# Public Monitoring report 2019

Annual report on social impact, environmental data and development at SFI Tanzania Ltd.

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# 1. Introduction

Management is a continuous process. This means that the management will be adapted over time related to changes in the field. To keep track of these changes, SFI and Form Tanzania apply a system of monitoring in which information is gathered annually. The process of planning, monitoring and evaluation supports a further fine-tuning of the management plan. The monitoring plan for 2019 was developed at the beginning of the year.

This report builds on the 2018 report and incorporates refinements made in the past year. It informs on the various monitoring activities that have taken place the past year, and what has been learned from it. As more knowledge is gained on monitoring activities, these are further refined, and the setup of the monitoring system will be adapted accordingly.

This annual monitoring report is public to allow interested persons to be informed on the progress of SFI and Form Tanzania and the impact its activities have on the people and the environment at both estates.



# 2. Economical sustainability

# 2.1 Plantation establishment

In 2019 a total area of only 131 hectares from the planned 300 hectares was planted with sisal at SFI Tanzania estates due to unexpected October monsoon rains hindering further planting. Figure 1 shows the land use classification of the planted areas at both estates. Figure 2 shows the hectare planted at SFI Tanzania since 2005.



Figure 1 Planted areas at both estates



Figure 2 Planted area per annum

# **2.2** Plantation condition and regeneration

#### 2.2.1 Sisal plantation productivity

The productivity of the sisal fields is estimated using the daily cutting reports per field. Figure 3 shows the sisal production per estate in metas per ton and ton per ha.



Figure 3 Production recovery 2015-2019

For both estates it can be observed that there are some sisal compartments with no production. This is mainly because of (1) the compartment is still immature, (2) the compartment is not planted, or (3) the compartment is a very old sisal compartment used for bullbill harvesting (nursery material) only.

# 2.2.2 Forestry nursery development

Form Tanzania nursery produced 185,000 teak plants (Tectona grandis) during 2019 which will be used for the teak outgrowing programme during the 2020 planting season. A small percentage will be used for beating up of the plantations poor teak stocking areas.

An additional 2,000 seedlings of Corymbia specie (Corymbia citriodora) was produced for planting along the major roads in the plantation to act as wind break(s). No indigenous plants were produced for the buffer zones due to a lack of seeds during the seasonal seed collection. The company will endeavour to ensure indigenous seedlings in the nursery during 2020 for the 2021 planting season so as to increase buffer zones at SFI Tanzania.

# 2.2.3 Protection of the plantations against fire

Due to lack of fire-fighting equipment; fire remains a challenge at SFI Tanzania. Majority of fires are experienced during the first quarter of the year due to dry weather conditions. Korogwe Fire and Rescue Services assist the company with annual training and stand-by assistance during fire season. Fires increased from 18 during 2018 to 24 during 2019 of which 17 were reported at Kwamdulu and 7 at Kwaraguru.

Although the fires increased during 2019, SFI managed to limit the damage; 51.95 ha of sisal burned during 2018 compared to 36,60 ha during 2019. 20 Ha of planted trees were damaged during 2018 compared to 6 ha during 2019. The main causes were farmers preparing land in dry and windy weather conditions and honey hunters setting fires to extract honey. Measures were put in place to ensure effective fire prevention in collaboration with surrounding communities.



Formal fire training was provided to the communities and community meetings scheduled to ensure effective communication regarding fire prevention.



# 2.2.4 Plantation health monitoring

During 2019 two incidents of sisal weevil (scyphophorus interstidialu) was reported in the sisal nurseries at both estates and one incident of Paraneleptes Reticulata was discovered in the forestry planting. Figure 5 depicts the pest and diseases during 2019 stipulating: type of disease and scale of infestation.



Figure 5 Pests and diseases recorded in 2019

# 3. Ecological sustainability

# 3.1 Plantation ecosystem

# 3.1.1 Extent of protected area

The protected areas are identified on maps and are mainly the remnant forest patches and buffer zones along the water courses. At Kwaraguru this is 101 hectares, of which the remnant forest at the big dam is the major portion. At Kwamdulu there are only 2 hectares remnant forest, which is the full conservation area of this estate. However, in the future the protected area will be further expanded with some other areas in currently unplanted portions of the estate, where the indigenous vegetation will be protected. Those areas will be selected as protected areas that are not suitable for commercial plantation of either sisal or forestry.

Within the next 5 years; SFI Tanzania plans to plant indigenous trees at the Mnyuzi stream at Kwamdulu to re-establish the natural ecosystem that was eroded due to overgrazing thereby increasing the protected area.

#### 3.1.2 Protection of flora and fauna species

In the biodiversity study of 2013, some endangered species were identified. Fauna is protected through the prohibition of hunting, while trees are protected as logging is also prohibited. Also, awareness of the protected states is raised for both company staff and surrounding communities through community meetings and trainings. In addition to these protection measures the protected tree species Mpingo (Dalbergia melanoxylon) is planted at both estates, which will further strengthen the local population of this tree species. SFI Tanzania will gather quotations from reputable institutions during 2020 to conduct a follow up biodiversity study pending funding.



Refer Figure 6 for the average diameter and height of Mpingo (Dalbergia melanoxylon) monitoring results conducted during April 2019:



# 3.2 Water conservation

#### 3.2.1 Protection of indigenous forest and vegetation along water courses

Buffer zones are protected along water courses. No farming or other activities were allowed in the buffer zones to protect the water courses and give indigenous vegetation the chance to develop.

#### 3.2.2 Rainfall

Figure 7 shows the rainfall per estate from 2015 to 2019. Actual precipitation during 2019 shows 1,745mm and 1,432mm for Kwamdulu and Kwaraguru respectively. Previous season patterns were renowned for two rainfall peaks, with the main peak over April-May followed by a short season over Nov-Dec, however the 2019 pattern consisted of minimal rains during the peak rain season followed by monsoon rains during Oct-Dec (low peak rain season), a recognisable difference than before.



Estate	Year	Per annum	5yr Avg	Monthly Avg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kwamdulu	2019	1745	1921	145	0	0	20	93	382	0	18	61	35	918	107	111
Kwamdulu	2018	0 1205	1921	100	70	0	210	294	235	81	81	22	63	110	39	0
Kwamdulu	2017	1980	1921	165	0	45	330	543	536	38	0	50	70	68	300	0
Kwamdulu	2016	2458	1921	205	295	170	97	1383	67	55	25	262	42	0	0	62
Kwamdulu	2015	2486	1921	207	15	70	252	663	837	10	109	89	64	127	175	75
Kwaraguru	2019	0 1432	2166	119	45	7	0	121	273	0	0	66	28	668	118	106
Kwaraguru	2018	0 1124	2166	<b>1</b> 94	44	0	236	265	189	33	59	25	58	89	30	96
Kwaraguru	2017	2999	2166	250	232	354	209	570	871	112	24	141	270	33	108	75
Kwaraguru	2016	2272 🌒	2166	189	143	110	36	1360	73	78	15	125	90	62	58	122
Kwaraguru	2015	2738	2166	228	71	78	350	514	645	26	186	48	58	146	484	132



Figure 7 Precipitation comparison since 2015

#### 3.2.3 Water quality

SFI Tanzania will request quotations for water sampling to be conducted during 2020. The following locations will be targeted:

No	ESTATE	WATERBODY	CATEGORY
1	Kwamdulu	Water filtration	Water filtration
2	Kwamdulu	Section II Dam	Open water body
3	Kwamdulu	Open dug well at Dry ground area	Open water body
4	Kwamdulu	Dug well with cover at Dry ground area	Open water body
5	Kwamdulu	Pangani River	Open water body
6	Kwamdulu	Sisal water	Sisal waste water
7	Kwamdulu	Mnyuzi stream	Open water body
8	Kwaraguru	Water filtration	Water filtration
9	Kwaraguru	Big dam near Mbando house	Open water body
10	Kwaraguru	Jan dam	Open water body
11	Kwaraguru	Kabuku dam	Open water body
12	Kwaraguru	Animal dam	Open water body

During 2019 the Pangani Water Basin conducted sisal waste water monitoring. The following details the results based on wastewater sampling conducted:

			KWARAGURU	KWARAGURU	KWAMDULU	KWAMDULU
PARAMETERS	UNIT	STANDARDS	RESULTS	REMARK	RESULTS	REMARK
Ph.		6.5-8.5	8.85	Not	9.25	Not
				Acceptable		Acceptable
Total Dissolved	mg/l	3000	2730	Acceptable	1258	Acceptable
Solid (TDS)						
Electrical	uS/cm	N/A	4680		2230	
Conductivity						
Total Suspended	mg/l	100	30	Acceptable	47	Acceptable
Solids						
Temperature	C	30	28.7	Acceptable	30.5	Acceptable
Colour	ptCo	300	112	Acceptable	413	Not
						Acceptable
COD	mg/l	60	333	Not	294	Not
				Acceptable		Acceptable
Ammonia	mg/l	10	5.8	Acceptable	6	Acceptable
Sulphate	mg/l	500	110	Acceptable	50	Acceptable
Nitrate	mg/l	20	18	Acceptable	35.2	Not
						Acceptable
Phosphate	mg/l	6	1.7	Acceptable	3.3	Acceptable

Based on the results; The Pangani Water Basin highlighted the following to be improved upon:

- Kwaraguru: Ph and COD
- Kwamdulu: Ph, Colour, COD and Nitrate

It was also established that the dry weather conditions automatically affect the sisal waste water. A compliance plan was drafted and a water discharge permit issued.

# 3.2.4 Water consumption

In October 2017 a study was done to get among others a better understanding of the water consumption of the decortication process. The water flow was measured for several days to have an accurate estimate of the water flow per hour. This is 48,6 m<sup>3</sup>/hour at Kwaraguru estate, and 48,7 m<sup>3</sup>/hour at Kwamdulu estate. However, since the sisal production per hour differs significantly, this will also significantly affect the water consumption per ton sisal. A timer was used for several months to determine the running hours of the water pumps used in the decortication process. Against the daily production a good estimate was obtained of the water consumption per ton sisal. For Kwaraguru estate this is 108,9 m<sup>3</sup>/ton, and for Kwamdulu estate this is 241,3 m<sup>3</sup>/ton. The figure for Kwaraguru is relatively close to the industry figures of 100 m<sup>3</sup>/ton, while the figure for Kwamdulu is much higher. Investigations are currently carried out to recycle the water in order to reduce water consumption significantly.

Besides water consumption in the factory the other significant water consumer at Kwamdulu estate is the teak nursery. Consumption of the sprinkler installation in the nursery is recorded since June 2017. This is the major part of the consumption in the nursery, as there is also some consumption through manual watering.



Figure 8 shows that the volume of monthly water consumption in the nursery is approximately 30% of the monthly volume of water consumption in the factory. This will vary with the rainfall pattern as rainfall will replace the need of watering.



Figure 8 Water consumption at Kwamdulu vs. rainfall

# 3.3 Soil conservation

#### **3.3.1 Erosion prevention**

On sloped terrain erosion can be a problem, and for this reason SFI Tanzania pay special attention to erosion on the roads and in the fields. As much as possible weeding is done mechanically and manually to ensure a permanent vegetative cover of the soil. In the permanent sample plots in the forestry erosion is checked every time the plot is measured, and in the sisal plantations this is monitored through regular field observations. Due to October 2019 monsoon rains some light erosion occurred in the newly prepared fields for sisal planting. These still immature areas will not be harrowed during the upcoming season. Only Gyramow control of grass will occur to ensure soil rooting can continue to minimise further impacts. Roads were also prepared to curb erosion.

# 4. Social sustainability

# 4.1 Social impact

#### 4.1.1 Human capital

Provision of employment is one of the major social impacts of the company. Figure 9 shows the number of employees since establishment of SFI Tanzania in September 2013 in SFI sisal and Form forestry.



**Figure 9 Development of employment** 

Besides absolute data on total workers also the composition of the labour force is of importance when talking about social impact. Figure 10 shows some key data on labour force composition namely gender and contract status.



Figure 10 Composition of labour force

# 4.1.2 Farming and intercropping

Besides employment many people are dependent on the estate area for (subsistence) farming. In 2016 the company started with a farming and intercropping system. This system intends to provide local communities with access to farmland, while having a more effective control on land-use on the estates. Farming is considered to be on fallow land of the estates, while intercropping is farming within planted areas of sisal or forestry. During 2019 250 intercropper contracts were signed. A total of 927 intercroppers have benefitted since 2016 (Figure 11).





Figure 11 Number of signed farmer / intercropper agreements over time

Figure 12 provides data pertaining to total hectares planted since inception of the project in 2016.



Figure 12 Farmland covered by farmer / intercropper agreements over time

# 4.1.3 Impact of operations on surrounding communities

Social Monitoring for 2019 was conducted by the company's SHEQ officer and Estate Managers. Villages ranged from bordering the estates up to 10km away. The opportunity was also utilized to discuss the following important company information:

- Corporate Responsibility Policy
- Teak outgrower program
- Intercropping Contract Procedure
- Grievance and Complaints Procedure
- Illegal activities
- Community rights
- Fire safety and awareness
- Fishing contract procedure

The following villages were included in the 2019 social monitoring:

KW	ARAGURU	KWAMDULU			
Kwedizinga	Kwedizinga Kabuku Mjini		Jitemgeni		
Taula	Taula Kwediloko		Manzese Kilole		
	Mtakuja	Kwa	kombo		

Communities at both estates displayed an overall positive disposition towards the company since inception in September 2013. During the 2019 social monitoring the following appreciation letters were received by the company:

- Kwaraguru Primary School for the land preparation for maize cultivation.
- Taula Primary School for the land preparation for maize cultivation.
- Handeni Reserved army for the support during the training.
- Word of appreciation from Kabuku town, Kwediloko, Mtakuja Kwedizinga Taula for the road grading.
- Manzese Kilole village for contribution of cement bags for class room at primary school.

The following lists the positive impact raised by the communities during the 2019 social monitoring:

	Positive impact on the communities
٠	Company creates employment opportunities to the surrounding communities
٠	Company contributes to the overall social development of surrounding villages
٠	Community income has increased
٠	Company provides transportation during medical emergencies
٠	Company allows the communities to cultivate maize and other short-term crops in
	estate area due to the Intercropper system
٠	Company facilitates different training to the surrounding communities: fire safety,
	teak planting and environmental awareness to the surrounding schools
٠	Company conducts regular community meetings through social monitoring
٠	Estate roads are accessible and free of obstacles
٠	Company implements and respect community rights
٠	Company supplies water to the surrounding communities and Kwamngumi Primary
	School

No official concerns were raised; the communities rather reiterated for the company to continue with current services.

#### 4.1.4 Training and capacity building for employees and intercroppers

At SFI and Form Tanzania training opportunities are offered as and when needed in order to enhance staff skills and attitude. Besides on the job trainings, workers and management of SFI and Form Tanzania have been trained formally on various subjects. Table 1 provides an overview of the training subjects, the number of training participants and trainer for the formal trainings provided in 2019.



Table 1 Training cou	rses provided in 2019
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Training	# Trainees	Trainer
Safety Awareness	1	Form Tanzania
Sisal Policy	40	Form Tanzania
Cholera awareness	50	Korogwe Health Officer
Driving safety - Tractor Operators	6	Form Tanzania
Water Ph and Chlorine test training	4	Pangani River Basin Officer
CMO Focus Conference	1	СМО
First Aid Refreshment Course	30	Magunga District Hospital
Teak Tree Planting	50	Form Tanzania
HQ Meeting - Netherlands	1	Form Tanzania
Drivers safety & management of vehicles	10	Form Tanzania
Chemical spraying - boom sprayer	4	Form Tanzania
Formal Askari Training	64	Local Government -
		Kwamsisi Ward
Safety Awareness: Corona & Sisal	20	Form Tanzania
Loaders		
Morogoro Workshop: FDT Trail update	1	Forestry Development Trust
Vehicle & Plant Checklist Training	2	Form Tanzania
TPAWU: responsibilities of union	20	TPAWU Coastal Zone
representatives		
Puma Tractor OEM Training	4	KANU Equipment
Fleet management - fuel system	9	SFI Tanzania
Puma Tractor OEM Training	4	KANU Equipment
Advanced Excel Training	9	SFI Tanzania
Equipment Checklist Training	4	SFI Tanzania
Maxxum Tractor OEM Training	2	KANU Equipment
Equipment Checklist Training	2	SFI Tanzania
Total	338	

Due to the excessive fires; SFI Tanzania conducted community safety awareness training to the surrounding communities and the formal training of fire wardens.

#### 4.1.5 Outgrowing program

In 2015 Form Tanzania initiated an outgrowing program where people from local communities grow teak on their own plot using teak stumps supplied from the Form Tanzania nursery. Training is provided and a contract is entered into.

Form outgrowers have increased from 128 to 139 during 2019 with a total of 108 outgrowers signed at Kwaraguru estate. Figure 13 lists the number of outgrowers from 2015 to 2019 including the total ha of teak planting and financial stump cost (US\$).



**Figure 13 Number of outgrowers** 

# 4.2 Social interactions

#### 4.2.1 Stakeholder activities

Regular stakeholder meetings are held to maintain good relations with all parties impacted by the company and vice versa. 110 Stakeholder, Industry and Government meetings was conducted during 2019 including senior National Government officials.

Figure 14 gives an overview on the meetings held with the various stakeholder categories. It should be noted that the categories contain all kind of stakeholders, such as authorities, communities, suppliers and industry.



Figure 14 Stakeholder meetings conducted in 2019

During 2019 community meetings and community training focused on fire awareness and fire safety. Additional meetings included formal social monitoring with surrounding communities.



# 4.3 Health and Safety

#### 4.3.1 Worker health

Although health is primarily a personal matter and the clinics serve as a benefit to SFI employees and their immediate family members, continuous efforts are implemented to improve the health of the workers and their families. For this purpose, SFI Tanzania is collecting anonymous data from the clinics at both estates. This gives more insight in the health and work-related injuries of the company's labour force and their families, and will help to direct improvement programs implemented by the company. Since data cannot be related to individuals; the data is counted in number of consults.

A total of 6278 clinic visits were reported during 2019. Figure 15 depicts number of cases per estate from 2015 to 2019.



Figure 15 Medical cases over time at both estates

Table 2 shows the 10 most prevalent diseases recorded in 2019. Important to note is that: Urinary Tract Infections (UTI) increased from 513 in 2018 to 743 in 2019. Malaria showed a increase from 1852 in 2018 to 1993 in 2019. Waterbodies were fumigated to curb the spread of malaria. Acute respiratory infections showed a increase of 666 in 2018 to 991 in 2019.

Table 2 Top-10 most prevalent diseases recorded in 2019					
Primary Illness	Total	Percentage			
Malaria	1993	41%			
Acute respiratory infection	991	20%			
Urinary tract infection	743	15%			
Diarrhoea	254	5%			
Headache	222	5%			
Hypertension	207	4%			
Sisal Thorn	154	3%			
Cut wound	118	2%			
Abdominal Pain	111	2%			
Lumbago pain	109	2%			
Grand Total	4902	100%			

Dengue fever outbreak in the Tanga region did not impact SFI estates. During September a possible three cases of ebola was reported in Dar es Salaam. Ebola training was provided to clinic nurses and educational posters displayed on dispensary notice boards.

#### 4.3.2 Injuries on duty

215 Injuries on duty were reported during 2019. An increase from 169 during 2018. The main cause of injury includes cut wounds and sisal thorns in the Bush knife cleaning and Sisal cutting job categories (Figure 16). All employees have been issued with personal protective equipment.



Figure 16 Reported Injuries on Duty during 2019

# **4.4 Unauthorized activities**

#### 4.4.1 Prevention of unauthorized activities and incidents

During 2019 a total of 14 illegal activities were reported on SFI estates. A dramatic decrease from 27 during 2018. This decline is due to more stringent management practices and community awareness training programs. All reported at Kwamdulu. Charcoal factories and harvesting of trees for the charcoal factories constitute the main illegal activity on Kwamdulu. Charcoal factories are of particular concern due to a fire risk and the extensive fallow land on both estates. Figure 17 shows the illegal activities during 2019.





A comparison between 2017 to 2019 shows a considerable decrease at Kwaraguru (Figure 18) with zero incidents reported during 2019. This is due to more stringent control of illegal activities and the subsequent capturing and monitoring of the Illegal Activities procedure. Illegal activities and incidents are reported and managed immediately in collaboration with the surrounding communities.



Figure 18 Illegal activities and incidents 2015-2019

# 5. Conclusions and recommendations

Based on the data presented in this report valuable information is obtained on many relevant aspects of the company's management. Further implementation and improvement of the monitoring system will yield more valuable information that can be used to direct future management actions. A few findings of this report are highlighted:

# 5.1 Fertilisation

High priority should be paid to fertilisation, because it is affecting many elements of the company's activities. Fertilisation will increase field productivity as the soils are facing depletion due to decades of sisal harvesting without fertilisation. The compartment details provided from the monitoring system already allow for targeted fertilisation based on current productivity levels. Fertilisation will result in bigger leaves, which will improve production recovery (paragraph 2.4.1) and reduced energy costs per ton fibre (paragraph 2.1.2).

# **5.2 Decortication tests**

The current information also demonstrates the need for improved and more regular decortication tests. This will help to establish recovery figures per compartment (paragraph 2.3.1), and improve understanding of the various losses in the process from plant to fibre (paragraph 2.4.1).

#### **5.3 Rope production**

It could be considered to purchase machine-made ropes for decortication externally. This may reduce production downtime and might also be cost effective given the high costs of fibre used for rope production (paragraph 2.4.3). However, it is good practise to upgrade the rope wheel condition and alignment (costly) at the same time before considering machine-made ropes.

#### 5.4 Water consumption for factory and nursery

The current water consumption for both the factory and the teak nursery are very high. Recycling of water should be given higher priority to minimize consumption, reduce water pumping costs (electricity), and reduce dependency on natural water bodies (paragraph 3.2.4).

#### 5.5 Water for consumption

Water tests of all the water bodies must be conducted per year. Last full testing at SFI Tanzania occurred during 2017 due to circumstances it was not repeated since then. From 2020 onwards it will be resumed as part of the annual monitoring process. Previous tests confirmed that all water bodies on the estates were not suitable for human consumption without disinfection. Therefore, a major step was taken with the construction of water purification plants for both estates in 2016. This is also reflected in the health and safety statistics, where a reduction in diarrhoea cases was observed as well as in the absence of cholera (paragraph 4.3.1).

#### **5.6 Social impact**

The company is having a significant positive social impact (chapter 4) through, among others, (1) provision of employment in a safe and healthy environment, (2) farming and intercropping activities, and (3) an outgrowing program. Further actions, such as community meetings are undertaken to strengthen the relationship with the local communities. The goal is to conduct these meetings on an annual basis.

