The United Republic of Tanzania

Ministry of Agriculture Livestock and Fisheries

Commodity Value Chain Brief No.7

SISAL

Key Messages

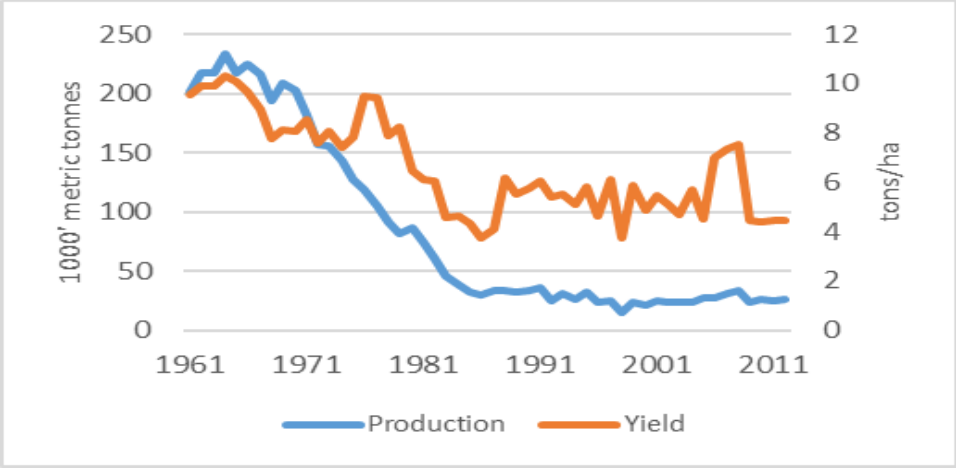
- *Promote the adoption of improved technologies to increase productivity and processing of sisal.*
- *Promote an attractive business and investment environment for sisal in Tanzania.*
- *Establish regulations that will ensure accessibility of long-term finance for the sisal sub-sector.*

1. INTRODUCTION

The sisal sub-sector is the oldest commercially organized agricultural industry in Tanzania. Tanzania is the second largest producer of sisal after Brazil, producing 12% of the total global production. The industry employs about 16,500 smallholder farmers in an area covering 38,000 ha (URT, 2013). Production is mainly in large commercial estates and is supplemented by medium-scale producers and smallholder farmers through outgrower schemes. The major producing regions are Tanga, Morogoro, Mara, Lindi, Mtwara and Coast.

As Figure 1 shows, the sisal sub-sector was one of largest industries in Tanzania during the 1960s, contributing to over 25% of the country's foreign exchange earnings and employing a workforce of 1 million casual and permanent workers (Oxfam, 2008).

Figure1. Sisal Production and Yield Trends in Tanzania (1961-2011)



Source: FAOSTAT (1961-2013)

Decline in production started in the mid-1970s after nationalization of privately owned sisal estates. Production reached its lowest level in 1996 at 15,000 tons with yields at 4 tons/ha from a peak of 240,000 tons in 1963, registering a production decline of 93%. To date, the sisal sub-sector contributes to 0.2% of the country's foreign exchange earnings and employs about 200,000 workers (BOT, 2015; Shamte, 2016).

The decrease in production over the decades was the result of a reduction in production area and yields due to nationalization of privately-owned estates and stiff competition from heavily subsidized synthetic fibre that drove down sisal world prices. Currently, production and yields are picking up, registering an average production of 28,000 tons [1] per annum and yields of 6 t/ha.

2. DEVELOPMENT PARTNERS SUPPORTING THE VALUE CHAIN

The country has several leading supporters of the sisal value chain. Oxfam, through its enterprise development program, has supported local enterprenuers in Tanga and Shinyanga regions to purchase raspadora machines for extracting fibre from sisal leaves. With the aim of improving the quality and market access of sisal for farmers and traders, the project is also assisting in linking small-scale producers with the financial sector to enable them produce high quality sisal fibre that they can sell to Katani Limited, one of the largest sisal processing companies in the region.

The Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Common Fund for Comodities (CFC) have designed a project to develop new uses for sisal waste. The project is co-funded by the United Nations Industrial Development Organization (UNIDO), the Belgium Government and the International Fund for Agricultrual Development (IFAD). Working in collaboration with local stakeholders from Tanzania and Kenya these development partners sponsored a bio-gas pilot project in Korogwe District, Tanga, which looked into the prospects of producing electricity from sisal waste.

3. CONSUMPTION

The main end-product of sisal is its fibres. Further processing is usually carried out to produce products like twine, yarns, ropes and carpets. Tanzania produces both sisal fibre and sisal products for the export market and for local consumption. According to the Tanzania Sisal Board (TSB) 58% of the total production was exported in 2011 and the remaining 41% was consumed by the local market[2]. Sisal processing industries produced 5,974 tons of sisal products for exports and 3,385 tons for the local industry.

4. MARKETING, TRADE AND INVESTMENT OPPORTUNITIES

The demand for sisal fibre and other products in the world market is increasing and Tanzania can benefit from it. The country is endowed with both the comparative and competitive advantages in producing and processing sisal. Opportunities in the sisal sub-sector are discussed hereunder.

- Sisal products

Environmental concerns have forced consumers to return to sisal products from synthetic substitutes. This has led to a growing demand for sisal products locally and in the international market. Increasing the

[1] FAOSTAT 2010- 2013

[2] http://www.tsbtz.org/index.php/sisal-statistics

current capacity of industries that produce sisal products in the country will position Tanzania to supply the increasing demand gap.

- Supply of new sisal products

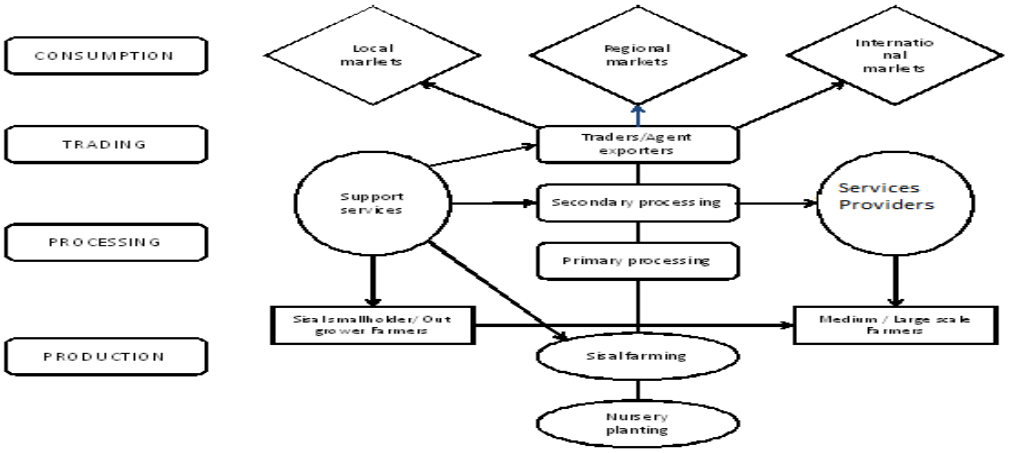
Sisal fibre based composites have a huge market potential in automotive, aircraft, marine and construction industries (FAO, 2013). Sisal juice can be used to make chemicals like acid, insulin and sugars. Tanzania can look into the possibilities of investing in high value sisal products.

- Electricity production

The residual by-product after fibre extraction is 98% of the leaf. In the past this has been discarded as waste. A recent pilot project in Tanga has proven the waste can be used to produce large amounts of biogas and electricity. This is another opportunity that can be explored for further investment.

5. VALUE CHAIN

Figure 2. Sisal Value Chain in Tanzania



Source: (TSB, not dated)

Figure 2 shows the sisal value chain map, at farm level sisal production starts with seedling growing at the nursery. The seedlings are then distributed to different farms for transplanting. Once the plant is mature the leaves are removed and primary processing is undertaken to extract sisal fibre. Secondary processing is a value addition stage where the fibre is woven into such products as ropes, carpets or yarn. Smallholder and medium-scale farmers depend on large companies for most of the processing. Products from the first and second processing are marketed by traders for consumption on the, local, regional and international markets.

The sisal value chain is supported by service providers including the TSB which regulates the industry, the Sisal Association of Tanzania which bargains collectively for all farmers, the central and local government authorities that supervise the whole value chain and other supporting actors such as research institutions, input suppliers and financial institutions.

6. PROFITABILITY

Table 1. Productivity of Smallholder Farmer Production in Tanga

Cost				Avarage Cost	Minimum Cost	Maximum
Total Cost first 4 years				**1,730,500.00**	**1,555,500.00**	**1,848,500.00**
Total Cost 5th year				**625,000.00**	**555,000.00**	**695,000.00**
Total Cost 6th year				**625,000.00**	**555,000.00**	**695,000.00**
Income (UHDS) selling to Katani Ltd						
1. Sales 4th year (yield 0.7 to 1.0 tonnes/ha)	0.70	tonnes/h	700,000.00	595,000.00	490,000.00	700,000.00
2. Sales 5th year (yield 1.1 to 3.2 tonnes/ha)	1.10	tonnes/h	700,000.00	1,400,000.00	770,000.00	2,240,000.00
3. Sales 6th year (yield 1.8 to 3.8 tonnes/ha)	1.80	tonnes/h	700,000.00	1,960,000.00	1,260,000.00	2,660,000.00
Gross Profit (4th year)				(1,135,500.00)	(1,065,500.00)	(1,148,500.00)
Gross Margin (%)				(190.84)	(217.45)	(164.07)
Gross Profit (5th year)				**775,000.00**	**215,000.00**	**1,545,000.00**
Gross Margin (%)				**55.36**	27.92	68.97
Gross Profit (6th year)				**1,335,000.00**	**705,000.00**	**1,965,000.00**
Gross Margin(%)				68.11	55.95	73.87

Source: Adapted from OXFAM (2008)

Table1 shows profitability of sisal from smallholder farmers in Tanga who used suckers as planting material. Calculations are based on 1-hectare farms. Farmers break even in the 5th year, (their second harvest); in the 4th year (the first year of harvest) the gross margin is as low as negative 191% while in the 6th year (the third year of harvest) the gross margin is up to 68%.

5. STRUCTURE CONDUCT AND PERFORMANCE

The sisal value chain is largely vertically integrated and highly concentrated. There is a total of 26 large-scale farms in the country (NBS, 2016), most of which are owned by 5 large-scale sisal companies. Entry to the industry is mainly limited by the nature of the sisal industry which is dominated by large and well-organized estates that are labour intensive (Tenga, 2008). It requires large investment in capital and the establishment of a well-functioning network of players along the value chain.

6. POLICY ISSUES

The following are regulatory and policy issues that can be addressed to ensure the revival of the sisal sub-sector in the country:

- Establishing regulations that will ensure access to long-term finance for the sisal sub-sector and the agricultural sector in general.

- Promoting an enabling business environment that will attract foreign and local investors in the sub-sector. Sisal production is a capital intensive venture with a long gestation period before realizing profit. The Government should provide special incentives including preferential taxes especially during the gestation period.
- The high cost of production inputs such as electricity, fuel, levies and licenses make the sub-sector less competitive in the world market. Subsidizing these inputs, especially at start-up, is one way of promoting the sub-sector

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11 CONTACTS

Permanent Secretary,

Ministry of Agriculture Livestock and Fisheries
Email: ps@kilimo.go.tz

Value Chain Specialist
Name: Ester Mutatembwa
Email: estertm18@gmail.com
Telephone: +255 658 750 900

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