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Public Monitoring report 2018

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

PO Box 57
Korogwe, Tanzania
www.sfitanzania.com



Table of contents

1. Introduction	3
2. Economical sustainability	4
2.1 Plantation establishment	4
2.2 Plantation condition and regeneration.....	5
3. Ecological sustainability	6
3.1 Plantation ecosystem	6
3.2 Water conservation	7
3.3 Soil conservation	9
4. Social sustainability	9
4.1 Social impact	9
4.2 Social interactions	14
4.3 Health and Safety	14
4.4 Unauthorized activities	16
5. Conclusions and recommendations	17
Annex I: Water sampling locations Kwaraguru	19
Annex II: Water sampling locations Kwamdulu	20

List of figures

Figure 1 Planted areas at both estates	4
Figure 2 Planted area per annum	4
Figure 3 Production recovery 2015-2018	5
Figure 4 Number and causes of fires in 2018	6
Figure 5 Pests and diseases recorded in 2018	6
Figure 6 Monthly and 10 year rainfall per estate.....	7
Figure 7 Water consumption at Kwamdulu vs. rainfall.....	9
Figure 8 Development of employment	10
Figure 9 Composition of labour force	10
Figure 10 Number of signed farmer / intercropper agreements over time	11
Figure 11 Farmland covered by farmer / intercropper agreements over time	11
Figure 12 Number of outgrowers	13
Figure 13 Stakeholder meetings conducted in 2018	14
Figure 14 Medical cases over time at both estates.....	15
Figure 15 Reported Injuries on Duty during 2018	16
Figure 16 Illegal activities and incidents 2018	16
Figure 17 Illegal activities and incidents 2015-2018.....	17

List of tables

Table 1 Training courses provided in 2018	12
Table 2 Top-5 most prevalent diseases recorded in 2018.....	15

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 2018 was developed at the beginning of the year.

This report builds on the 2017 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 2018 a total area of 309 hectares was planted with sisal at SFI Tanzania (106ha and 203ha at Kwamdululu and Kwaraguru respectively).

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.

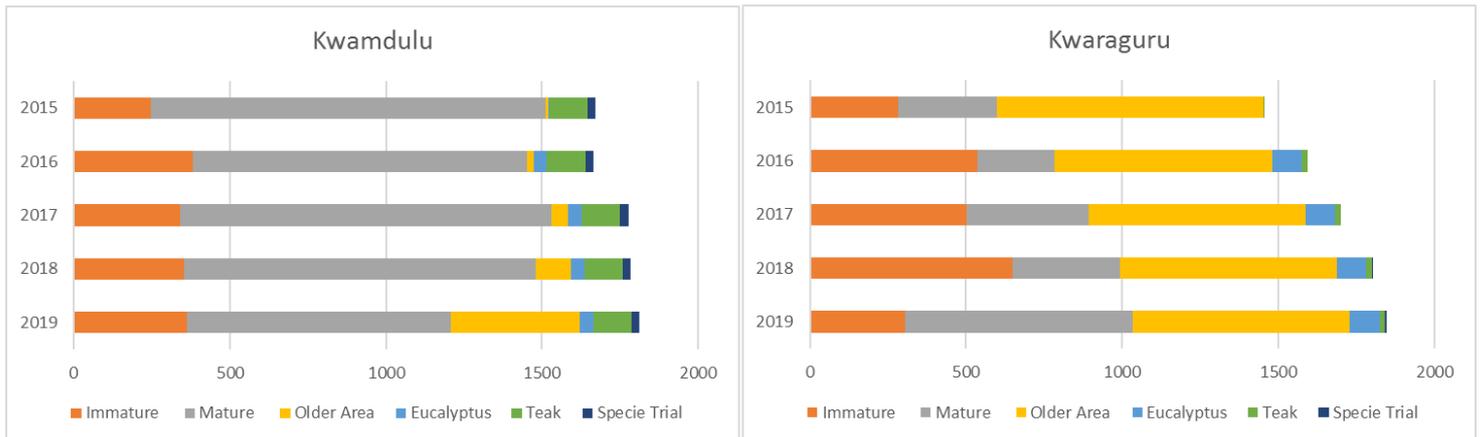


Figure 1 Planted areas at both estates

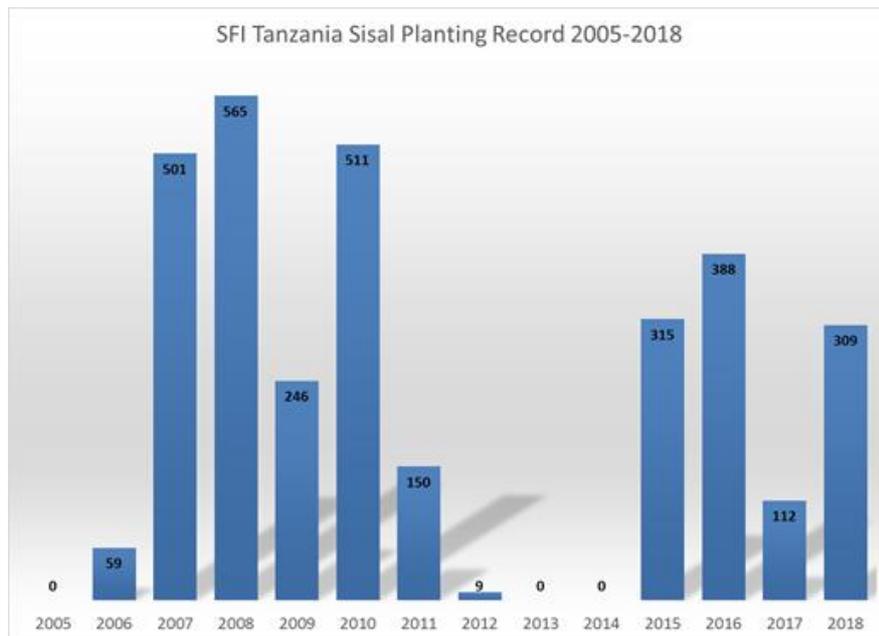


Figure 2 Planted area per annum

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 2015-2018

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.

2.2.2 Forestry nursery development

The 200,000 teak (*Tectona grandis*) stumps in the nursery at the beginning of the year were mostly used for outgrowers which will be used in the 2019 planting season. It's important to note that during 2018 the survival was not optimal; around 65% survival. During the 2018 season it was decided not to uproot all and leave some for the 2020 planting season. Some were also used for beating up.

The 9000 kapok (*Ceiba pentandra*) seedlings in the nursery at the beginning of the year were planted along the roads at Kwamdulu estate to counteract wind effect. Another 2200 seedlings were grown in the nursery, which was planted along the roads during the 2018 planting season.

Some other species were grown in the nursery during the year, which was planted either as a trial or in buffer zones during the 2018 planting season. In total 2000 *Dalbergia melanoxylon* seedlings, 1200 *Albizia versicolor* seedlings, and 1400 *Corymbia citriodora* seedlings were produced in the nursery.

2.2.3 Protection of the plantations against fire

During 2018, 18 fires were reported on SFI estates showing a dramatic increase from 5 reported fires during 2017. Nine reported fire cases inside fallow-land and four cases inside commercial areas of Kwamdulu estate. The fires caused severe damage; 51.95 ha of sisal burned, 20 ha of planted trees and almost all fallow land burned at Kwamdulu. The main causes were illegal hunters and farmers. Measures were put in place to ensure effective fire prevention in collaboration with surrounding communities.

The following graph depicts the reported fires per estate and suspected causes:

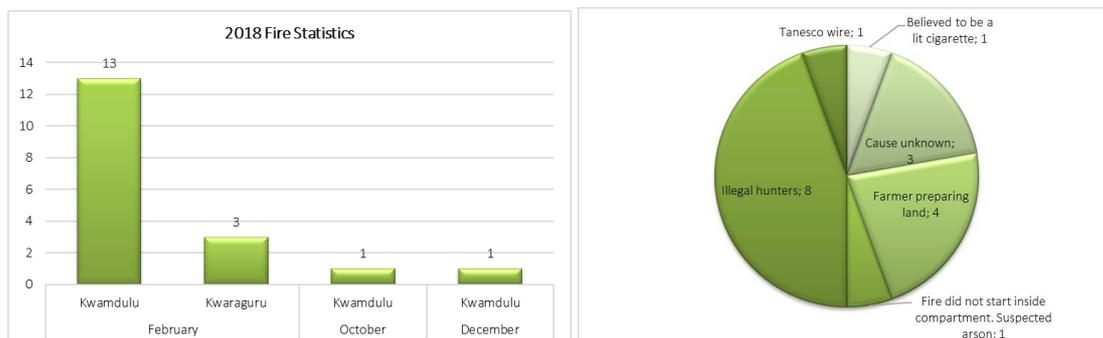


Figure 4 Number and causes of fires in 2018

2.2.4 Plantation health monitoring

Figure 5 depicts pests and diseases during 2018 stipulating: type of disease and scale of infestation.

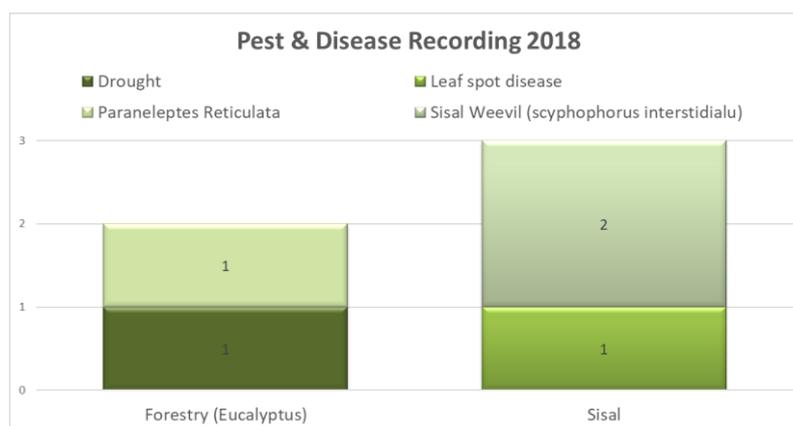


Figure 5 Pests and diseases recorded in 2018

3. Ecological sustainability

3.1 Plantation ecosystem

3.1.1 Extent of protected area

The protected areas are identified on the map 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.

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.

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. In 2017 action was taken to further establish buffer zones in those places where the buffer zones around the dams did not yet have a minimum width of 60m. Sisal was cut out at Kwaraguru and the cleared area planted with indigenous trees in the 2018 planting season. This will help to protect the water from negative external influences, and it will also function as a corridor for local biodiversity.

3.2.2 Rainfall

Figure 6 shows the rainfall per estate during 2018- and 10-year precipitation. Less rain during 2018 than the 10-year averages for both estates. Actual precipitation shows 1,205mm and 1,124mm 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 2018 pattern followed a distribution pattern throughout the year raining every month, a recognisable difference than before.



Figure 6 Monthly and 10 year rainfall per estate

3.2.3 Water quality

The last monitoring of water quality was done in October 2017 and consisted of a full analysis of water samples taken at various points at the estates. Samples were taken by the SFI staff and analysed by the Water Quality Laboratory in Tanga. Sampling locations are presented on the

maps in Annex I and Annex II. The same analyses were done as used for the water quality study performed in 2014, and consequently there is a baseline level for several sampling locations.

For Kwamdulu: (1) Dam at Section II, (2) Mnyuzi stream, (3) Pangani river, and (4) the sisal waste water pond.

For Kwaraguru: (1) Animal dam, (2) Big dam, and (3) Kabuku dam.

Two additional sampling locations (2 dug wells at Kwamdulu) were chosen as they are used by the local population to fetch water for domestic purposes. The test results for these locations show that the water is physically and chemically suitable for domestic purposes but needs disinfection due to the presence of faecal coli.

For all sampling locations the water had high colour and turbidity values. This indicates a relatively high amount of organic and inorganic matter in the water samples. For certain sampling points this could be influenced by management as buffer zones and erosion prevention would reduce influx of organic and inorganic matter in the water bodies. However, it is remarkable that also sampling points that have limited influence of operations (e.g. Animal dam at Kwaraguru estate, Mnyuzi stream at Kwamdulu estate) have relatively high pollution levels. The most polluted sources (Mnyuzi stream and Pangani river, Kwamdulu) are actually hardly affected by operations of the company. Therefore, while buffer zones and erosion control measures are further implemented no additional measures are recommended.

The waste ponds have, as expected, high levels of pollution, which demonstrates that (1) these ponds are needed for water treatment before it is discharged into the environment, and (2) additional treatment is necessary before waste water enters the ponds. Some measures have been taken in this regard at Kwamdulu estate, where treatment ponds were installed. Additional treatment steps are still under investigation.

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 m³/hour at Kwaraguru estate, and 48,7 m³/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 m³/ton, and for Kwamdulu estate this is 241,3 m³/ton. The figure for Kwaraguru is relatively close to the industry figures of 100 m³/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 7 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.

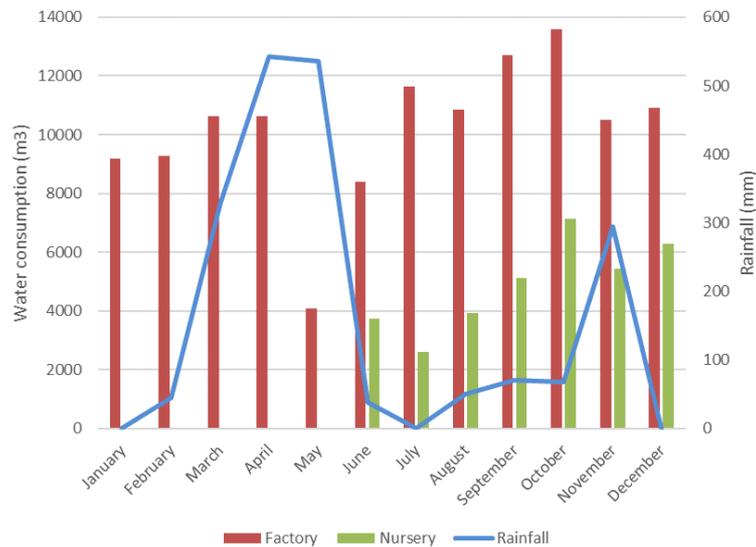


Figure 7 Water consumption at Kwamdulu vs. rainfall

3.3 Soil conservation

3.3.1 Erosion prevention

On sloped terrain erosion can be a problem, and for this reason we 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. No serious erosion was found in the fields in 2018. Along the roads some observations of erosion were made at both estates due to insufficient road maintenance. Additional equipment for road maintenance would be needed to improve erosion prevention measures along the roads.

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 8 shows the number of employees since establishment of SFI Tanzania in September 2013 in SFI sisal and Form forestry. 1254 Employees as at December 2018.

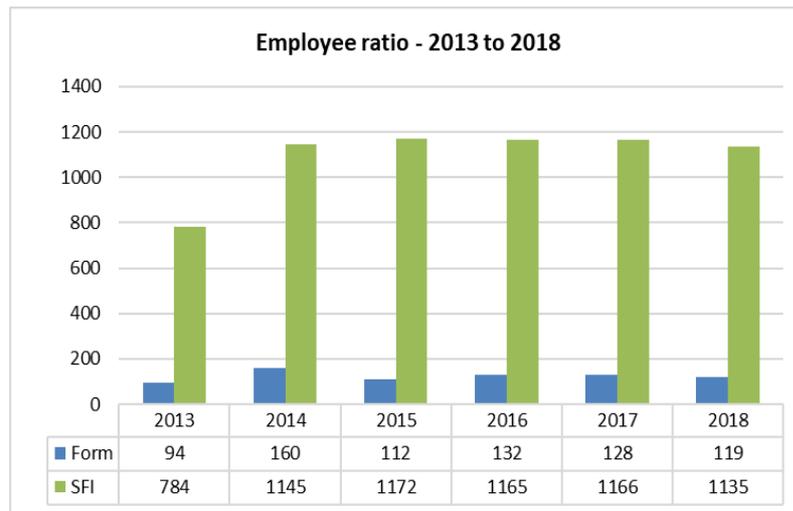


Figure 8 Development of employment

Besides absolute data on total workers also the composition of the labour force is of importance when talking about social impact. Figure 9 shows some key data on labour force composition namely gender and contract status.

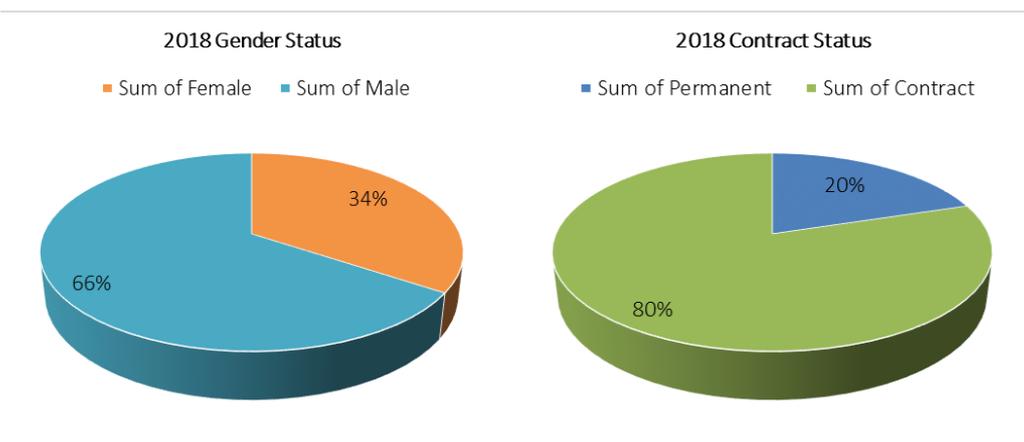


Figure 9 Composition of labour force

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. Figure 10 shows a significant decrease in the number of farmer / intercropper agreements during 2018 due to lack of rain.

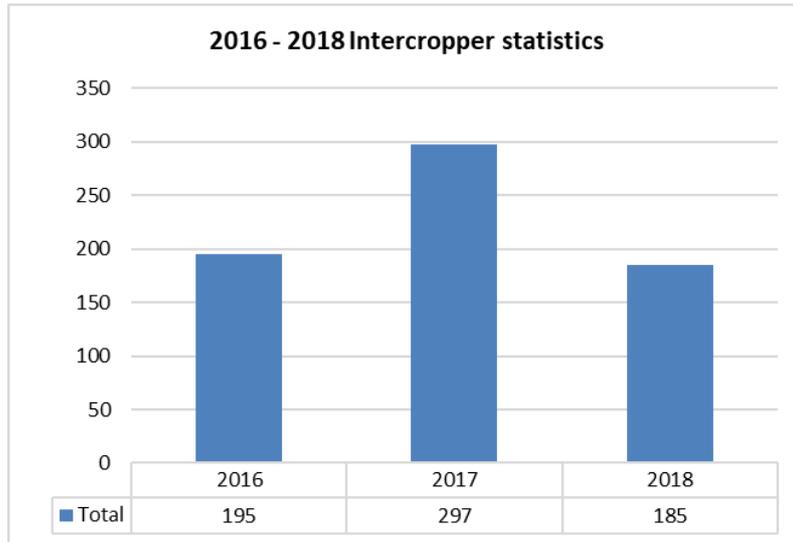


Figure 10 Number of signed farmer / intercropper agreements over time

Figure 11 provides data pertaining to total hectares planted since inception of the project in 2016.

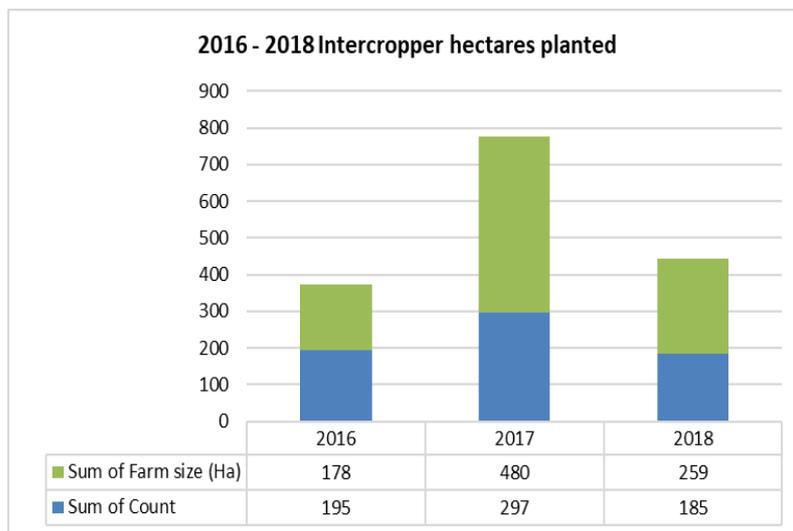


Figure 11 Farmland covered by farmer / intercropper agreements over time

4.1.3 Impact of operations on surrounding communities

Social Monitoring was implemented in 2017 and was again conducted at Kwamdulu estate during November 2018. Kwaraguru was conducted in January 2019. Villages ranged from bordering the estates up to 10km away.

Social monitoring was conducted by the company's SHEQ Officer and included standard social monitoring, but 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

Communities at both estates generally displayed an overall positive disposition towards the company since inception in September 2013. During the 2018 social monitoring the following positive impacts were listed by the communities:

KWAMDULU Estate	KWARAGURU Estate
Positive impact of the company on the surrounding villages	Positive impact of the company on the surrounding villages
<ul style="list-style-type: none"> • Company creates employment opportunities to the surrounding communities. • Water from Pangani River is supplied by the company to the nearby villages of Kwamngumi and Rujera. • Company contributes to social development. • Community income has increased due to the project. • Company provides transportation during an emergency. • Communities cultivate maize and other short-term crops through the Intercropper scheme. • Company facilitates different training to the surrounding communities: fire safety, teak plantation promotion and environmental awareness to the surrounding schools. • Company conduct regular community meetings including annual social monitoring. • Estate roads are available to the communities and is free from obstacles. • Company has sound policies. • Company respects community rights. 	<ul style="list-style-type: none"> • Employment opportunities to the surrounding communities • Project contributes to social development • Increase in community income • Company provides transportation during medical emergencies • Intercropping and Teak out grower program • Positive impact on the environment • Water provision at Kabuku dam and animal dam • Fire wood collection • Availability of maize mill • Transparent communication • Availability of medical assistance through the estate dispensary • Positive work environment due to safety and protective equipment

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 and the number of training participants for the formal trainings provided in 2018.

Table 1 Training courses provided in 2018

Training	# Trainees
Dispensary: Control in the issuing of medical supplies	14
Fire awareness & Fire safety	148
Fire Warden Training	4
General Housekeeping: Labour Camps	14
Industrial First Aid Course	6
Integrated Disease Surveillance and Response (IDSR)	2
Legal awareness Training	89

MSDS Safety Sheets	17
NSSF Benefits	45
Responsible use of Chemicals	34
Safety Representative Course	6
Standard Operating Procedures for Tree Improvement Activities	2
Teak planting & environmental awareness	50
TPAWU: responsibilities of representatives	19
Vehicle & Driving Safety Standards	20
Total	470

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 to 128 with a total of 101 outgrowers signed at Kwaraguru estate. Figure 12 lists the number of outgrowers from 2015 to 2018 including the total ha of teak planting and financial stump cost (US\$).

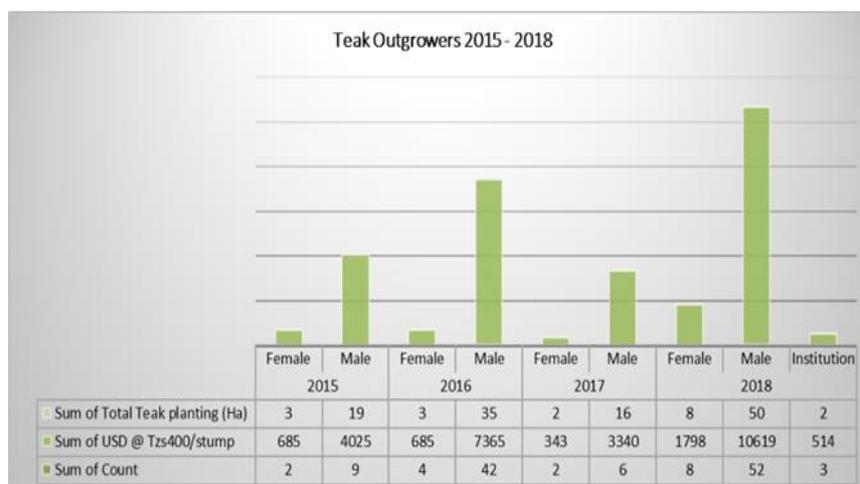


Figure 12 Number of outgrowers

While the majority of outgrowers plant the teak in their local village, Form Tanzania has signed outgrowers from Dar es Salaam and Arusha. The following list the six main villages and number of outgrowers within the village:

Village	# Outgrowers	Village	# Outgrowers
Kwedizinga	23	Kwaraguru	12
Kwediloko	22	Korogwe	10
Kabuku	19	Komsala	5

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. 90 Stakeholder, Industry and Government meetings was conducted during 2018 including senior National Government officials.

Figure 13 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 13 Stakeholder meetings conducted in 2018

During 2018 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 Ltd 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.

6251 Medical cases were reported at SFI Estate Clinics during 2018. Figure 14 depicts number of cases per estate from 2015 to 2018.

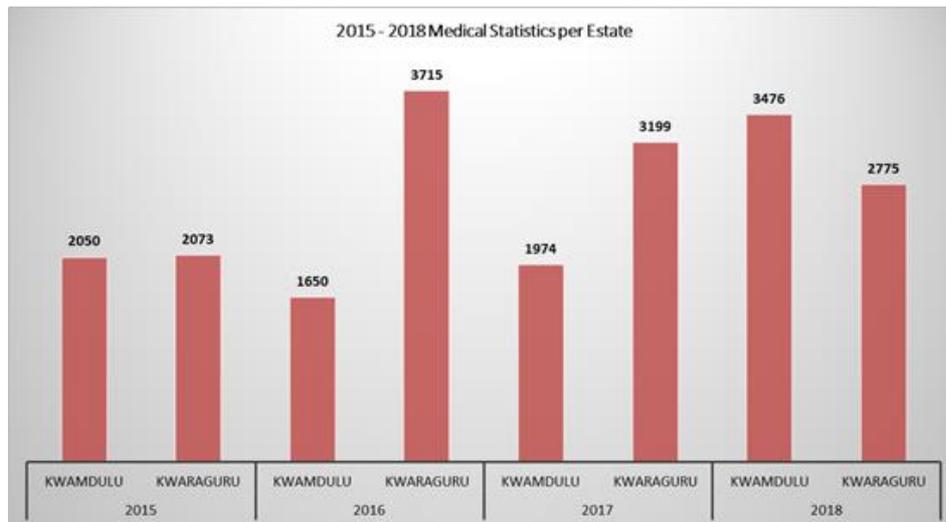


Figure 14 Medical cases over time at both estates

Table 2 shows the most prevalent diseases recorded in 2018. Important to note is that: Urinary Tract Infections (UTI) increased from 360 in 2017 to 513 in 2018. During 2016 to 2017 a decline was reflected due to hygiene training and water purification factories. Malaria showed a increase from 1117 in 2017 to 1852 in 2018. Waterbodies were fumigated to curb the spread of malaria. Acute respiratory infections showed a increase of 338 in 2017 to 666 in 2018

Table 2 Top-5 most prevalent diseases recorded in 2018

Disease	No Cases	Cause
Malaria	1852	Waterborne parasite
Acute Respiratory Infection	666	Lung infection
Urinary tract infection	513	Hygienic infection – contagious
Bronchitis	340	Lung infection – contagious
Headache	210	Not applicable

It is fair to state that the increase in diseases is directly related to the increase in clinic visits and availability of medicine from 5173 in 2017 to 6251 in 2018.

4.3.2 Injuries on duty

Due to continuous safety training and the allocation of personal protective equipment, injuries on duty declined dramatically from 219 during 2017 to 169 in 2018. The majority of injuries are in the Bush knife cleaning and Sisal cutting job categories (Figure 15).

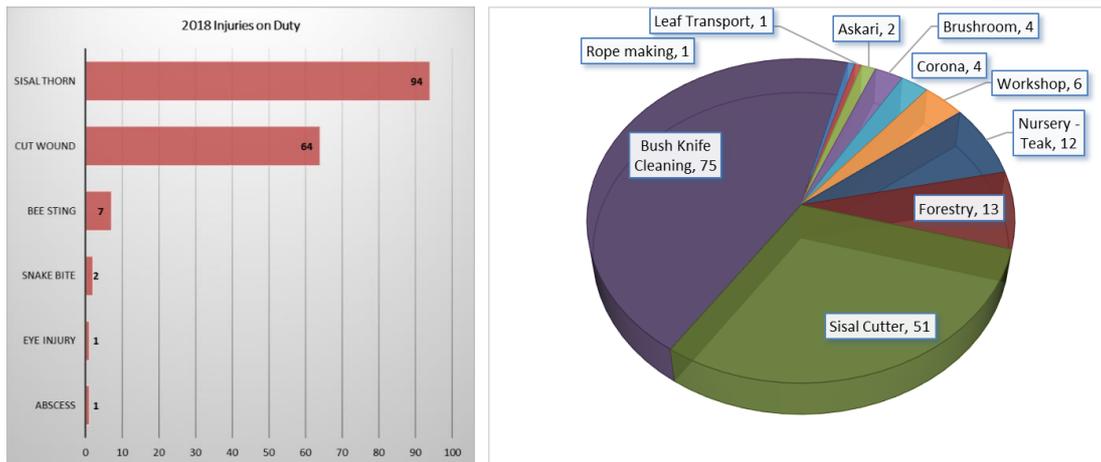


Figure 15 Reported Injuries on Duty during 2018

4.4 Unauthorized activities

4.4.1 Prevention of unauthorized activities and incidents

During 2018 a total of 27 illegal activities were reported on SFI estates. A slight decrease from 30 during 2017. This decline is due to more stringent management practices and community awareness training programs. During 2018 Kwaraguru reported 14 illegal activities and Kwamdulu 13. Illegal grazing and charcoal factories constitute the main illegal activity on both estates. Charcoal factories are of particular concern due to a fire risk and the extensive fallow land on both estates. Figure 16 shows the subdivision of illegal activities per estate during 2018.

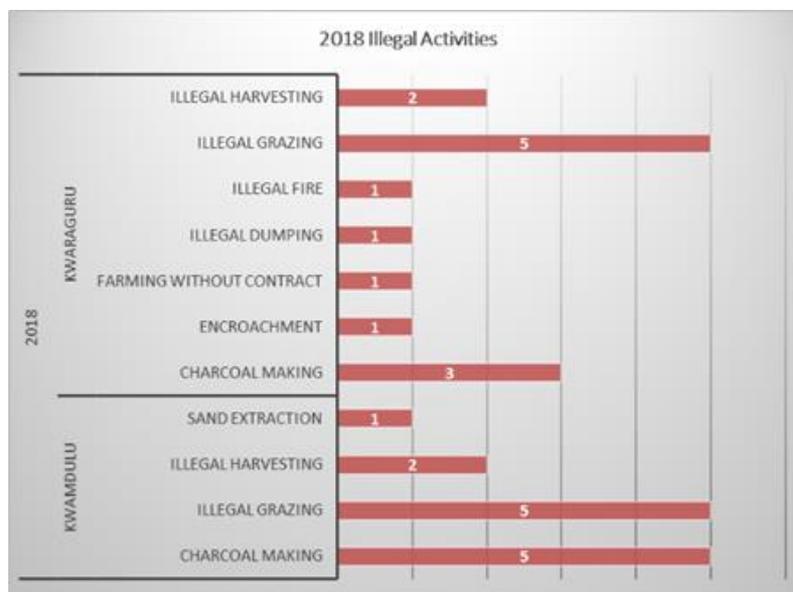


Figure 16 Illegal activities and incidents 2018

A comparison between 2017 and 2018 shows a considerable decrease at Kwaraguru (Figure 17). 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.

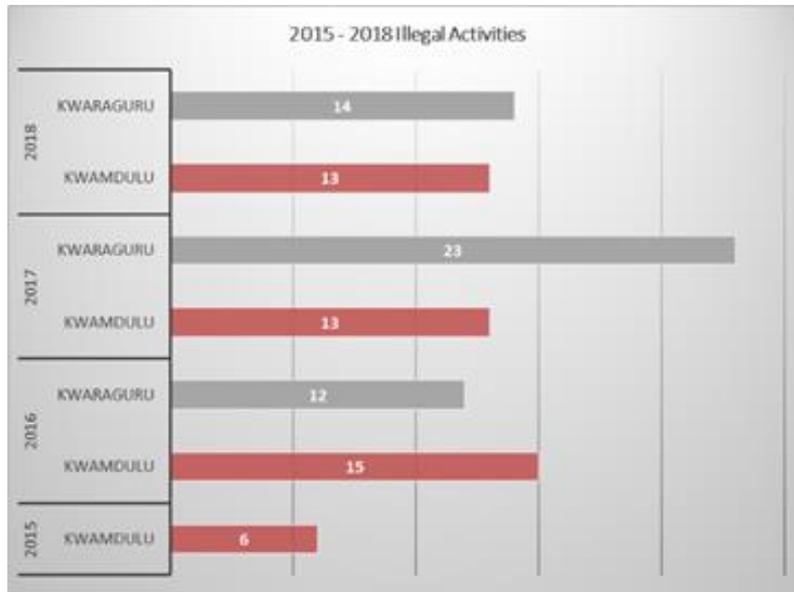


Figure 17 Illegal activities and incidents 2015-2018

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 and reduced energy costs per ton fibre.

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 and improve understanding of the various losses in the process from plant to fibre.

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. However, it is good practise to upgrade your 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.

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 2019 onwards it will be resumed as part of our annual monitoring process.

The tests confirm that all water bodies on the estates are not suitable for human consumption without disinfection. Therefore, a major step was taken with the construction of water purification plants for both estates. This is also reflected in the health and safety statistics, where a reduction in the prevalence of Urinary Tract Infections and diarrhoea was observed as well as in the absence of cholera.

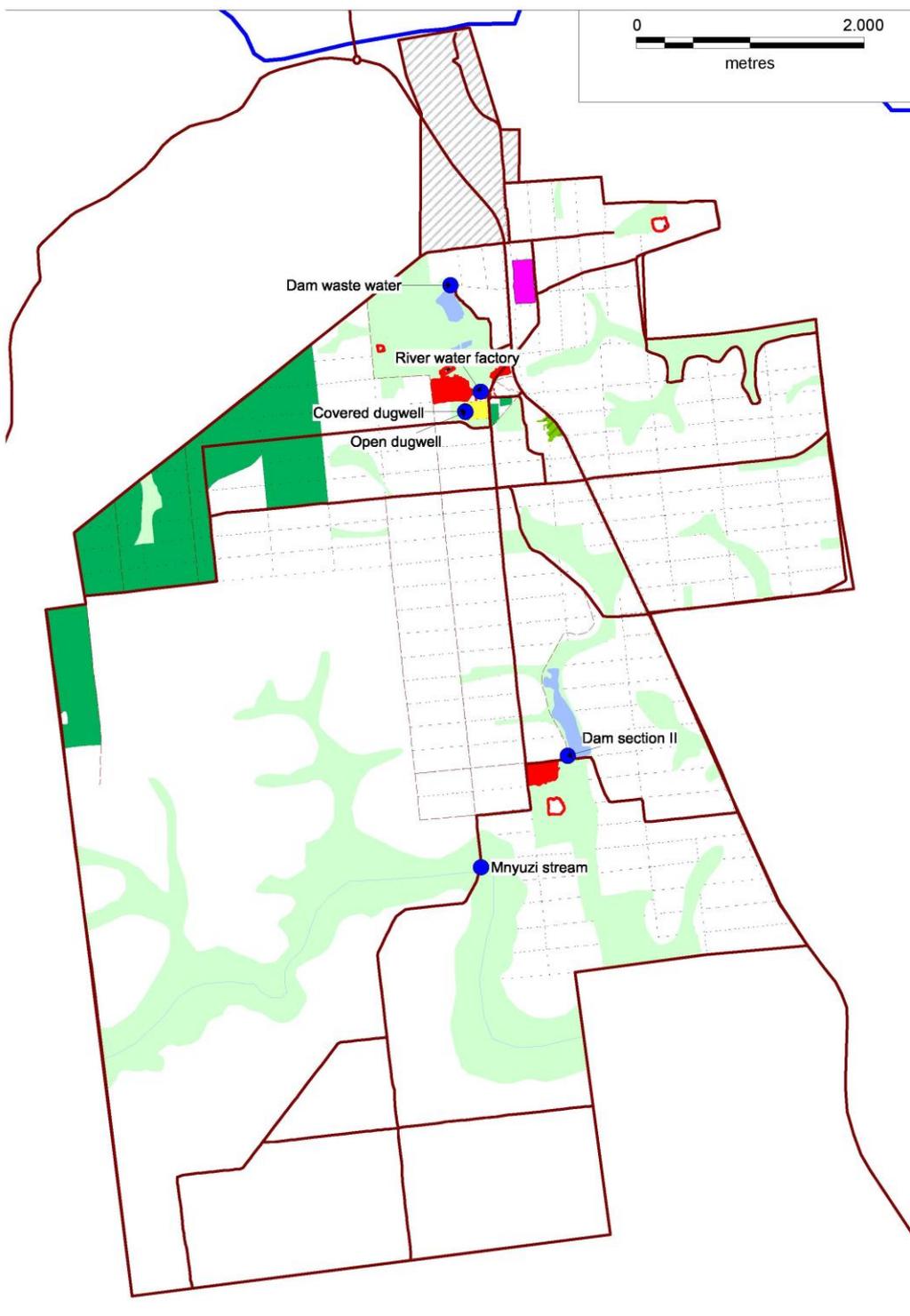
5.6 Social impact

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, should be undertaken to strengthen the relationship with the local communities. Our goal is to conduct these meetings on an annual basis.

Annex I: Water sampling locations Kwaraguru



Annex II: Water sampling locations Kwamdulu





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