



# **Singita Serengeti – One Planet Living Annual Review**

July 2020

Bioregional

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## **1. Message from Graham Ledger, Singita Grumeti Reserves Managing Director**

Every day when I look out of my office window I am reminded of how incredibly privileged we are to live and work in one of Africa's most remarkable places, where we're able to interact with nature and the environment on a constant basis. We often enjoy seeing huge herds of elephant moving around the base of Sasakwa Hill, and in the last few months the amazing spectacle of the annual wildebeest migration has been taking place and the plains have been teeming with wildebeest. It is a constant reminder of the fact that our lives are directly intertwined with nature and this prompts us to work harder every day to achieve our sustainability objectives and to ensure our operations leave as small a footprint as possible.

One Planet continues to provide us with the ideal framework against which we are able to strategically plan and execute activities to be certain that our business operates in the most sustainable way possible. Our teams have worked hard this past year to achieve many new milestones and the One Planet portfolio has benefitted greatly from the energy and enthusiasm that our new Sustainability Coordinator has brought to the role. Highlights include the fine-tuning of the recently installed solar power system at Singita Faru Faru Lodge, numerous employee welfare initiatives focused on health and wellness, further initiatives to consolidate staff transport, reduced use of plastic in line with Tanzania's commitment to banning single use plastic, and the continuous food waste management program, where food waste is either turned to compost or donated to local farmers for animal feed.

A highpoint in 2019 was the successful reintroduction of several Eastern Black Rhino to the concessions – huge credit must be paid to the Tanzanian Government and to the Grumeti Fund Trust for making this possible and the entire Grumeti team should be incredibly proud of the fact that free roaming black rhino are once again a reality for the Serengeti ecosystem.

Grumeti Construction continues to develop projects to world class standards and in accordance with all One Planet principles – the use of locally sourced materials is championed at all times, health and safety on site is carefully managed and the development footprint is strictly governed to ensure as limited an impact as possible. Recent successful projects include the construction of RISE (Research and Innovation for the Serengeti Ecosystem), the refurbishment of Sasakwa Lodge and the redesign and rebuild of Singita Sabora Tented Camp, all of which provided additional employment for our local communities. An exciting venture undertaken by Grumeti Construction in the past six months has been the establishment of an on-site millwork and joinery workshop – the motivation for this project was to reduce our reliance on imported specialised joinery components and the project has allowed for local carpenters to hone their skills and learn from a master craftsman, contracted for a fixed term period to execute this skills development programme.

Our Environmental Committee continues to provide strong leadership and guidance to ensure that all development projects are carefully considered and planned, to ensure that new infrastructure meets every requirement as detailed in the company's development guidelines, which has recently been updated.

Significant training hours have been recorded in the past year, with a special focus on environmental awareness training for junior staff with these sessions conducted in Swahili – I'm confident that every member of our team understands the value and importance of living and operating within the 10 One Planet principles, and I can see a genuine change in our staff's habits and behaviours that reflect the fact that living and operating sustainably is becoming the norm for them. It is truly heartening to witness this change and know that together we are protecting and strengthening this very

special corner of the world through our daily actions, so that future generations will have the opportunity to enjoy the wonder of the Serengeti, and the wildlife and people that call it home.

We look forward to continuing our working relationship with Bioregional to target those areas in which there is still room for improvement, particularly our carbon footprint and fuel consumption. There will always be areas where we can step up and do better but I'm confident that we are well on track to living more sustainably at Grumeti and to showing our neighbouring communities, and indeed a larger audience, the value of acting and operating in an environmentally responsible way.

## **2. Message from Ben Gill, Technical Manager of One Planet Communities**

When I visited Singita in February, the reality of Covid-19 was emerging, but it was impossible to predict the scale of the impact. The climate emergency was still grabbing headlines with the historic fires in Australia fresh in people's minds. Temperatures of 38°C, (100°F) in the arctic would have been front page.

Four months later, things couldn't be more different. Tourism has been hit hard by Covid and Singita Serengeti has seen no visitors for months with it still unclear when they will return. Conservation in general has also been affected, with tourism revenues falling there are reports that people have been turning to poaching just to survive.

Protecting the environment has slipped down the news agenda, yet the arrival of Covid, and other novel flus, yet again highlights the danger of human's encroaching on space that needs to be left for nature and the threat raised by intensive farming. We need to heed these warnings - rapidly freeing up more space for wildlife and starting to regenerate our planet.

These past few months have therefore highlighted both the vulnerability and critical importance of Singita Serengeti. Its work in protecting the natural ecosystem and creating local jobs has become even more vital, as has its wider commitment to achieving One Planet Living.

As many have pointed out, we have a chance to 'build back better' and shift the global economy onto a sustainable path. This is especially opportune for Singita as the incremental development n has led to, in effect, the creation of a but with limited urban planning.

With 7 years of One Planet Living under its belt, this 'break' allows for a sustainable reset – with a concerted effort on changing habits, perceptions and provision of greener vehicles and transport options (a crucial area for Singita Serengeti).

We're also pleased to see that progress has been made in another key area, with a plan for renewable energy for Sasakwa Hill under development. We expect to see this help significantly reduce carbon emissions.

It is almost certainly no exaggeration to say that if the global rebound from Covid does not put us on a path to a sustainable economy, we will have missed our final chance to avert climate disaster. At a local level if Singita does not put in place a new system to enable sustainable transport and behaviour now, the opportunity may not arise again.

### 3. Summary of progress

Progress against the targets (or updated versions of them) set out in the 2013 One Planet Action Plan for Singita Serengeti are laid out in the sections below.

Since 2013 there has been clear progress in the majority of the One Planet Living® principles. Unfortunately reducing greenhouse gas emissions from transport and buildings has remained challenging:

- Singita continues to excel in the areas of water and waste management and is demonstrating best practice in both these areas
- Through its partner the Grumeti Fund, the destination continues to play a vital role in preserving a globally iconic ecosystem and supporting its neighbouring communities
- While it has begun the important work on reducing resource use consumption and impact on the global environment, Singita Serengeti must take further steps to reduce carbon emissions.
- Creating a renewable energy plan for Sasakwa Hill has been integral to addressing these issues, and progress has been made in this area.
- Transport emissions, however, have continued to increase and there is no single obvious strategy to reduce these emissions.
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#### KEY

	Substantially or entirely completed, or a high degree of certainty over deliverability
	On track for a long-term target
	Substantially incomplete, behind schedule or doubt over delivery

One Planet Principle	2020 goal compared to baseline year in brackets	Progress / activities
Health and happiness	Improvement in health statistics	Monitoring in place
	Improvement in local education levels	162 scholarships
Equity and local economy	50% of salary expenditure to be on local staff	53% staff local
	Local staff in junior management	30% increase to 15 roles
	100 new jobs, > 60% for local residents (2011)	15 new local staff in 2019
Culture and community	10% of guests take Community Visit	Numbers have fallen again
	One Planet Living information centres	In place
	Local communities adopting sustainable livelihoods	Entrepreneurship schemes
Land and nature	Establish management effectiveness programme	17% reduction in animals poached
	Trends in animal numbers (2011)	~ 52 kg/ha
	Reduce impact of alien species	Nearly 5000 ha cleared of alien vegetation
Sustainable water	Reduce leakage to < 5%	Around 10%
	Reduce borehole extraction by 50% (2013)	At least a 30% reduction
	3 new local food lines	Increased purchasing from two major local suppliers

Local and sustainable food	All fish sustainable	Continue to monitor to ensure this
	Improvement in the balance of the staff diet	Long-term improvement has slowed
Travel and transport	50% non Grumeti Construction vehicle fuel reduction (2011) (25% through logistics)	5% increase on previous year
	Grumeti Construction land transport emissions stabilised and effectively managed	Increased due to nature of work
	10% reduction in air cargo emissions (2013)	Increase on 2018, still 50% of 2013 figure
	50% of guests offsetting or using a low-carbon air carrier	Not addressed
Materials and products	Import reductions	Ongoing
	Land rehabilitation	Ongoing
	Sustainable construction	Still a heavy reliance on cement
Zero waste	90% plastic waste reduction (2013)	98% reduction
	10% other waste reduction (2014)	Increase in waste generated
	Overall 90% recycling rate	Close to 100% recycling
Zero carbon energy	Reduce building energy use 30% (2011)	Increased back to 2011 level
	100% renewable energy (2011)	Meeting 10% of building demand

### 3.1. Bioregional recommendations

In 2020 all strategies and recommendations must obviously be reassessed in the light of the disruption caused by Covid-19. In 2013, Singita Serengeti set itself hugely ambitious targets that require systemic change to deliver. The global pandemic is causing unprecedented change at a rapid pace, but Singita is in the position to ensure that these changes are aligned with their 2013 targets.

If the following strategies and actions can be implemented in the coming months, then Singita Serengeti will be in a position to rebound on a totally sustainable footing:

- Zero carbon energy – there is a proposal for renewable energy at Sasakwa Hill under development – this needs to be bought to,
- Travel and Transport – Covid has created a change in sustainable transport globally, with a rise in remote working and cycling for commuting. All Singita Serengeti staff fully understand that they will now need to operate differently in the future, and shifting away from individual vehicles must form part of that.
- Sustainable food, materials and lifestyle choices – Covid-19 has highlighted how land use change is threatening ecosystems while making humanity more vulnerable. Progress has been made in promoting sustainable diets, but the general food offer is still not in line with planetary health, and awareness of what constitutes a sustainable level of consumption and travel can definitely be increased.
- Flight travel – there has been an increase due to the construction of the new lodge in Rwanda, but flights need to be monitored and reduced.

These are areas that should be prioritised in the coming months.

## 4. Singita Serengeti

Singita is a company which operates 15 tourism lodges and camps across Africa. Preserving large areas of wilderness for future generations while benefitting local communities lies at the heart of its business. Singita Serengeti is based in northern Tanzania next to the Serengeti National Park, renowned for its annual migration of over 1.5 million wildebeest and 250,000 zebra. Here, it works closely with the Grumeti Fund, which is its non-profit conservation partner, adopting a model that integrates community, conservation and hospitality. The goal is that the hospitality offering will support the philanthropic donations to provide a secure and ongoing funding stream for the community and conservation initiatives.

Singita Serengeti is one of the largest organisations in the region employing over 800 staff with more than 90 guest beds. About 70,000 people live in the 21 villages bordering the protected area and the total population of the neighbouring districts is approximately 585,000.

### 4.1. The Grumeti Fund

The Grumeti Fund was formed in 2003 to carry out conservation and community development work on the 140,000-hectare concession of land once used for game hunting. Grumeti Fund works in partnership with Tanzanian government institutions to manage these concession lands and enhance the conservation activities in the ecosystem. It also works in partnership with local communities to support development initiatives in the 21 villages along its border. The Grumeti Fund has historically been 100% donor funded, relying on the generosity of individuals to finance its programmes. The Hillside Lodge programme (see below) and the expansion of the tourism operation aim to assist in the diversification of the funding streams.

The Grumeti Fund is organised into six departments:

1. Conservation Management
2. Anti-Poaching and Law Enforcement
3. Community Outreach
4. Research and Monitoring
5. Relationships
6. Special Projects

For more information contact [info@grumetifund.org](mailto:info@grumetifund.org) and visit [www.grumetifund.org](http://www.grumetifund.org)

### 4.2. Locations and departments

Singita Serengeti includes:

1. The main lodges and camps: Sasakwa Lodge, Faru Faru, Sabora Tented Camp, Mara River Camp, Explore Mobile Camp, Serengeti House
2. 'Back of house' areas: Sabayaya and Lawatu on Sasakwa Hill, Makundusi Village

The Hillside Lodges comprise a group of like-minded individuals, committed to Singita's 100-year purpose to preserve large areas of African wilderness for future generations. Hillside Lodge partners contribute to the conservation costs on an annual basis and invest in a lodge on the property (this can be private or part of the Singita rental pool). All of the lodges are constructed and operated in line with Singita's commitment to sustainability and One Planet Living principles.

Data is generally broken down into these areas, though Sasakwa data often covers all of Sasakwa Hill – both back of house areas and Singita Sasakwa Lodge which is occupied by guests.

## 5. The One Planet Action Plan

The [One Planet Action Plan developed in 2012/13](#) laid out a vision for how Singita Serengeti would become a One Planet Community – setting targets to define that vision and outlining the key strategies. The Annual Reviews of previous years show how the foundations were put in place in 2013 and key infrastructure installed. This Annual Review focuses on the activities from February 2019 to February 2020 and reports the data for the complete calendar year 2019.

Key successes in 2019 include:

- Continuation of directing food waste to composting and as animal food
- Starting of construction on the Rise education building
- The refurbishments continued to improve the performance of the property with the Sabora camp refurbishment upgrading the water treatment facilities, and the Sasakwa kitchen improving the energy efficiency of the appliances.

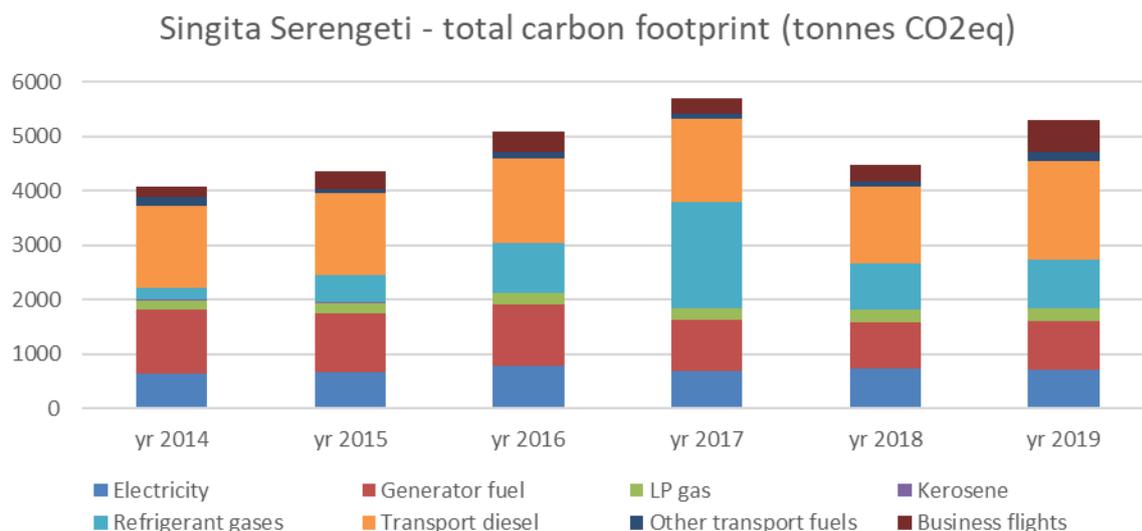
## 6. Carbon footprint

The carbon footprint analysis includes:

- Onsite fuel use: generator fuel, vehicle fuel, liquid petroleum gas and kerosene
- Electricity purchased from the grid
- Flights: business flights and flights for ex-pat staff leave.

Overall the carbon footprint is slightly higher than in 2018, which is disappointing as a reduction would be expected. Furthermore now that the refrigerant gas figure is reliable the carbon emissions are relatively stable, and are not on a downward trend (Figure 1). Fluctuation in the level emissions is now primarily due to:

- Relatively instability of the TANESCO electricity connection which governs the run-time of the generators which have a higher carbon intensity than the grid.
- Variations in the type of work undertaken by Grumeti Construction fuel which is the main factor in changed to vehicle diesel.



**Figure 1: Combined measures carbon footprint of the main activities at Singita Serengeti, 2011 and 2013-19 (tonnes of CO<sub>2</sub>eq) – (refrigerant gases were not measured in 2011)**

Significant investment has been made to reduce the carbon emissions at Singita Serengeti, and yet emissions have only stabilised. It is understood that the potential for

installing large-scale renewable energy on Sasakwa Hill continues to progress, but concerted efforts to reduce transport emissions are also required.

Singita Serengeti has made incredible progress in the last 7 years in many areas – but the time for significant improvement in the crucial areas of transport and building energy consumption is now long overdue.

## 7. Review of progress against the One Planet Action Plan

This section reviews the progress against the targets set out in the 2013 One Planet Action Plan using a simple traffic light system. Some of the targets are revised here and the rationale for this is provided.

	Substantially or entirely completed, or a high degree of certainty over deliverability
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It also provides:

- A graphical overview of progress and commentary, where relevant
- Summary of key activities delivered and planned (more information on many of these can be found on the [Grumeti Fund](#) site)
- Comment on progress and performance.

### 7.1. Health and happiness

	2020 target	Baseline	2019 performance
HH1	Improvement in key health statistics of local staff	Unknown, 2017: monitoring system in place	Monitoring system in place – malaria rates stable – average 10 per month
HH2	Improvement in local education levels	2012: Five sponsored students continued from school to college 2017: 110 scholarships 2018: 123	162 scholarships – 30% increase on 2018

#### 7.1.1. Key activities and successes in 2019

The Grumeti Fund continued its excellent educational work in the community:

- Scholarships for secondary school, vocational studies and university were awarded to 162 students in 2019
- The annual career fair allowed community members to learn more about the variety of career paths available.

Onsite the initiatives to promote health and wellbeing continue including:

- 18 One Planet Living related events
- Ongoing participation in runs, yoga and other sports activities.
- October was 'Health Month' with a sporting activity available every day and health focused menus.

#### 7.1.2. Plans for 2020

- Continue to support and push forward health related events and initiatives.

### 7.1.3. Summary

Singita Serengeti continues to try and improve the medical care available in this remote location to keep all staff safe. Strategies continue to be put in place to enable staff to adopt healthier lifestyles, eating more healthily and exercising, and to benefit from the incredible location where they live.

## 7.2. Equity and local economy

	2020 target	Baseline	2019 performance
Eq1	50% of salary expenditure to be on local staff	2011: 73% Tanzania, 45% local district (approx.) 2018: 53% local	53% staff local, < 3% ex-pat
Eq2	Selected local staff to be trained to fill junior management roles	2013: more than three 2018: 11 staff	15 local staff Grade 7 or higher – 30% increase
Eq3	Creation of 100 new jobs of which more than 60% will be for local residents	Tanzanian staff 2011: 659 (62% from the local district) 2013: 745 2018: 830	850 Tanzanian staff (15 new local staff in 2019)

### 7.2.1. Key activities and successes in 2019

The Grumeti Fund's Enterprise Development Programme continues to build the entrepreneurial capacity of the local community:

- Weekly sessions on business skills and personal development welcoming 264 budding entrepreneurs, 64% of whom were women.
- Participants in the one-on-one entrepreneurial Guiding Program achieved 41% average growth in turnover, female participants experienced an exceptional 105% average growth

Further Grumeti Fund initiatives included:

- English immersion camps for 355 fifth graders and 27 primary school teachers
- Working with female leaders, five female empowerment events were held. These brought together 3,269 girls from 13 secondary schools to talk about issues such as female genital mutilation and menstrual hygiene - taboo topics that are seldom spoken about but which massively impact the lives of girls.

For more information see the [Grumeti Fund](#) website.

Additional benefits to the local economy include:

- Singita Community Culinary School at Grumeti continues to train eight local people a year to become chefs, though one dropped out of the course in 2018/19. Pre-Covid, six of the previous trainees were temporarily employed at Singita with a view to offering at least three of them permanent positions. These positions are on hold at the current time.
- The Grumeti Horticultural and Marketing Co-op Society (GHOMACOS), a local growers' cooperative, generated just under \$300,000 in revenue for its more than 70 members. This was a 5% decrease on the previous year – possibly due to increased onsite food production.
- Further local procurement opportunities have been developed for certified timber and other foodstuffs totalling \$157,000 an increase of \$20,000 from 2018.

In terms of gender equity the results of the analysis undertaken were used to drive recruitment of female staff. The ratio of staff gender is measured and reported by

department, and the ration of female employment has increased by two percentage points since 2018.

### 7.2.2. Plans for 2020

- Ongoing prioritisation of female employment and tracking of performance.
- Creation of a Design and Building Catalogue to highlight goods and materials that are available locally and to maximise their use in construction and refurbishments.

### 7.2.3. Summary

Singita Serengeti continues to provide direct support to the local economy through employment and community development and indirectly through procurement. There has been a recognition that female employment can be increased and proactive steps are being taken in this area. It would be beneficial to be able to clearly monitor and report the percent of staff wages that go to local staff.

## 7.3. Culture and community

	2020 target	Baseline	2019 performance
CC1	10% of guests taking a community tour	2013: 5% registered (actual figure higher) 2017: 8%	Number of tours fell
CC2	Creation of One Planet information centres for guests and staff to promote a culture of sustainability	2011: Environmental Education Centre (EEC) operating fully for local school children	Ongoing staff training
CC3	Local communities adopt sustainable livelihoods – (three new village communal lands managed sustainably by 2017)	N/A	Continued support for entrepreneurs in beekeeping, poultry farming and vegetable growing

### 7.3.1. Key activities and successes in 2019

- Held 18 One Planet Living events
- A new One Planet Living Coordinator has brought renewed vigour to staff engagement particularly in the development of videos as a staff engagement tool
- One Planet cook-off used as a platform celebrate all contributing members as winners.

### 7.3.2. Plans for 2020

- Continuation of integration of One Planet Living into employment contracts

### 7.3.3. Summary

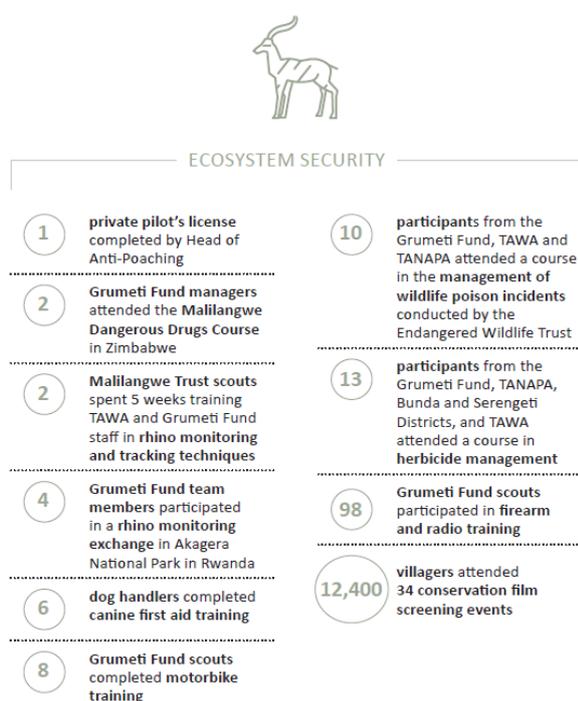
The range of regular events linked to One Planet Living have been highly successful in supporting behaviour change and creating a new normal in terms of healthy diet, exercise and well-being. Steps need to be taken to ensure that this is used as a springboard to encourage further changes in terms of choosing more sustainable transport modes, minimising meat consumption and other eco-lifestyle choices.

## 7.4. Land and nature

	2020 targets	Baseline	2019 performance
LN1	Establish a management effectiveness monitoring programme and maintain a high effectiveness score	2011: no specific programme in place	17% reduction in number of animals poached
LN2	Trends in animal numbers demonstrate a healthy and resilient ecosystem	2011: 40 kg/Ha of resident herbivore biomass (25 in 2005) 50 kg/ha in 2016	~ 52 kg/ha
LN3	Reduce the impact of invasive alien species to predetermined levels	Programme in place, Area cleared: 2017: 511 ha 2008: 1000 ha	Nearly 5000 ha cleared of alien vegetation

### 7.4.1. Key activities and successes in 2019

Image 1: Ecosystem security activities in 2019.



The highlight of 2019 was certainly the relocation of 9 eastern black rhino from South Africa to Grumeti. This project, made possible by the Ministry of Natural Resources and Tourism and Tanzania Wildlife Management Authority, was the largest single rhino translocation in Tanzania's history. The complex project has had setbacks with the devastating loss of two rhino bulls. Yet by the end of the year this initiative meant the Grumeti concessions were home to an additional nine free-ranging rhino – 10% of the Tanzanian population.

The resources of the Conservation Management team were further challenged by the unexpected arrival of a five month-old black rhino calf discovered by the Tanzanian National Park without her mother. With less than 1,000 eastern black rhino in the world, every rhino is immensely precious. Four members of the Conservation Management team become full-time caregivers dedicated to caring for the calf named Zaituni (Swahili for Olive).

Further operational developments included:

- Construction of an applied research centre
- Introduction of an aircraft for aerial surveillance and monitoring
- Creation of a boundary road in the Ikorongo to protect the edge of the Reserve

### 7.4.2. Plans for 2020

Planning for the release of the three rhinos currently in the Rhino Protection Zone. For more information see the [Gumeti Fund](#) website and [2018 Impact report](#).

### 7.4.3. Summary

Covid-19 has caused a collapse in global tourism – a critical source of funds for many conservation projects and local communities. This has led to a reported increase in poaching as governments struggle to pay security staff and local communities try to survive. Given this context, the incredible work of the Grumeti Fund in protecting the world-renowned ecosystem only increases in importance.

## 7.5. Sustainable water

	2020 target	Baseline	2019 performance
SW1	Reduce losses through leakage to less than 5%	Faru Faru leakage is 6.7%	Leaks remain around 10%
SW2	Reduce extraction of water from boreholes by 50%	2013: monthly average: 11,750m <sup>3</sup> (underestimate) 2016: 11,150 m <sup>3</sup> , 2017: 9,000 m <sup>3</sup> , 2018: 8,500m <sup>3</sup>	Average 8,200m <sup>3</sup> – 30%, total saving is larger than this

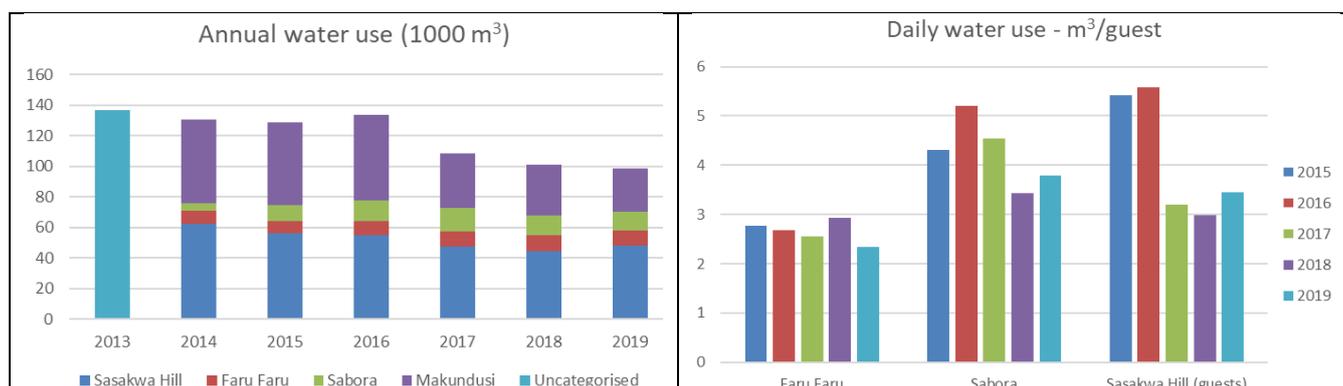


Figure 2: Graphs of total annual water use and per guest-night water use

Overall borehole water extraction fell slightly, and per guest water use fell at Faru Faru. There was an increase at Sabora, but the refurbishment undertaken in early 2020 included water treatment facilities, which will help to reduce this. Sasakwa Lodge water did increase because most likely due to the construction of the new Hillside suite.

### 7.5.1. Key activities and successes in 2019

- The wastewater treatment at Faru Faru was overhauled to improve the system
- An additional water meter was installed in the kitchen at Faru Faru
- Installation started on additional water treatment facilities at Sabora as part of the refurbishment.

### 7.5.2. Plans for 2020

- Installation of wastewater treatment at Sasakwa Lodge

### 7.5.3. Summary

Water management at Singita Serengeti is not perfect, but the improvement since 2013 is hugely impressive and is now certainly best-practice standard for such a challenging location. The completion of the remaining wastewater treatment will further reduce demand and ensure that Singita Serengeti is a true exemplar of sustainable water management.

## 7.6. Local and sustainable food

	2020 target	Baseline	2019 performance
LSF1	Three new local food lines a year	2012: 40% from local ward (<25km), 2013: almost 100% from region (<250km)	Increased purchasing from two major local suppliers
LSF2	All fish to be sustainably farmed or harvested	2013: no red list	Continue to monitor to ensure this
LSF3	Progressive improvement in the balance of the staff diet	2011: food prepared to meet cultural norms	Long-term improvement has slowed

### 7.6.1. Key activities and successes in 2019

- With the extension of Meat Free Monday to all lodges the menu was revamped to reduce emphasis on carbohydrates.
  - 'Relaunch' of Meat-Free Monday in September, with a further improved menu in January 2020, to make the menu more interesting and less reliant on carbohydrates. This was overseen by a vegetarian chef who was able to further train the local chefs.
  - October 'health month' – all meals had information on nutritional value
- Through the enterprise development program, a small honey project was established which produced 197kg of honey
- Ongoing activities included the removal of any products that contain palm oil from all guest and staff kitchens.
- Two key suppliers of local food goods increased from \$75,000 to \$100,000.
- The garden at Sasakwa Lodge was extended and given greater attention and significantly increased the amount of produce grown for guests.



19 August 2019

<p><b>Lunch</b></p> <p>Spinach &amp; Feta Frittata Satay Vegetable Stir Fry Cape Malay Vegetable Curry Mediterranean Pearl Barley Salad Beetroot &amp; Apple Salad with a Minted Yoghurt Dressing Lettuce, Tomato, Grated Cheddar, Jalapeno peppers And Hummus served with Chapati Bean Stew &amp; Rice</p>	<p><b>Pasta Evening</b></p> <p>Cauliflower Soup with Cheese Rolls Butternut, Chickpea, Spinach &amp; Chili Penne Pasta Potato Gnocchi with Pesto Cream and Parmesan Cheese Spaghetti with Duo of Tomato Sauce Green Salad with Home-made Dressing</p> <p><b>Dessert</b></p> <p>Sticky Toffee Pudding with Custard</p>
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**09 September 2019**

**Lunch**

Falafel - Sweet Potato & Butternut  
Pearl Barley Tabouleh  
Zucchini Fritters, Parmesan crusted Aubergine with Tomato Relish and Mozzarella  
Hummus, Tzatziki  
Shredded Lettuce, Sliced Tomato, Grated Cheddar, Jalapeno peppers  
Chapati, Vegetable Quiche  
Bean Stew & Rice

**Pasta Evening**

Creamy Butternut Soup with Bread Rolls  
Penne Pasta or Tagliatelle  
Tomato & basil with a hint of chilli, black olives and capers OR Cheese Sauce  
Basil Pesto & Parmesan Cheese  
Ratatouille  
Green Salad with Home-made Dressing

**Dessert**

Pecan Nut Pie with Whipped Cream

**#MFMCOUNTME!**

Image 2: Examples of menus and promotion of Meat-free Monday

### 7.6.2. Plans for 2020

- Meat-Free Monday will become 'Wellness Wednesday' to tie in with vegetable delivery and allow more time for preparation.
- More nutritional information will be provided at meals

### 7.6.3. Summary

As noted previously, when taking a five year perspective, it is clear that huge progress has been made in offering more sustainable and healthy choices to staff (and guests). Yet recent studies suggest that we should derive less than 10% of our calories from meat and dairy products<sup>1</sup>, there remains a gap between the food served and what constitutes a healthy and sustainable diet. Additionally as animal husbandry locally creates such pressure on the natural ecosystem this connection should be more explicitly made and highlighted to staff.

## 7.7. Travel and transport

	2020 target <sup>2</sup>	Baseline	2019 performance
ST1	50% reduction in all non Grumeti Construction (GC) land transport emissions – 25% through logistics efficiency	2011: total 408,900 litres (l) Non-GC: 2013: 354,850l 2017: 265,500l 2018: 305,750l	322,700 litres 5.5% increase on 2018, back up to 2016 levels.
ST2	GC land transport emissions stabilised and effectively managed	2013: 44,612l 2017: 174,000 l 2018: 130,000 l	185,500 litres – increase due to construction of boundary road.
ST3	10% reduction in local air cargo emissions	2013: 71,650l 2018: 27,000l	47,000 litres – change to recording method
ST4	50% of guests offsetting or using a low-carbon air carrier	2011: no monitoring of this	Issue to be addressed at Singita Group level, Grumeti Air offsets flights

Excluding Grumeti Construction there was a downward trend in fuel use from 2013-17, but this reversed in 2018 and fuel use continued to rise in 2019. In fact overall fuel use reached the highest recorded level, with a rise across most departments. Controlling fuel use at Singita Grumeti is a huge challenge – but the Grumeti Fund demonstrated that significant reductions are possible. The tourism team and the central support services need to address this issue with the same level of vigour because the current situation is not impressive.

Vehicle Fuel Use - litres

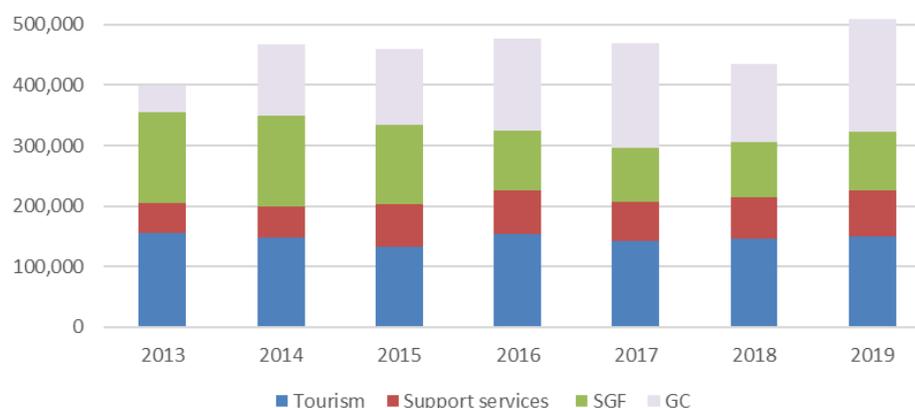


Figure 3: Vehicle fuel use (litres of fuel)

<sup>1</sup> Figures taken from the EAT-Lancet study, available at: <https://eatforum.org/>

<sup>2</sup> This targets have been adjusted from the original targets established in the One Planet Action Plan due to the broad and variable work undertaken by Grumeti Construction, including many services, such as road building, normally delivered by the national government. For further information see the previous Annual Review

Closer analysis of the transport emissions reveals that:

- There was a small drop in visitor numbers and guiding fuel use per guest increased by 5%
- Support Services increased fuel use by over 10%.
- Cargo fuel is measured directly rather than estimated by number of flights – nonetheless the fuel consumption is measured as nearly twice previous consumption levels.
- There has been a significant increase in staff flights due to the involvement of Singita Serengeti staff in the new project in Rwanda. Flight data needs to be carefully tracked and steps taken to minimise the number of flights.

### **7.7.1. Key activities and successes in 2019**

- Improved vehicle fleet management by ongoing removal of old vehicles.
- Research into converting a diesel game viewer to electric.
- Purchase of five high-end bicycles from a local supplier in Arusha supporting local female employment and encouraging cycling onsite

### **7.7.2. Plans for 2020**

- Procedures to control the use of guiding vehicles being used for non-guiding purposes
- Planning for the electric game viewer for 2021
- Ongoing research into opportunities to reduce the number of vehicles on the Hill, for example by:
  - Reducing the number of positions with that are provided with a vehicle
  - Use of apps to enable improved vehicle sharing.

### **7.7.3. Summary**

Transport fuel use is a massive challenge at Singita Serengeti, but the Grumeti Fund has demonstrated that fuel reduction is possible. A concerted effort has been made to reduce fuel emissions, but this effort seems to have slipped, notably there has been little progress in:

- Monitoring of personal use of vehicles, particularly by guides
- Opportunities to change the culture of staff access to vehicles
- Introducing communal transport options.

Reducing vehicle use is certainly difficult – but so is eliminating waste, and this has been virtually achieved. This must be made a priority by senior management otherwise the issue is likely to continue to drift.

## **7.8. Materials and products**

	<b>2020 target</b>	<b>Baseline</b>	<b>2019 performance</b>
SM1	Imports reduced – three new local/sustainable non-food products a year	Not applicable	Review of locally available materials
SM2	Rehabilitation of quarries and murram pits (excavation sites for road maintenance)	2012: none 2013: rehabilitation of 6 pits in process	Best practice in rehabilitation continues
SM3	Prioritising sustainable construction materials	2011: no LEED rated materials, no FSC timber	Still a heavy reliance on cement

### **7.8.1. Key activities and successes in 2019**

A standard procedure has been put in place for the review of all major construction projects. This builds on the review undertaken by the Environmental Committee prior to construction, and incorporates post-completion monitoring and reporting.

- Completion of Lodge 11 conversion with detailed data gathering and analysis, showing approximately 320 tonnes CO<sub>2eq</sub> emissions embodied in the construction materials, 90% of this was due to the use of steel and cement. This figure is approximately the same as the RISE building (see below), which is a much larger building – highlighting the importance of promoting lightweight design in future tourism projects.
- Design and construction started on the highly efficient RISE building for the Grumeti Fund.

### **7.8.2. Plans for 2020**

- Completion of the RISE building
- Local sourcing catalogue.

#### **RISE (Research and Innovation for the Serengeti Ecosystem)**

The Grumeti Fund developed a new applied research program and facility, RISE (Research and Innovation for the Serengeti Ecosystem). The facility aims to support local researchers, initiate programmes such as 'Women in the Field' to encourage more women to get involved in conservation and to monitor human-wildlife conflict across the protected areas.

The RISE building is designed to be as low impact as possible and eliminate the need for any air conditioning. The building gathers all its energy from the sun and incorporates rainwater harvesting, and wastewater treatment. To reduce energy demands, the design optimizes glazing and natural ventilation, relies on thermal mass storage, and includes a thermal labyrinth which serves as a passive cooling and heating system.

To reduce the impact of the construction materials the building is timber frame and uses earth for insulation. Nonetheless the building is heavyweight and has an embodied energy of around 330tonnes CO<sub>2eq</sub>, emphasising the need to eliminate the use of cement as much as possible.



### 7.8.3. Summary

Construction started on the RISE building in 2019 which will set a new standard for construction, by eliminating the need for cooling and incorporating the use of more sustainable materials – such as timber frame and earth insulation. These techniques can be extended to other construction projects on the site to both reduce energy demand and cement use.

### 7.9. Zero waste

	2020 Target	Baseline	Estimated 2019 performance
ZW1	90% reduction in plastic waste (from 2013/4)	<b>2014:</b> Average 775kg/month <b>2013:</b> 84,000 litres of plastic bottle water purchased	1200 litres total – 98% reduction
ZW2	10% reduction in other (non-plastic) waste (from 2014)	<b>2014:</b> 3600kg plus 12,250kg food waste per month <b>2017:</b> 4600kg plus 10800kg	6000kg waste, 6400kg food waste. 50% increase and 10% reduction on 2018
ZW3	>90% recycling rate	<b>2014:</b> 65% of non-organic (4,150kg/month)	Close to all possible material is recycled

Singita Serengeti continues to innovate in reducing waste and increasing recycling. The main materials sent for recycling are:

- Glass sent to [Shanga](#) – local enterprise making goods from recycled materials – or stored if there is insufficient demand
- Broken glass – crushed and used as sand in construction
- Cooking oil is also sent to Shanga for use as a fuel
- Hard and soft plastic (such as plastic water bottles) as well as cement bags sent to Dunia Designs for making recycled furniture
- Reuse of cardboard boxes
- Metals collected by a local entrepreneur for recycling
- Office paper sent to Shanga for reuse in crafts when there is a demand, if not it is burnt in the incinerator
- Shredded paper is reused as a packaging material
- Food waste is composted (about 6%) and the remainder collected by local farmers for animal feed – food pit is no longer used for waste disposal.

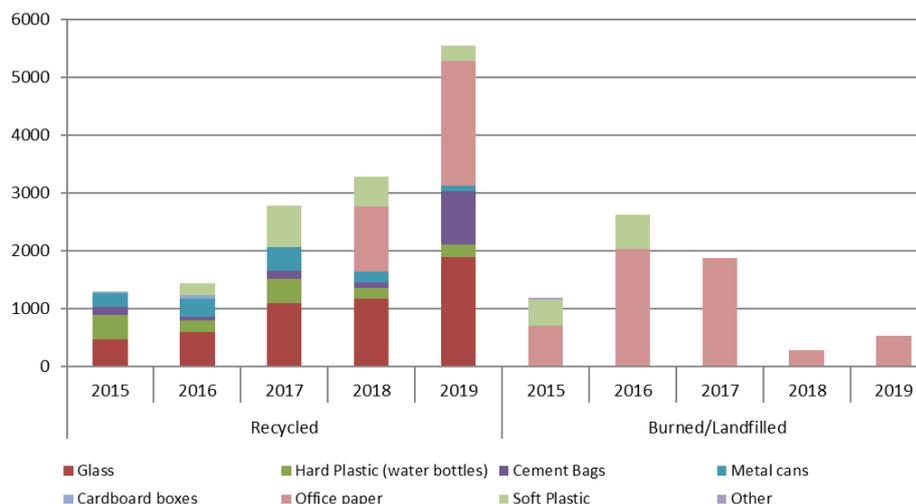


Figure 4: Average monthly waste generated and disposal route in kg



**Figure 5: Average monthly food waste generated total (t) and per person (100g)**

Data collection has steadily improved over the years and is now as reliable as can reasonably be expected. The data and site inspection shows a few important trends:

- A steady reduction in food waste and food waste per person in the last few years
- Exceptional levels of recycling
- An increase in the generation of materials for waste – specifically paper and glass. The glass is likely linked to the use of returnable, rather than plastic, bottles. The reason for the increase in paper is unclear, as there has been a reduction in the purchase of office paper – so this needs to be investigated.

Therefore in 2020 it will be important to look at how waste generation can be reduced – particularly office paper if this is often not recyclable.

### **7.9.1. Key activities and successes in 2019**

- Completed move away from Nespresso pods – now all bean to cup.
- Continuing on the journey of eliminating single use plastics – a reconnaissance visit was made to Arusha for alternatives to plastic used in the kitchen with some potential suppliers found.

### **7.9.2. Plans for 2020**

- The journey to a plastic-free site will be continued by reviewing the post-pandemic supply capabilities of companies.

### **7.9.3. Summary**

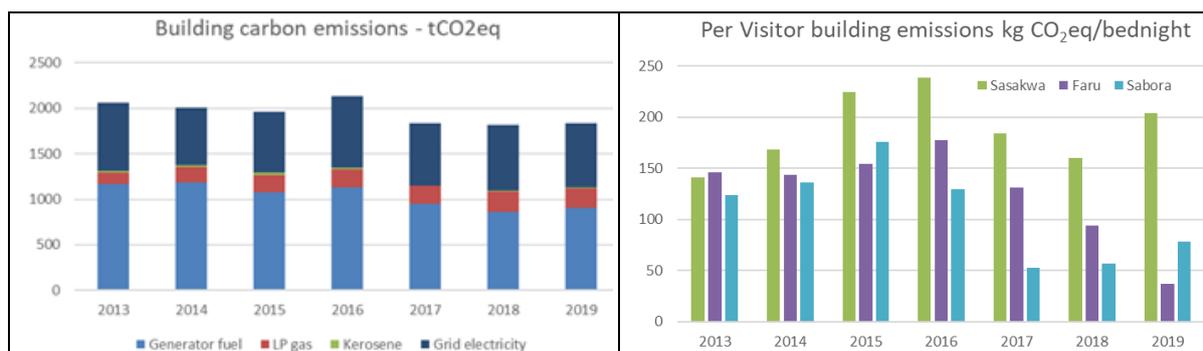
While there remain challenges in waste management the current operations certainly set a best-practice standard for the region, with all waste materials well managed and the majority recycled. There will always be challenges in such a location, finding solutions for batteries and CFL light bulbs for example, and more can be done to address waste generation.

There has been an increase in waste material generated in 2019, and these needs to be tracked and any reasons understood.

## 7.10. Zero carbon energy

	2020 target	Baselines	2019 performance
ZCE1	Reduce building energy use by 30% from 2011 (Target: 4500MWh)	2011: 6,428 MWh 2017: 6,050 MWh 2018: 6,000MWh	6,400 approx, Approx. 8% increase back to 2011 level
ZCE2	100% renewable energy	2011/2013: minimal % of electricity supply	630MWh – 10% of building energy. Supplying 25% of non- generator power.

As shown in Figure 6 total building emissions are relatively stable. On a per capita basis there has been a significant rise at Sasakwa due to the increased use of the generators because of the unreliability of the grid.



**Figure 6: Total building energy consumption (MWh) for 2013-2018**

Refrigerant gases accounted for nearly 900tCO<sub>2</sub>eq - a significant contributor to Singita Serengeti's carbon footprint. With many of the centralised air conditioning units reaching the end of their life expectancy, this issue needs to be watched closely and should form a part of the decision-making process about what to replace them with.

Again this is an issue that highlights the need to carefully select technologies that are appropriate to the location. While refrigerant gases can be extracted from A/C systems and reused, this is not possible in the Serengeti and therefore any refrigerant gases brought to Singita will ultimately end up in the atmosphere.

### 7.10.1. Key activities and successes in 2019

- 17 solar water heaters to be installed on senior staff housing.
- Development of a clear Zero Carbon plan for Sasakwa hill has begun with a very positive option being pursued.
- Renewable energy generation data collected and used in reporting
- Replacement of remaining external lightbulbs that are not energy efficient
- Replacement of old electric equipment with more efficient alternatives, especially large format laundry dryers.
- Sasakwa kitchen upgrade made with the most energy efficient options.

### **7.10.2. Plans for 2020**

A detailed renewable energy strategy for Sasakwa Hill is under development and the major initiative for 2020 is to start to bring this plan to fruition.

Further plans include:

- Identify an efficient option to replace the back of house cooling system at Sasakwa Lodge
- Ongoing replacement of old electric equipment with more efficient alternatives, especially large format laundry dryers. This will be built into upcoming budgets.
- Each lodge to establish and report on energy goals

### **7.10.3. Summary**

The two key areas in terms of building carbon emissions remain refrigerant gases and building energy consumption at Sasakwa Hill. There has been significant progress in the development of a renewable energy strategy for the Hill, which the team are optimistic about delivering. Refrigerant gas use on the other hand is yet to be addressed in detail and must be incorporated into all plans for replacement of cooling systems.