The Lotus Eco Elise sports car is made from different natural fibre compounds largely out of hemp and sisal. Not only does it reduce CO2 emissions but also it uses sustainable materials and cleaner manufacturing processes. Above all, the car is light weight.

The car makers have used hemp and sisal for the body panels, interior seats and roof. The roof is also equipped with solar panels for the car’s electrical systems. The interior features sisal carpets with seat covers made from wool.

This car reduces the environmental impact of the vehicle offering lower emissions and reduced energy consumption. Hemp, eco wool and sisal have provided natural, biodegradable engineering materials.

Natural fibers are increasingly incorporated into the manufacture of composites which are used in aerospace, marine craft, automobile industry, packaging, sports industry and civil industry. In automotive, materials include brake pads, instrument panels and door parts. We encourage our readers to buy eco cars which protect the environment and develop sisal.

His Excellency Jakaya Mrisho Kikwete the President of the United Republic of Tanzania and the Chairman of Tanzania National Business Council TNBC approved the Kilimo Kwanza Resolution in June 2009 to implore a new vigor in Agriculture.

The Resolution commits the Government to assist the Private Sector in transforming agriculture from hand hoe farming to farming using tractors; mobilization of science and technology; development of global trade opportunities for poor rural farmers; reduction of knowledge gap through training; outreach and adaptive research as well as improved availability of finance through the introduction of an Agricultural Bank. Echoing the President’s move, Tanzania Sisal Board is already finalizing an implementation strategy with the view to increase production and productivity and enhance market outlets by strengthening the local and regional market for sisal fibre and products within the African Continent.

The Board will ensure that sisal farms and factories are capacitated and transformed to efficient production entities and smallholder growers are equipped with necessary facilities to perform better. Emphasis is also channeled on increasing the application of science and technology into research and use of new alternative sisal products like biomethane and composites.
Letter from the Director General

Dear readers and colleagues,

Welcome to the second issue of our Newsletter.

As I write this letter it’s hard not to mention that sadly our beloved former Director General the late Odhiambo O. Wilson passed away on the 22nd June 2009 and was peacefully laid to rest at his hometown in Bunda District in Mara Region. May the Lord Almighty lay his soul in heaven.

The Board pressed on with its regulatory activities throughout the year. We recruited more staff in the field of planning & research as well as quality control bringing the overall manpower total to 16 personnel. This enables the Board to enhance its operations effectively.

Year 2009 was turbulent because sisal prices went down sharply due to the economic crisis. In early 2009 one ton of sisal fibre grade UG was sold at around US$ 900 per ton but from the second quarter one ton was sold between US$ 750—US$ 800 per ton.

As a result, investors struggled to finance operations and field maintenance activities.

However, I believe the future is bright, there are indications that the financial crisis has settled down and prices have picked up again.

On the other hand, TSB continues to collaborate with the Government, donors, the private sector and research institutes on various activities in line with Kilimo Kwanza Resolution.

The trajectory to support projects which brings about the betterment of the sisal industry continues. In the next financial year, financial assistance will continue towards the biogas project as well as the new project to upscale biogas to biomethane. We invite new ideas and proposals which will change the future of the sisal industry.

The Board will also support research activities on mechanization of sisal farming as well as market research in East and Central Africa Regions.

Please accept my sincere thanks for all your support and close cooperation.

Hamisi S. Mapinda
Ag. Director General
Tanzania Sisal Board

From Editors Desk

Dear Readers,

Since we last published the official edition of this newsletter, we have made some changes to bring you more up to date and timely information. In this edition, we are bringing you a steady stream of news and updates from around the Sisal Industry and from other relevant sectors.

We have updated the newsletter in an effort to bring you quality articles so that it eventually becomes a credible point of reference to the local, regional and international scene.

This Edition focuses on the future of the Sisal Industry particularly on opportunities which have risen in the form of alternative products and methods of production which not only promise higher profits to investors but also guarantee a safer and greener environment. You will find the detailed article on composites very interesting as it highlights why car makers and aircraft manufacturers increasingly use natural fiber composites in their models.

In realizing the role of ICT which has become part and parcel of almost everyone’s daily life, we have introduced a special column which will cover recent developments in Information Technology be it in the form of latest equipment, software or gadgets which can enhance the way we operate and communicate.

Finally, the article on meristematic tissue culture is very informative because it highlights the kind of technology which will shape the future of the sisal agronomy.

If you have an interesting development in any issue, please do not hesitate to submit your articles or feedback.
Looking forward to your continued support!

Deo D. Ruhinda
Editor
Saba Saba 2010 Trade Fair

SO WHAT EXACTLY ARE COMPOSITES?

Composites are hybrid materials made of polymer resin reinforced by fibers combining the mechanical and physical performance of the fibers and appearances. Bonding the physical properties of fibers, composites combine a high stiffness and strength with low weight to provide an excellent corrosion resistance.

Composite materials are formed by combining two or more materials that have very different properties however the different materials work together to give the composite unique properties. The different materials used do not blend into each other and they can easily be separated.

Best composite materials originate in nature. A sisal leaf, for example, has long fibers of cellulose firmly held together by a chemical known as lignin providing a good tensile strength which can withstand stress and support additional weight.

Fiberglass, on the other hand, is a composite material which is made of fine glass fibers bonded with a synthetic plastic. These are not preferable because they are not biodegradable and do not possess other advantages of natural fibre composites.

Another disadvantage of fiberglass is that although the threads of glass in fiberglass are very strong under tension they tend to break easily when bent sharply.

Composites are easily tweaked in that engineers can select properties such as resistance to heat, chemicals and weathering by using a binder material which surrounds and binds together a cluster of fibers.

Preference to use fibre composites in aircraft structures is because the weight of fibre composites is a lot lighter while strength is stronger compared to steel, for example. Most wing and tail sections, propellers and rotor blades of airplanes are made from advanced composites as well as much of the internal structures and fittings.

Composites unlike metal and aluminum are not likely to break up completely under stress. Cracks in metals spread rapidly hence very dangerous for use in aircrafts whereas composites are not easily breakable and usually share the stress around.

Natural Composites are biodegradable and easily sustainable. They are grown from hard fibre plants like Sisal which take a shorter time to mature compared to wood.
International Year of Natural Fibres

2009 was United Nations International Year of Natural Fibres. The major objectives of the year included to raise awareness and stimulate demand for natural fibers; to promote the efficiency and sustainability of natural fibre industries; to encourage appropriate response to problems faced by natural fibre industries; and to foster an effective and enduring international partnership among various natural fibre industries.

Over the past half century, natural fibres have been displaced in our clothing, household furnishings, industries and agriculture by man-made fibres with names like acrylic, nylon, polyester and polypropylene. The success of synthetics is due mainly to cost. Unlike natural fibres harvested by farmers, commonly used synthetic fibres are mass produced from petrochemicals to uniform strengths, lengths and colours, easily customized to specific applications.

Livelihoods of millions of people depend on natural fibre production and processing. That is why the International Year of Natural Fibres 2009 aimed at raising global awareness of the importance of natural fibres not only to producers and industry, but also to consumers and the environment.

The International Year of Natural Fibres celebrates fibres produced by plants and animals. It does not include modern man-made artificial and synthetic fibres such as rayon, nylon, acrylic and polyester.

Reasons to celebrate natural fibres are obvious. The Sisal Plant, for example, offers a range of many other uses in addition to ropes and yarns. The biomass left after fibres have been removed represents as much as 98 percent of the plant. To exploit the economic value of the waste material — amounting to some 15 million tonnes annually, CFC, UNIDO and the Government of Tanzania set up a project for this purpose.

Locally, many activities were planned to mark the year however due to financial constraints not all activities could be held. Some of the activities which were held successfully include participation in Saba Saba and Nane Nane Trade Fairs. Also, the sisal industry was represented in International Symposiums by the Director General of Tanzania Sisal Board and a representative of the Sisal Association of Tanzania.

Although year 2009 is over, the legacy of the ideology behind the International Year continues. In a recent meeting of the Intergovernmental Group on Jute, Kenaf and Allied Fibres it was noted that the objectives of the International Year are long-term as such fibre producing countries must continue to promote their products.

The Board will therefore extend financial support towards promotion of sisal fibre at home and abroad. Some activities like Essay Competition, Photography Competition and Craft Competition which were not held will be pursued over the next financial year.

Indicative Prices

As a regulatory authority, Tanzania Sisal Board has the responsibility to provide indicative prices of premium grade sisal fibre on quarterly basis. The indicative prices reflect FAO’s recommendations regarding prices of sisal fibre and harvest twine.

The FAO indicative prices are based on a detailed analysis of market conditions and prospects for sisal and henequen products. Traditionally, indicative prices were set based on c.i.f. prices however this was changed to f.o.b. prices which provide a clear picture of the market.

A) The indicative price range for **East African U.G.** fibre is set at **US$ 1,050 to US$ 1200** per tonne, f.o.b.

B) The indicative price range for **Sisal Baler Twine** is set at **US$ 26 to US$ 30** per 18kg bale of regular runnage f.o.b.

Research and Development News

The Cleaner Integral Utilization of Sisal Waste for Biogas and Biofertilizers project established the First in the World Sisal Biogas Plant which produces gas and electricity from sisal residue. The utilization of fertilizer production from sisal residue is still being evaluated whereas electricity generation from the waste has already proved successful.

The success of this project has facilitated the approval of another project titled “Upgrading Sisal Biogas to Biomethane for Use as Fuel in Tractors and Other Vehicles”. Biomethane is an upgraded biogas whereby the bulk of carbon dioxide, water vapor and other impurities have been removed.

The new gas can be used to run vehicles and minimize the use of toxic fossil fuels like petrol and diesel hence a reduced emission of green house gases. The project will be located at Hale Estate in Tanga due to proximity with the biogas plant already at the site.

Biomethane project was approved by the 35th Session of the Intergovernmental Group on Hard Fibres and 37th Session of the Intergovernmental Group on June, Kenaf and Allied Fibres held from 20th—22nd October 2009 in Manila, Philippines.
## Performance Report for Year 2009

### Sisal Fibre Production

During the year 2009, the sisal industry produced 21,433 tons of sisal fibre compared to 33,028 tons produced in 2008. The target for 2009 was 35,000 tons. This target was not attained because the majority of sisal producers had to scale down production due to the global financial crisis throughout year 2009.

### Smallholders

The production of sisal fibre by smallholder farmers in the Lake Victoria Regions was also shaken up by the global economic crisis. During the period, smallholders in the Lake Regions produced a total of 110 tons. Last year’s production by smallholder farmers in the region accounted for only 1.8% of the fibre produced nationwide during the year.

### Sisal Products Production

7,324 tons of sisal products were produced in the year 2009 compared to 9,802 tons produced in year 2008. The decrease in the volume of production is attributed to decreased fibre production from estates and a drop of worldwide market prices for sisal products.

### Quality Assurance

Throughout the year, inspection visits to various estates were held. Farmers were advised on proper methods of production to improve productivity per hectare as well as the quality of sisal fibre.

Production of premium grades like 3l, 3s and UG has remained high although the production of SSUG is seemingly on the rise. The Board is investigating this trend.

### Sales of Sisal Fibre


### Sales of Sisal Products

In 2009, the sisal industry exported 1,576 tons of sisal products worth US$ 2.13 million compared to 2,449 tons worth US$ 4.40 million which were sold in 2008.

With regards to local sales, the industry sold 5,484 tons of sisal products worth 8.44 billion shillings compared to 8,018 tons worth 13.4 billion shillings sold in 2008.

### Planting of New Sisal

During the year 2009, sisal farmers planted 1,254 hectares of sisal compared to 3,338 hectares planted in the previous year. The decrease in the planting of new sisal is due to tight cash flow scenario following the economic crisis hence production, maintenance and replanting activities inevitably went down. Until now prices of fibre are well below previous records.
The Greek word “merizein” which means to divide. Cell division in a meristem is required to provide new cells and initiate new organs and growth. The technique is used to produce plants which are more economically viable.

Research on the use of meristem tissue culture to produce sisal plants with high yield and resistance to diseases is currently on going at the Agricultural Research Institute (ARI) Mlingano in Tanga, Tanzania.

The new MTC plants are expected to produce more fibre per leaf to increase overall productivity. The new plants are also tested against common diseases like Korogwe Leaf Spot.

The MTC research on sisal was an outcome of the project on Product and Market Development for Sisal and Henequen Products which was jointly financed by CFC and UNIDO. The project reviewed past research results compared to existing production practices and offered recommendations.
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To become a competent & effective organization in the Sisal Industry for providing policy advise, regulatory & promotion services so as to make it vibrant & widely owned by 2025.

Our Mission
To regulate and promote the development & improvement of the Sisal Industry in collaboration with all Stakeholders in the Sisal Crop Subsector.

Sisal is Healthful, Comfortable, Renewable, Hi-Tech & Natural.

Our Vision
To become a competent & effective organization in the Sisal Industry for providing policy advise, regulatory & promotion services so as to make it vibrant & widely owned by 2025.

Functions of the Board
The functions of Tanzania Sisal Board include:-

- To ensure the development and improvement of the sisal industry.
- To make regulations governing the sisal industry.
- To finance and or conduct research directly or through agents in any matter related to the sisal industry.
- To issue export and import license upon such terms and conditions.
- To regulate and control the quality, marketing and export of sisal.
- To collect, refine and disseminate information concerning sisal and promote its use.
- To advise the government on all matters pertaining to the sisal industry.
- To carry out such other functions in relation to the sisal industry as the Minister may direct.

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Tanzania Sisal Board

TANZANIA SISAL BOARD
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