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	International Platform An East African comeback (Dierk Jensen, Fotos: Jörg Böthling)	Tanzania A Comeback in East Africa (Dierk Jensen, Fotos: Jörg Böthling)	
		Halters, twine and rope: Farmers from across the world rely on products spun from the natural fibre, sisal.	0
0	Until the late sixties, Tanzania was the world's leader in sisal production. But the advent of synthetic fibres brought about a collapse of the industry that it took very long to recover from.	Until the late 1960s, Tanzania was the leading producer of sisal worldwide. But then the successful advent of synthetic fibres resulted in a prolonged slump.	
	Now cultivation and processing of this natural fibre, which is both environmentally friendly and used in a wide variety of areas, is experiencing a new upswing in northern Tanzania.	Now this versatile natural fibre, and thus northern Tanzania, is experiencing a new boom.	
1	Damien Ruhinda is a true phenomenon.	This man is a phenomenon. Most men of his age would be enjoying a well-earned retirement — but not him!	1
	After leaving the state Tanzania Sisal Authority 25 years ago,	When he left the state-run Tanzania Sisal Authority 25 years ago, he immediately began his own adventure with sisal.	
	he bought an abandoned sisal plantation at the foot of the Usambara Mountains in northern Tanzania at a low price. Weeds were thriving on the 1,750 hectares of land that he had acquired,	He purchased an abandoned sisal plantation at the foot of the Usambara Mountains in northern Tanzania for a cheap price. The 1,750ha site was covered with weeds growing rampantly,	
	many of the agaves were old, going to seed and no longer of any use for natural fibre production.	many of the agave plants were old and gone to seed and no longer fit for sisal production.	
		Now the sisal plantation is all up and running again.	
	Now more than 300 staff are cultivating and processing the thorny, green leaves of Agave sisalana, the fibres of which surround the vascular tissue in the pulp and were once referred to as "Africa's blond gold".	More than 300 employees are now cultivating and processing the prickly green leaves of the Agave sisalana plant, of which the fibres were once famously known as the "white gold of Africa".	
		DEMAND FOR SISAL IS GROWING	
		The talk is all about Damien Ruhinda. He is 80 years old but looks 60.	2
2	"Yes, sisal really is tough," says 80-year-old Ruhinda in his little office at D.D. Ruhinda & Company Limited in Tanga. His mobile is buzzing on his desk; his son has sent him an SMS from South India, informing him about new contacts to Indian carpet manufacturers.	"Yes, sisal is a tough thing", he says, in the small office of D. D. Ruhinda & Company Limited in Tanga.	
	"First of all, I must emphasise that sales are not a problem; production is the real challenge," Ruhinda explains.	"Firstly", he says drily, "selling is no problem, it's the production which is the real challenge."	
	But his mission goes beyond his own business ambitions. He seeks to contribute to sisal fibre regaining its past significance. It once used to be Tanzania's most important export commodity.	But his mission goes beyond his own private commercial objectives: He wants to play his part in returning sisal fibre, which was once Tanzania's most important export, to its former glory.	
	Demand is on the increase		
3	However, in order to achieve this, the entire Tanzanian sisal branch, from plantation growing to the downstream processing levels, still has a	But to achieve this goal, Tanzania's entire sisal industry, from the plantations to the downstream processing operations, still has a	

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	long way to go. But the present circumstances are not that bad. International demand for the natural fibre is on the increase again.	long way to go. Of course the outlook is not bad now because international demand for the natural fibre is growing again.	
	In addition to the local market, Ruhinda refers to buyers in the Arab countries, in China and also in Europe, where he is in touch with the Hamburg merchant house Wilhelm G. Clasen.	In addition to the domestic market, Mr Ruhinda refers to customers in the Arab countries and China, as well as in Europe where he has links with the Hamburg trading company Wilhelm Clasen.	
	The largest share goes to the Arab countries, where large amounts of the fibre are used as structural material in the plasterboard industry.	The bulk of sisal exports currently go to the Arab countries, where large quantities of the fibres are used as structural material in plaster construction work.	3
	Further contingents end up in carpet manufacturing world-wide, although demand is also on the increase again in agriculture and shipping after many years of stagnation.	Another portion goes into worldwide carpet production, and it is also used in agriculture and shipping — sectors in which, after many years of decline, worldwide demand is also picking up again.	
	For example, shipping organisations in Australia and New Zealand want to have the use of synthetic hawsers banned because they do not rot, which puts a strain on the oceans. With such a ban Down Under, it is hoped that shipping lines will return to hawsers made of sisal, which can be disposed of without harming the environment.	For example, shipping organisations in Australia and New Zealand are seeking a ban on the use of synthetic ropes because they are not biodegradable and hence pollute the seas.	
		AMBITIOUS GOALS	
4	Tanga is a rather sleepy Indian Ocean port.	Tanga is a relaxed, almost sleepy looking tropical port city on the Indian Ocean where mosques and Christian churches are peaceful neighbours.	4
	From here, northern Tanzanian sisal produce is shipped overseas. In colonial days,	From here, the sisal produced in northern Tanzania is exported overseas. During colonial times,	
	railway trucks brought the golden fibre to Tanga, but this has long been a thing of the past.	the golden fibres were carried to Tanga by rail — but this era is long gone. The old goods station now looks more like a neglected industrial museum than a functional transport hub.	
	Today, it is lorries that carry both the raw fibres and yarn from the plantations and the spinning mills to the port. In addition to Tanzanian actors such as REA Vipingo Plantations Ltd., Chinese and Indian players like Mohammed Enterprises Tanzania Ltd. (MeTL) operate these mills.	Today the raw fibres and yarns from the plantations and spinning mills are ferried to the port city in trucks.	
	"Mkonge ni Tanga, na Tanga ni Mkonge," it says in big letters on the signboard still dating back to colonial days on the front of the Tanzania Sisal Board building.	"Mkonge ni Tanga, na Tanga ni Mkonge" is written in large letters on the sign in front of the building from the British colonial period, which houses the Tanzania Sisal Board.	5
	Translated from local Kisuaheli, this means "Sisal is Tanga and Tanga is Sisal",	Translated from the national language, Kiswahili, this means: "Sisal is Tanga and Tanga is sisal".	
	and it underscores the immense significance this renewable raw material had for the city and the surrounding region in the past.	This underscores the huge importance that this resurgent raw material once had for the city and the surrounding region.	
5	In the sixties, the sisal trade was still employing 100,000 people, and currently, it is providing 30,000 with an income again.	In the 1960s for example, there were still 100,000 people working in the sisal industry; today about 30,000 once again have work	

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		because of this hard fibre.	
	And whereas sisal was still growing on 500,000 hectares of land in 1964, according to Yunus A. Mssika, 173,000 hectares has been planted with sisal, only 43,000 hectares of which is however regularly harvested.	And whereas in 1964 there was 500,000ha of land used to cultivate sisal, there is currently, according to Yunus A. Mssika, 173,000ha of sisal-growing land, although harvesting is only carried out regularly on 43,000ha,	
	"Our efforts are focused on significantly raising this figure over the next few years," adds the young man from the Tanzania Sisal Board, which has a membership of 43 sisal companies. "By 2021, we want to attain a production volume of 210,000 tons again."	"Our efforts are focused on increasing this number significantly in the coming years," adds the young man from the Tanzania Sisal Board, in which 43 sisal-producing companies are organised.	
		OUTDATED TECHNOLOGY IS HOLDING BACK PRODUCTION	
6	Damien Ruhinda puts a damper on being over-optimistic.	Mr Ruhinda dampens the euphoria a bit.	6
	"The wish is often father to the thought," he says in an old industrial shed that he has rented and in which he intends to set up a new spinning mill in order to raise the company's own value added.	"Wishes are often the father of ideas," he says in an old hall where he wants to construct a new spinning mill to increase the company's own production capacity and income.	
	"Everywhere in Tanzania, we have a lack of capital,"	"Above all, we lack capital in Tanzania,"	
	the grand seigneur explains, pointing to the old, used spinning jenny named "Fibre Mackhigh Good Machine, built 1967". He bought it in South Africa only recently.	declares the grand seigneur, pointing to the old, used spinning machines bearing the name "Fibre Mackhigh Good Machine, manufactured in 1967."	
	A handful of workers in blue overalls are having a job getting the old spinning jenny going again. When it is at last switched on for a trial run, it creates a hellish noise in the hall.	A handful of employees wearing boiler suits are slowly and painstakingly restoring the old spinning machine.	7
	"It is difficult to get hold of these machines because the decline of the sisal fibre also had an impact on the machine manufacturers", Ruhinda explains.	"It's difficult to obtain such machines at all, because the demise of the sisal fibre industry also affected the machinery manufacturers," Mr Ruhinda explains.	
	"This means that de facto, there is not a single mechanical engineering innovation in the field of sisal processing, which is why we are forced to resort to tried-and-tested but old technology."	"For example, there isn't actually any innovation in constructing sisal processing machinery, so we are forced to rely on technology which, while proven, is out-of-date."	
7	Meanwhile, the machines in the factory sheds of Tancord (1998) Limited on the outskirts of Tanga are spinning incessantly. "We are producing carpets, mats and ropes with a workforce of 250," says general manager Maige Hamisi Maige.	Meanwhile, the machines in the factory halls of Tancord (1998) Ltd, are spinning and weaving incessantly on the outskirts of Tanga. "With a workforce of 250 employees, we are producing carpets, mats and ropes," observes the general manager, Hamisi Maige.	8
	"We above all supply the local markets with our products as well as Kenya, Mozambique and South Africa." The company is also keen to export goods overseas.	"We mainly supply the domestic market but we also export to Kenya, Mozambique and South Africa," Mr Maige continues. "We would love to export overseas as well.	
	"But this requires innovations to refine the fibres," Maige maintains. "Although it is technically feasible, the conviction that investing in research in this area would be worthwhile still seems to be lacking.	But for that we need innovation to refine the fibres, which is technically possible, but the conviction to invest in research work in this area is clearly still lacking.	
	The result is that we are stuck at an unchanged	So we remain at the same level of processing as	

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	level of processing as a leftover from European colonial days."	in the time of European colonial rule."	
	Maige also explains that adding value in sisal cultivation should not be limited to obtaining the fibres.	Another important factor, Mr Maige continues, is that the products generating income from sisal cultivation should not be limited to the production of fibres.	9
	"The fibre accounts for just four per cent of the entire plant. In future, we will have to make better use of the remaining 96 per cent, for example to generate biogas.	"The fibres only account for 4% of the whole plant. In future, we must put the remaining 96% to better use, for example by generating biogas," he says.	
	Extracting agave agents for pharmaceutical industry would also be conceivable.	"The extraction of active substances from the agave plant for use in pharmaceutical products is also conceivable	
	And you can brew liquor with agave juice as well."	and, what's more, agave juice can also be used to brew spirits."	
		A JOURNEY INTO THE PAST	
8	Heading inland for a couple of hours, we get to the Mkumbara Sisal Estate of Damien Ruhinda.	A few hours' drive inland, south of the Usambara Mountains on Mr Ruhinda's Mkumbara Sisal Estate, the mountain peaks are still covered by the morning's high fog.	10
	Here, many hands lift the freshly harvested sisal leaves from the skip wagons and put them on a conveyor belt that takes them straight to the so-called decortication plant, which is driven electrically via large transmission belts and takes the fibres out.	With the help of many hands, freshly harvested sisal leaves are lifted out from trucks and placed on a conveyor belt which leads directly into the decorticator (a fibre-stripping machine) which is electrically driven using large belts.	
	It beats the fleshy, lancet-shaped leaves with iron mallets. As the plants juice runs off through a channel, the golden fibre comes out of the machine on the other side, stacked in rows.	It beats the fleshy lanceolate leaves with iron mallets. While the sap flows downwards through a channel, the freshly strung golden fibre emerges from the other side of the machine.	
	Men wearing slippers stand in the frothy plant juice, pick up bundles of fibre and load them onto a wagon. After the fibre bundles have been decorticated,	Men wearing old shoes stand in the frothy sap gathering bundles of fibres and loading them onto a cart. After defibration,	11
	women hang them onto lines at hip-level. The scorching sun then dries and bleaches them in a matter of hours. The fibres are subsequently brushed with a machine that removes dusty plant residues and short fibres, making the fibre as a whole more ductile. Women workers protected from dust by scarves and caps once again comb the short fibres manually so that they can also be made use of.	women hang the moist fibre bundles on waist-high lines where they fade and dry within hours under the scorching sun. The fibre is then brushed by a machine.	
	At the end of the process chain, a press turns the fibre material into bales weighing 250 kilograms or 100 kilograms.	At the end of the processing chain, a press compresses the fibrous material into bales weighing 100kg or 250kg.	
		Meanwhile, diligent harvesting is taking place on the plantation. A light wind provides some welcome cooler air to about 100 male and female harvesters who carry out their hard work in high temperatures.	12
	A strictly organised system		
9	"We harvest around five tons a day," reveals manager Khalidi Mgundo in a plantation area	"We harvest around 5t every day," explains the manager, Khalidi Mgundo, in an area of the	

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	that is set out in squares and symmetrically dissected by transport routes.	plantation that is laid out in a square and symmetrically crossed by paths for transport.	
	Manual harvesting is a strictly organised system. The just below two metre tall agaves have a trunk around which 20 leaves are grouped forming a rosette.	The manual harvesting is a very precisely planned system.	13
	The rows are planted at intervals of roughly two metres, and plants grow at one metre intervals in the rows.	The agave plants are planted in rows which are 2m apart from each other, with a gap of 1m between plants within the rows.	
	Only the well-practised harvesting workers know which leaves are ripe for cutting. Among them is Nuru Waziri.	Only the experienced harvesters know which leaves are already ripe for cutting. One of these is Nuru Waziri, a woman who has been doing this work for more than 10 years. With great skill, she cuts off the spiky leaves, which are about 1m long and arranged in a rosette around the trunk.	
	She holds the knife, which looks like a machete, with a supple hand, skilfully cutting the thorny leaves that are about a metre long. The 35-year-old lays the leaves she has cut on the ground between the rows.	She works her way along the rows quickly and lays the cut specimens on the ground between the rows.	14
	In a second step, she picks up 30 leaves and ties them into a bundle which she then carries out of the rows of plants to the transport route.	The second stage in her work is to pick up 30 leaves and bind them into a bundle. She carries this from the rows of plants to the transport path,	
	There, she stacks the bundles into square heaps. One heap of exactly 110 bundles and a volume of one cubic metre will earn her around 5,300 Tanzanian shillings at current wage levels, which corresponds to roughly 2.15 euro. She manages an average of 2.5 heaps a day (in 7.5 hours).	where she stacks the bundles into square piles. A pile is complete when it contains exactly 110 bundles and it then has a volume of one cubic metre.	
10	Twenty years after resumption of operation, the sisal stocks of the once state-owned Mkumbura Plantation have recuperated.	The sisal crop from the once state-run Mkumbura plantation has now recovered, 20 years after the work on the plantation was resumed.	15
	Even so, many agaves have already passed their yield zenith, which is at around 12 to 15 years.	However, many of the agave plants are already past their peak yield, which occurs after about 12 to 15 years.	
	They have to be replaced by new seedlings (so-called bulbils) whose leaves can be cut after a four-year root-taking period for the first time.	They have to be replaced by new seedlings, of which the leaves can be cut for the first time after a four-year growth period.	
	In order to grow sisal in the long term, manager Khalidi Mgundo has planted around 200 hectares with seedlings. Until the first harvest, beans and maize are put in the ground between the rows in the Mkumbura Plantation. They yield additional income, and what is more, the harvest leftovers form valuable humus of which there is a lack in many parts of the plantation.	For long-term growth, Mr Mgundo has planted about 200ha with seedlings,	16
	"So far, we have been harvesting 1 to 1.5 tons a hectare each year on average," says Mgundo. "Fortunately, there is no trouble with insect damage, fungus or Korogwe leaf spot disease,	"To date, we have been harvesting about 1-1.5t/ha each year on average," he explains. "Fortunately we haven't had any problems with insect damage, or fungal or viral diseases (Korogwe leaf spot disease),	
	and as long as the soil gets a sufficient amount of	and if the soil is supplied with a sufficient	

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	nutrients and we additionally have enough water, which is not always the case owing to dry phases that have become longer and longer over the last few years,	quantity of nutrients and water,	
	we can even achieve an increase of up to three tons per hectare," Mgundo maintains, holding high hopes for the future in his Spartan office. He wants to drill wells to permanently secure water supply.	then a harvest of up to 3t/ha is possible." The doors and windows are open. Mr Mgundo desk is in the middle of the room. The daily logs; listing columns of production figures and weighted down with large shells, are fluttering in the wind. A picture with symbolic character:	
	Things are on the move again in sisal production to the south of the Usambara Mountains.	Sisal cultivation south of the Usambara Mountains is experiencing tailwinds.	
	Dierk Jensen Freelance journalist Hamburg, Germany Dierk.Jensen(at)gmx.de	FURTHER INFORMATION sisaltz.com tsbtz.org wigglesworthfibres.com wgc.de/de/produkte_fasern wikipedia.org/wiki/Sisal_fibres	
	Sisal – some statistics	SISAL IN NUMBERS	
	In the early sixties, global sisal production peaked at almost 2.5 million tons.	The worldwide production of sisal fibres reached a peak of almost 2.5m tonnes at the beginning of the 1960s.	
	At the beginning of the seventies, an annual estimated 800,000 tons was still being produced.	At the beginning of the 1970s, production was still estimated at around 800,000t.	
	Then the advent of synthetic fibres such as polypropylene caused the market to collapse.	Then the market collapsed owing to synthetic fibres emerging at that time.	
	The chief sisal-growing countries, among them Tanzania, cut their production by up to 80 per cent. But	The main cultivation countries such as Tanzania reduced their production by up to 80%.	
	after the turn of the millennium, global production slowly rose again, eventually reaching a level of about 230,000 tons, with a slight tendency towards further growth. Setting out from the current price levels and the amounts supplied by the respective producing countries, the world-wide trade value of sisal fibres ought to be at around 300 million euro a year, according to the German hardboard expert Oliver Reimer-Wollenweber.	After the turn of the Millennium, global production figures slowly increased back up to 200,000t. Today production is at around 230,000t and the trend is slowly increasing.	
	Currently, Brazil is the leading producing country, turning out roughly 85,000 tons of sisal fibre a year. Further important producing countries include Tanzania, Kenya, China, Madagascar and Mozambique.		
	Sisal in Tanzania		
	In 1893, agricultural engineer Richard Hindorf was commissioned by the then German East Africa Company to bring the first sisal agaves from Mexico's Yucatan via Florida in the USA and Hamburg in Germany to Tanzania. In 1898, the German colonialists harvested the first 600	Traditional uses for sisal fibres include carpets, doormats, ropes, cords, cables, nets, bags and yarns. The fibres also have various uses in the construction industry (insulating material, fibre-boards, structural materials for plaster building sections and roof tiles). Sisal fibres are	

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	<p>kilograms, and by the outbreak of the First World War, the amount harvested had grown to more than 11,000 tons. After the war, the British colonialists continued to expand sisal production up to the late fifties. Peak production was attained at 230,000 tons following independence in 1964. Afterwards, it was the triumphant march of synthetic fibres that put severe pressure on the Tanzanian sisal branch, while the expropriation of foreign sisal plantation companies did not bring about the economic developments reckoned with as a result of ujamaa, an African version of socialism declared by the country's then President Julius Nyerere. On the contrary, the productivity of the state-run sisal plantations declined dramatically, and many were shut down. Reprivatisation of the plantations after Tanzania had once and for all abandoned socialism in the early nineties resulted in a tedious and thorny U-turn, with rock bottom reached in 2000. Since then, annual production started to grow again, and by 2015, it had once more attained the level of roughly 40,000 tons.</p>	<p>increasingly being used to make fibre composite materials as they are lighter than fibreglass. Fabrics made from sisal are also used for polishing wheels — because they clean but don't scratch. In addition, owing to its special properties, sisal is a useful additive in pulp production for special papers.</p>	