orchard have specific water requirements – every 4 ha of land is monitored by a soil moisture probe. These are linked to automated irrigation systems, which allow farm managers to carefully apply specific amounts of water to orchards, at any hour of the day. These systems were invaluable during the recent drought.

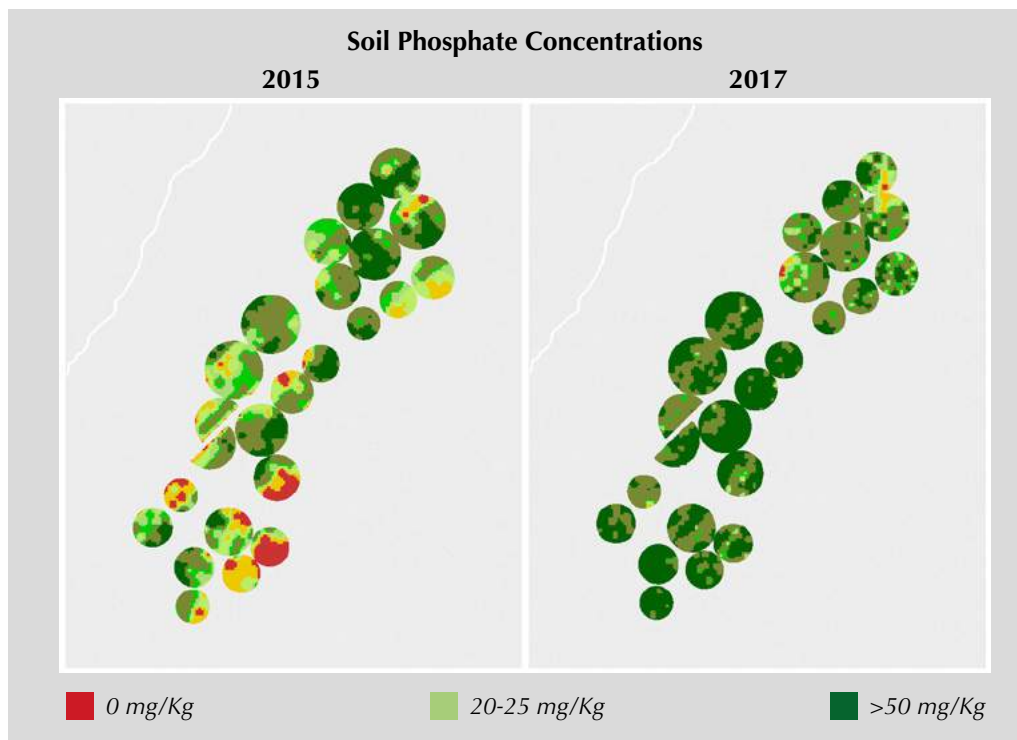
7.2 Land and Soil

Good soil management is fundamental to sustainable farming. Recent key focus areas include:

- Nutrient application:** All farms across the group make use of soil and leaf analyses in designing fertiliser programmes. With detailed analyses, and equipment that allows for variable application of fertilisers, we can minimise environmental impacts and reduce costs.

The diagrams below are derived from detailed soil analysis undertaken on a 2 ha grid, in which one 100 ha pivot has 50 sampling points. The orange or red shows areas where more phosphates are needed, one of the key fertiliser inputs. When fertiliser is applied later, the amount of phosphate applied can be varied to help ‘top-up’ those areas with low levels.

The left image is from 2015, the first season Silverlands owned the farm. The right image shows the result of two years of a soil correction programme with better and more even phosphate concentrations. Optimal phosphate concentrations are over 50 mg/Kg denoted by the dark green areas, which are much more widespread in 2017 than 2015.



- **Minimum tillage:** Specific to row cropping, minimum tillage techniques increase soil organic matter, improve soil structure and reduce erosion and nutrient leaching.



When practicing minimum tillage, the next season's crop is planted into the residue of the previous crop. Here, maize (left) and wheat (right) are planted into the previous soya crops in Tanzania and Zambia respectively.

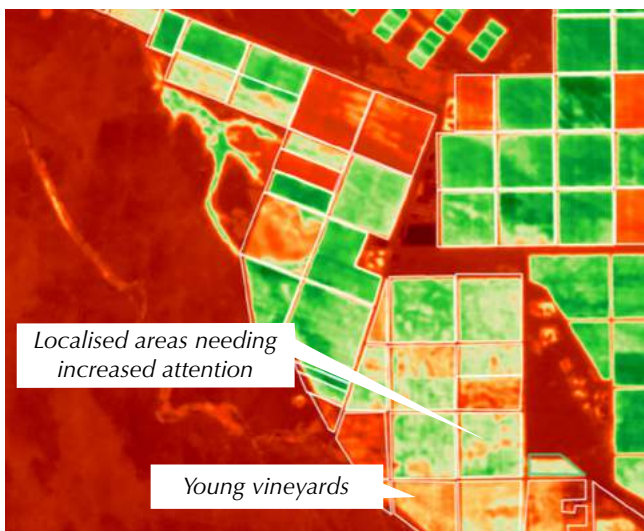
- **Intercropping:** Legumes (such as sunnhemp) are planted on new lands and between successive plantings (for example in sugar cane), as well as in alternate seasons (such as soya in summer and wheat/barley in winter). Legumes significantly increase the nitrogen content of the soil, as well as improving soil organic matter and soil structure. Using legumes as a rotation crop therefore results in marked improvements in yields.
- **Poultry manure:** In Tanzania, the poultry manure is composted and spread on the cropping areas as a natural fertiliser.

- **Erosion control:** Contouring, carefully designed by engineers and marked out on the land by surveyors, is implemented and maintained to reduce surface runoff. Additional erosion control methods are also implemented where required.
- **Chipping old orchards:** When old orchards are removed (grubbed), the trees are chipped and reapplied to the orchard. This improves organic content (and thus moisture content), soil structure and fertility.

7.3 Using New Technologies

Several of our farms are using Normalised Difference Vegetation Index (NDVI) imagery to identify areas of crops in need of attention. The NDVI provides an indication of vegetation health using near-infrared light (which vegetation reflects) and red light (which vegetation absorbs). Darker green areas show stronger plant growth.

Taken by either satellite or drone (or both), with weekly updates, the imagery is used to assess plant health, monitor impact by pests and diseases, and plan management of the farm, such as irrigation and fertilisation. With high resolution imagery (up to 3 cm accuracy), farmers can focus their attention on individual trees or vines. This helps management to be more accurate, thereby reducing time and resources spent on each intervention. The result is that the field, orchard or vineyard is more uniform and ultimately maximises production while minimising inputs.



Plant health is assessed using imagery showing Normalised Difference Vegetation Index (NDVI) values. These help management efficiently grow the most uniform and productive crop. Imagery can be useful at a broad scale (left) or to monitor individual trees in an orchard (right).

7.4 Integrated Pest Management

To maximise the efficiency of food production, pests need to be managed, preferably only using pesticides as a last resort. Multiple other pest control measures are implemented to prevent the use of pesticides, which are costly both to the company and the environment and have potential health and safety risks. Initiatives include:

- Maintaining buffer zones of vegetation around the cropping areas, which provides habitats for natural pest predators.
- Erecting bat houses at Silverlands Zambia in a trial aimed at controlling fall army worm.

- Physically removing certain pests by hand, such as the fungal ‘smut’ in sugar cane.
- Using physical barriers – such as wrapping sticky tape around the trunks of deciduous fruit trees to prevent crawling insects, such as snout beetles, from climbing up and damaging fruit.
- Tying up tags dosed with pheromones in the deciduous fruit tree orchards; these act as mating disruptors, flooding the orchard with pheromone so male codling moths can’t locate their females.
- Releasing sterile fruit flies into orchards and vineyards
- Using early detection systems to help catch infestations early and allow small focused applications of pesticides rather than broad spectrum spraying; for this, employees are trained as pest scouts and walk through fields checking for pests, and insect traps placed in fields are frequently checked.



Sticky tags prevent insects from ascending fruit trees.



Traps are used to monitor insect populations to catch infestations early.



Bees are essential pollinators, particularly on our farms with tree crops (deciduous fruit, macadamias and avocados). Crookes Brothers’ Murrимо Macadamia farm has built 23 beehives around the farm and is thinking of starting a community bee-keeping project. We are looking to reduce and hopefully eliminate the use of agrochemicals containing neonicotinoids, which have been the cause of bee colonies collapsing elsewhere in the world.

7.5 Waste Management

In accordance with the IFC Performance Standards, we dispose of our hazardous waste – such as old chemical containers and used oil and oil filters – with registered hazardous waste disposal facilities. Identifying such companies outside of South Africa remains a challenge. Currently this service is extremely expensive. To keep the cost in check, some farms are using pelletisers to condense the volume of containers and reduce transport and disposal costs.

We continue to try to implement recycling initiatives across all our operations; however service providers are seldom present in remote areas. SVL, QBV and CBL are currently leading the way. We welcome suggestions regarding waste disposal and recycling options if other investors have found innovative solutions.



Puncturing old chemical containers once finished is an essential step in managing this hazardous waste material. It prevents the potential harm of reuse by anyone unfamiliar with the hazards of agrochemicals.

7.6 Community Engagement

Efficiencies and Infrastructure

Pumping water is generally the greatest energy requirement in farming. To minimise this, the amount of water needed must be minimised (see Water Management above). In addition, energy efficient variable speed drive (VSD) pumps are installed whenever a new pump is required. They are relatively new in farming and reduce the amount of power required and require less maintenance. Introducing VSDs resulted in a 33% reduction in the cost of pumping water at Silverlands Vineyards, which led to capex payback within a single year.

Solar Power

Solar power is implemented where feasible. In Namibia, which is perfect for solar, Silverlands Vineyards have implemented a 210 kW solar power unit to supplement grid power on the farm, as well as reduce the dependence on fossil-fuel-generated electricity. This capex has an estimated annual return on investment of between 7 to 10% at current electricity prices, but this will rise as power prices rise in Namibia leading to an expected IRR in the mid-teens. The solar unit also helped to de-risk the farm in the event of power cuts from the main grid. Achill are now also considering solar installations.



The 210 kW solar power unit at Silverlands Vineyards in Namibia.

Hydro-electric Power

Hydro-electric power is a proven and clean technology and can be the most efficient in certain locations. Silverlands Ndolela have the luxury of an 80 m drop in the large Ruhuhu River on the southern border of the farm. They have upgraded the mini hydropower facility present at acquisition from 80 kW to 800 kW through an extension of the canal and the installation of a new hydroelectric plant.

The installation was delayed by equipment deliveries and was commissioned in December 2017. The electricity now powers the farm's irrigation pumps and pivots, as well as housing and offices. It supplies the power requirements for all except two months of the year when it fulfils around 70% of the farm's needs.



*A weir controls water offtake from the river into a canal (left).
Water then flows into a pipe, which drops steeply down a bank and into the turbine house (right).*



*Water enters from the left and turns turbines in the large blue casings (left),
before being released back into the Ruhuhu River (right).*

8 Managing ESG Aspects

8.1 Governance Structures

Our goal is to put in place high levels of governance through the appropriate board structure and associated board committees at each of our Portfolio Companies.

Responsible Investment Code: The boards of all our Portfolio Companies have signed up to our Responsible Investment Code. We are expecting control of Zamseed in Q4 this year and will then ensure the company commits to the RIC.

Independent Directors: We aim to have a minimum of two independent directors as this helps to bring an independent perspective, local networks and expertise in the sector. We aim for one of the independent directors to be of sufficient stature to chair the board meetings.

Board mix: The target board structure, for those companies in which Silverlands owns 100%, usually comprises:

- Two independent board members
- Two executive members (the MD and CFO)
- Two SilverStreet members.

In some countries, there are regulatory rules on board membership, which also need to be followed. In Zambia as an example, at least half of the board must be resident in Zambia.

Board committees: We have also put in place board committees to deal with key specific governance issues. The two key committees we target creating are the audit committee and the remuneration committee. The audit committee has the role of overseeing the annual audit process and interacting with the auditors to understand any issues arising and any debates on accounting practices; this allows detailed review and checks. The remuneration committee principally approves the remuneration of the senior team members in the Portfolio Company, as well as approving the annual bonus scheme and any long-term incentive plans. This committee also reviews and recommends the nomination of any new member to the board, interviewing them and monitoring the balance of skills in the team. On some boards, this role has been separated into a 'Nominations Committee', but it is generally not significant enough to justify a separate committee.

Other committees are added where useful. Examples include a Risk Committee whose members seek to identify the key risks facing the company and to recommend ways that the company can mitigate those risks. Additionally, Crookes Brothers has a Social and Ethics Committee and Julia Wakeling (our Head of ESG) attends these meetings.

Reporting: The Portfolio Companies have a minimum of four board meetings a year. Monthly reports are produced for the Investment Committee.

Strategy: The boards approve budgets and agree strategy. Key strategic questions are escalated to the Investment Committee. These might include new developments, bolt-on acquisitions, divestments etc. The Head of ESG is a member of the Investment Committee.

Environment, Social and Governance: The Portfolio Companies have an annual ESG review and the results are made available to our investors. They are also presented to the boards of the Portfolio Companies and action points discussed. Some of these action points may require sufficient budget to be allocated for the action to be implemented. Action points are monitored between annual reviews, and the ESG team visit the Portfolio Companies to get updates and to provide ESG training. Each Portfolio Company has a designated ESG contact person.

The following table summarises these governance features. Generally, most of the governance structures are in place. Silverlands Vineyards and Achill are both searching for second independent directors. QBV is a joint venture company with CBL and there is already a reasonable balance on the company's board given the company's size. As the business develops the board will be added to.

Portfolio Company	Silverlands Stake	Number of Independent Directors	Independent Chairperson	Board Committees		Written Commitment to ESG Investment Code	Independent Auditor
				Audit	Remuneration		
Silverlands I							
Crookes Brothers	44.8%	4	Yes	Yes	Yes	Yes	Yes
Silverlands Ranching	100%	3	Yes	Yes	Yes	Yes	Yes
Silverlands Zambia	100%	3	Yes	Yes	Yes	Yes	Yes
Silverlands Tanzania	100%	2	Yes	Yes	Yes	Yes	Yes
Silverlands Ndolela	100%	2	Yes	Yes	Yes	Yes	Yes
Silverlands Vineyards	100%	1	Yes	Yes	Yes	Yes	Yes
QBV	51%	0	No	No	No	Yes	Yes
Silverlands II							
Achill	100%	1	Yes	Yes	Yes	Yes	Yes
Zamseed*							

* We are expecting control of Zamseed in Q4 this year and will then ensure board compliance.

8.2 ESG Responsibility

Board Level Responsibility

A member of the board of each Portfolio Company has been assigned the responsibility for ESG. The following individuals are responsible for ESG at a board level: Elisha Chivero (STL), Simon Morgan (SNL, SZL, SASL and QBV), Harvey Leared (SRL) and Kevin Liddle (SVL). CBL's board has a separate Social and Ethics Committee, a board committee, which is accountable for ESG issues and is attended by SilverStreet's Head of ESG, Julia Wakeling. ESG managers are present at each board meeting.

Day-to-day ESG Implementation

Each Portfolio Company has allocated personnel on the ground who are responsible for ESG. These people oversee ESG aspects by managing the Social and Environmental Management Systems (SEMS) that have been implemented. This includes assessing and updating ESG risks, reviewing and implementing procedures, and collating and reporting ESG data to senior management and the General Partner. SilverStreet oversees all ESG implementation across all portfolio companies.

The following personnel from across the group have ESG duties:



*Julia Wakeling (SSC)
SilverStreet Head of ESG*



*Dr Ben Moshi (STL and SNL)
Board, Community Liaison*



*Janet Sanders (STL & SNL)
ESG Manager Tanzania*



*Jeremiah Mazengo (SNL)
Operations Manager*



*Sheryl Bradnick (STL)
Poultry Training Manager*



*Madeus Deule (STL)
HR Assistant and CLO*



*Sharon Mwelwa (SZ Group)
HR Manager Zambia*



*Francine Matanda (SRL)
HR/ESG Assistant*



*Arthur Mwale (SZL)
HR/ESG Assistant*



*Chris Simpasa (SZL + SASL)
Community Liaison Officer*



*George Chabaputa (SASL)
HR/ESG Assistant*



*George Nicoll (SZL + SASL)
Contracted - Community
Liaison*



*Lewona Heyn (Achill)
ESG Officer*



*Karin Fourie (SVL)
ESG Officer*



*Ross Trotter (CBL)
Group Services Manager*

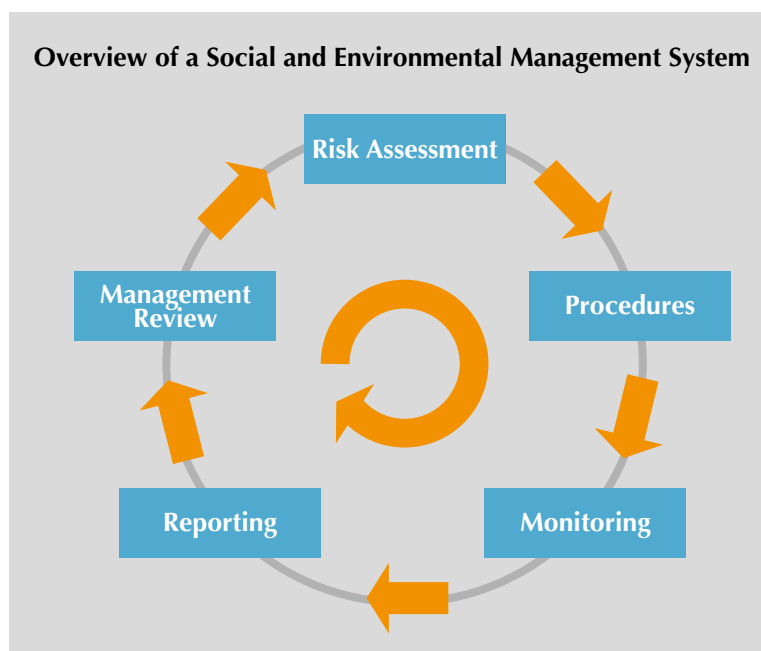


*Bruno Lima, Farm Manager
(currently holds ESG
responsibility)*

8.3 Social and Environmental Management Systems

The board of each Portfolio Company has committed for each company to adopt and implement a Social and Environmental Management System (SEMS). In each SEMS, ESG risks are identified, procedures implemented to manage the risks, and key ESG aspects reported to management and the boards.

Those portfolio companies in which we have been invested for longer have done well to integrate management of environmental and social aspects into their day-to-day operations. They are generally moving from implementation to finessing the management of ESG.



8.4 ESG Training

A number of our individuals responsible for ESG in Portfolio Companies come from human resources or compliance backgrounds. Courses have been attended and a range of training has been provided and will be ongoing to ensure that our team have a detailed understanding of ESG topics and how to manage them.

On-the-ground training continues to take place with management, those responsible for ESG and any new key personnel. Topics include: an overview of ESG; the International Finance Corporation (IFC) Performance Standards; the Fund's Responsible Investment Code (RIC); Social and Environmental Management System (SEMS) adaptation and implementation; monthly reporting and stakeholder engagement; and discussions to ensure understanding of all actions in Environmental and Social Action Plans.

8.5 Monitoring and Due Diligence Visits in 2017-18

SilverStreet and independent consultants have undertaken regular visits to all Portfolio Companies. In the 12-month reporting period, six of the businesses have also been visited by ESG specialists from IFU, Finnfund, OPIC and MIGA. Their recommendations and action points are being implemented by management.

ESG Visits During the Reporting Period

Date	Properties	Type of Visit	Participants
October 2017	STL, SNL	ESG monitoring & training	SSC, OPIC, MIGA
November 2017	CBL head office	Social & Ethics Committee meeting	CBL, SSC
December 2017	CBL Deciduous	ESG monitoring & training	SSC, IFU, Finnfund
	SVL	ESG monitoring & training	SSC, IFU, Finnfund, OPIC, MIGA
February 2018	STL, SNL	ESG monitoring & training	SSC
	SRL, STL	Monitoring	MIGA
April 2018	SVL	ESG monitoring & training	SSC
May 2018	CBL Deciduous	Annual ESG Review	CBL, Trusted Partners
	SVL, Achill STL, SNL	Annual ESG Review	Trusted Partners
	CBL head office	Social & Ethics Committee meeting	CBL, SSC
	CBL head office & Renishaw	Annual ESG Review	CBL, SSC, Trusted Partners
June 2018	SRL, SZL, SASL	ESG monitoring & training	SSC
	SRL, SZL, SASL	Annual ESG Review	Trusted Partners
	CBL Zambia, Mpumalanga & Swaziland, QBV	Annual ESG Review	CBL, Trusted Partners
	SRL	SLIC Impact Survey	Independent (Juliet McKechnie)
July 2018	CBL Murrimo	Annual ESG Review	SSC, Finnfund, Trusted Partners
	SZL, SASL, SRL	Aquatic Monitoring: ongoing river monitoring, using fauna and flora as indicators	Researchers from University of Cape Town and Stellenbosch University
September 2018	Zamseed	Annual ESG Review	Trusted Partners



Site visits by ESG professionals naturally include invaluable on-the-ground staff training. Visits in the last year included OPIC, MIGA, Finnfund and IFU to Namibia (left) and Finnfund to Crookes Brothers' Murrimo estate in Mozambique (right). We welcome more visits in future.

9 Annual ESG Review

9.1 Overview

In 2013, 2014 and 2015 the Fund commissioned independent reviews of Crookes Brothers Limited (CBL). In 2015, independent reviews of all Portfolio Companies were also undertaken by South African ESG consultant, EBS Advisory. The goal is to have independent reviews at least every other year.

In 2016, the review was performed internally by SilverStreet. In 2017, the annual review was performed independently by BluePebble Sustainability Solutions. OPIC obligations required that the independent reviewer had not had in-depth previous working experience with SilverStreet. As BluePebble have conducted work for some of the Silverlands operations in Zambia, these were subcontracted to another independent consultant, Talmar Sustainable Developments.

This year, the review was performed by Trusted Partners. Several of the Trusted Partners consultants previously worked for BluePebble Sustainability Solutions. The individual who performed the CBL section of the review had never visited or been involved in the portfolio. Although the individual who performed the rest of the review has had varying levels of interaction with those Portfolio Companies, we have full confidence they have maintained their integrity and independence during the review.

Detailed ESG reviews were completed for each Portfolio Company. Below is a summary of each of these reviews. Readers requiring more detail regarding the ESG performance of Portfolio Companies are invited to refer to the individual reports.

9.2 Compliance with Our Responsible Investment Code

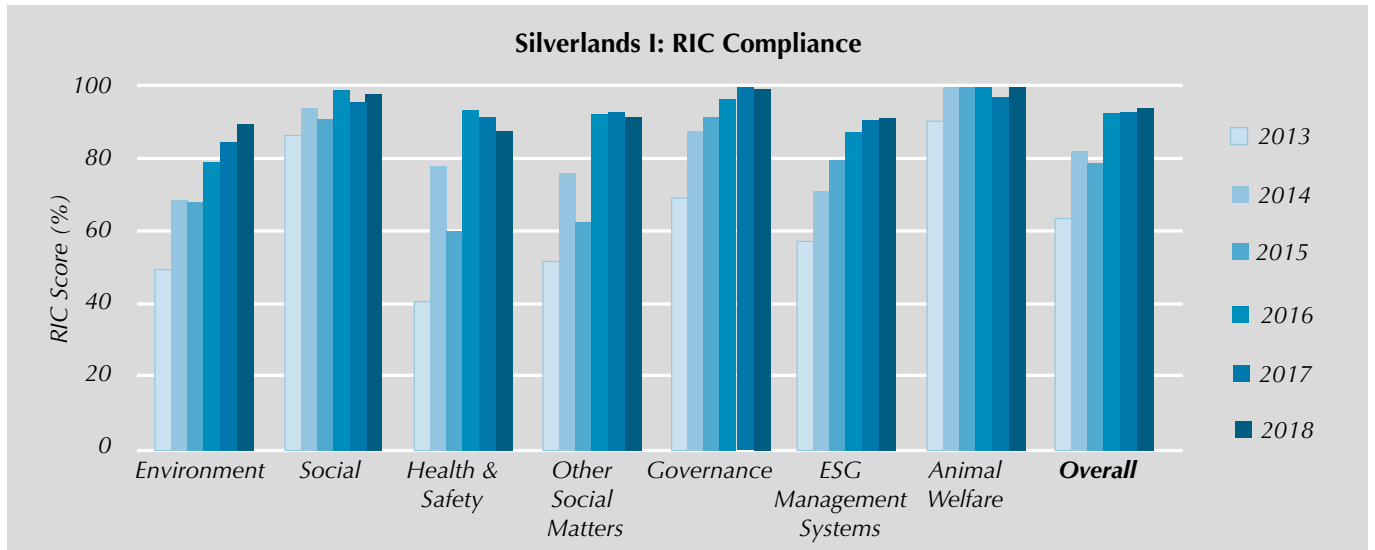
The Responsible Investment Code (RIC) is divided into seven sections. Each year Portfolio Companies are scored against the various topics. Although these reflect only snapshots of the performance of each Portfolio Company at the time of the Annual Review, they are a good indicator of overall performance.

Silverlands I

We are proud to report that overall there has been a positive trend in compliance by all Portfolio Companies. As companies have become more established, the focus has shifted from major items to finessing the integration of ESG into the business. As such, we anticipate scores to remain in early- to mid-nineties overall, as they have for the last few years. Scores are detailed below and in the individual reports for each Company.

Silverlands I: Responsible Investment Code (RIC) Compliance

Section Summary	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	Change %
Environment	49	69	68	79	84	89	5 ↑
Social	86	94	90	98	95	97	2 ↑
Health & Safety	40	78	60	93	91	87	4 ↓
Other Social Matters	52	76	62	92	93	91	2 ↓
Governance	69	87	91	96	99	99	-
ESG Management Systems	57	71	80	87	91	91	-
Animal Welfare	90	100	100	100	97	100	3 ↑
Overall	63	82	79	92	93	94	1 ↑

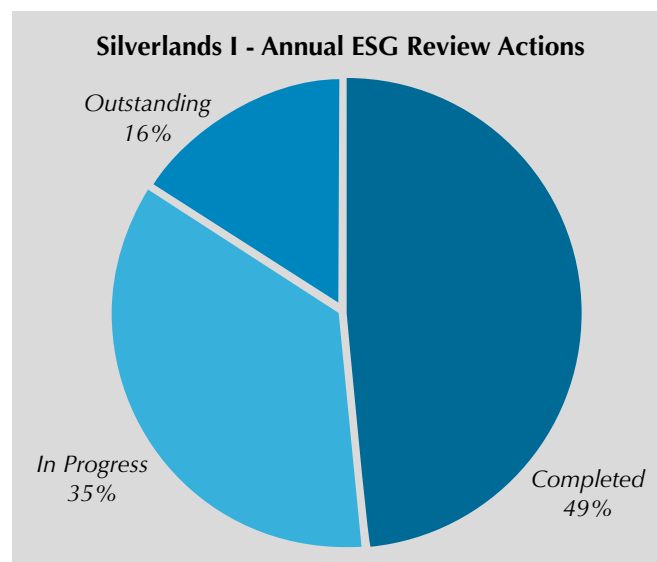


In addition to compliance with the RIC, each Portfolio Company has made significant progress on action points raised in previous ESG reviews.

Silverlands I: Portfolio Company Progress Against Previous Action Plans

Portfolio Company	Number of Actions	Completed	In Progress	Outstanding
Silverlands Tanzania	58	22	22	14
Silverlands Ndolela	37	15	17	5
Silverlands Zambia	24	12	5	7
Silverlands Agriculture Services	30	16	10	4
Silverlands Ranching	23	16	4	3
Silverlands Vineyards	31	18	10	3
Quinta da Bela Vista	18	9	9	0
Crookes Brothers	121	59	44	18
Total	342	167 49%	121 35%	54 16%

This table excludes actions which are not yet actionable (e.g. where operations are yet to fully commence at QBV).

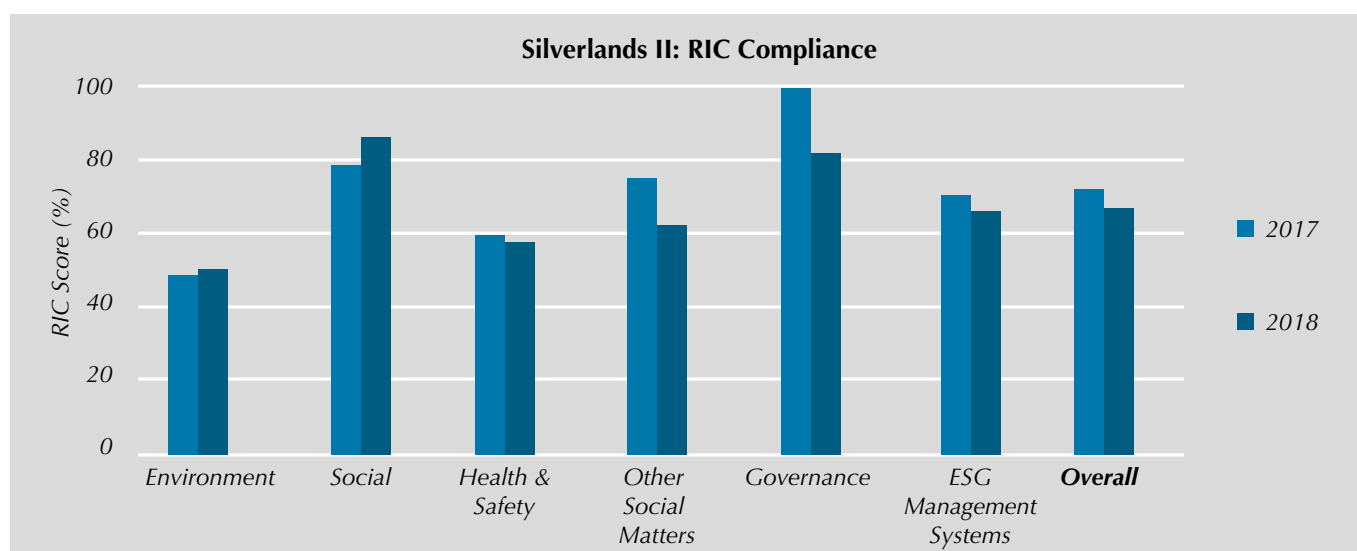


Silverlands II

Silverlands II currently comprises two companies: Achill Island Investments (Achill) and Zambia Seed Company (Zamseed). The low scores are due to a lack of ESG implementation at Zamseed. Ensuring adherence to ESG standards is an immediate focus once we have management control of Zamseed. This is something we have done successfully before at our Fund I operations.

Silverlands II: Responsible Investment Code (RIC) Compliance

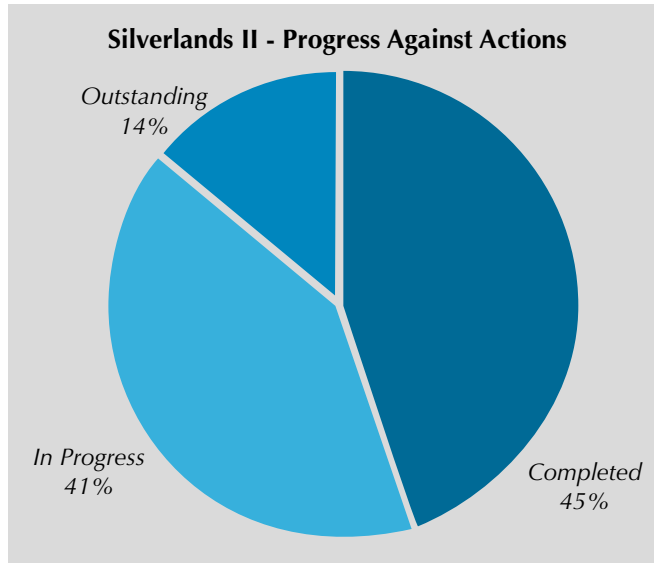
Section Summary	2017 %	2018 %	Change %
Environment	49	51	2 ↑
Social	79	86	8 ↑
Health & Safety	60	57	3 ↓
Other Social Matters	75	63	13 ↓
Governance	100	82	19 ↓
ESG Management Systems	71	66	5 ↓
Overall	72	67	5 ↓



Silverlands II: Portfolio Company Progress Against Previous Action Plans

Portfolio Company	Number of Actions	Completed	In Progress	Outstanding
Achill Island Investments	29	13 45%	12 41%	44 14%

Zamseed to be monitored against actions once we have taken management control.



9.3 Summary of Key Actions in Progress and Outstanding Across the Group

Systems

- SEMS implementation: update procedures as necessary and ensure access to them.
- Risk assessments: incorporate new developments.
- ESG team capacity: continue with ESG training to key responsible individuals.
- H&S incident reporting: update definitions, include minor incidents, ensure follow-up.
- Emergency response: update plans and ensure easy access to emergency equipment.
- ESG performance targets and KPIs.
- Implementing EMPs from EIAs.

Environmental

- Fuel, oil and agrochemical storage: ongoing storage and handling improvements.
- Resource use: monitor and benchmark efficiency against production.
- Runoff water: test for presence of agrochemicals / monitor aquatic health.
- Waste management: although disposal options may be limited, improve management.
- Land management plans: draft or update plans for management of non-farming areas.

Social

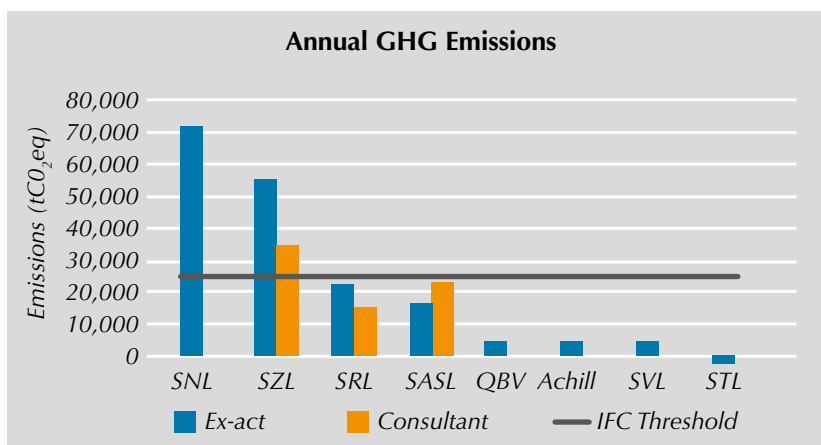
- Training: update training matrices for good planning and budgeting.
- PPE use: refresher training on PPE use.
- Contractors: improve monitoring of contractors' adherence to ESG principles.
- Housing: include housing policies in employee contracts.
- Agrochemicals: refresher training on handling and storage.
- Grievance mechanisms: improve accessibility and reporting.
- Stakeholder engagement: plan key engagements 6-months in advance.
- Community engagements: monitor progress.

9.4 Greenhouse Gas Emissions

This is the first year we have estimated Portfolio Company greenhouse gases (GHGs) emissions. As per IFC Performance Standard 3, annual emissions estimations are only required for projects emitting over 25,000 t CO₂eq/yr. This year we begin the assessment of identifying which portfolio companies are likely to fall in this category and require annual reporting.

As this is our first time doing this assessment, two methods were trialled:

- 1 The FAO Ex-Ante Carbon-balance Tool (EX-ACT) was used internally. It is designed for the agricultural sector and was recommended to us by MIGA.
- 2 A consultant, Trusted Partners, conducted independent analyses of three farms for comparison to those achieved using EX-ACT.



Annual greenhouse gas emissions per farm, estimated internally with the FAO EX-ACT Tool, and by an independent consultant (for three farms)

The larger the area converted from woodland/grassland to cropping, the greater the emissions. Two of the eight farms assessed showed emissions over the IFC PS3 threshold. These are the farms with the largest areas converted from woodlands to cropping: SNL (~1,900 ha) and SZL (~1,600 ha).

Where large areas have been converted from woodland/grassland, emissions are unlikely to change considerably year-on-year. This is because much of the emissions are from soil carbon which is released slowly from soil, for many years after the physical disturbance.

Results derived from the EX-ACT and consultant methods were comparable, as far as the IFC threshold is concerned. In depth understanding of the precise reasons for the differences in results is not possible, without knowing the assumptions and inner workings of the EX-ACT tool.

Appendix

Silverlands Funds I and II are subject to the following annual ESG reporting obligations:

Silverlands I – Reporting Obligations

The Offering Document for the Silverlands Fund provides that the General Partner will produce an annual ESG Report that will cover:

- a *The development and implementation of environmental and social management systems including completed training;*
- b *ESG performance, including compliance with the Investment Code;*
- c *The corrective measures taken and/or still required with regard to the issues listed in the ESG Action Plan; and*
- d *Information on development impact, including any out-grower schemes.*

Additionally, a number of Limited Partners have signed Side Letters with the General Partner in which the General Partner has committed to the following reporting obligation:

“We shall provide an annual report to any Investor who requests such a report on our implementation of the Investment Code and the performance of our investee companies against the Investment Code. The report shall include any issues, targets and a timetable for improvements, and performance over time against such targets and timetable.”

Silverlands II – Reporting Obligations

The Silverlands II memorandum commits that:

“SilverStreet seeks to implement its ESG policy and monitor these performance standards across portfolio companies. An annual ESG report is to be produced for investors including updates on social impact initiatives.”

Disclaimer

- This document is issued by SilverStreet Capital LLP (“**SilverStreet**”) on a confidential basis to a limited number of sophisticated institutional investors for the sole purpose of providing information about the impact of SilverStreet Private Equity Strategies SICAR – The Silverlands I Fund and Silverlands II SCSp (together, the “**Funds**”). SilverStreet is authorised and regulated by the Financial Conduct Authority.
- SilverStreet has taken all reasonable care to ensure that the facts stated in this report are reasonable estimates of the likely impact of the Funds. Measuring impact of the various projects is by its nature a process which requires assumptions and inference based on the available information.
- All statements of opinion and/or belief contained in this report, all views expressed and all estimates, projections, forecasts or statements regarding current or future impact and projects related to such impact represent SilverStreet’s own assessment and interpretation of the information available to it as at the date of this report. No representation is made or assurance given that such statements, estimates, views, projections or forecasts are correct or that the objectives of the Funds will be achieved.
- In making any future investment decision, prospective investors must rely solely on their own examination and assessment of the Funds and should obtain their own professional advice as to the legal, taxation, financial and other consequences of any investment, including the merits of investing and the risks involved.



Silverlands Vineyards makes the most of the desert sun in southern Namibia with a 210 kW solar power unit. This reduces dependence on fossil fuel generated electricity, and de-risks the farm in the event of power cuts on the main grid.



Silverlands Zambia in the Central Province of Zambia has ~1,500 ha of irrigated cropping and produces soya and seed maize in summer and wheat in winter.

