

# Viwang

## E-Newsletter



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TBS, the Home of Standards



The Minister for Industry and Trade Hon. Prof. Kitila Mkumbo (MP) launches the National Quality Awards Competition for 2021. The launch took place at TBS Ubungu offices, Dar es Salaam, on 15th November, 2021.

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## National quality awards vital for penetrating wide markets

By Rhoda Mayugu

**T**he government has said national quality awards competition organised by the Southern African Development Community (SADC) is a fundamental initiative that would help the country penetrate the wider African business market



**Prof. Kitila Mkumbo**

The Minister for Industry and Trade Prof. Kitila Mkumbo made the remarks in Dar es Salaam recently, at the launch of the national quality awards competition organised by SADC in collaboration with TBS and the Tanzania Private Sector Foundation (TPSF).

Prof. Mkumbo directed the Tanzania Bureau of Standards (TBS) to make sure they take this initiative seriously to benefit the country's economy.

He said the participation of the Tanzanian business community in the awards is of para-

mount importance particularly after the government had ratified the African Continental Free Trade Area (AfCFTA).

The pact connects 1.3 billion people across 55 countries with a combined gross domestic product (GDP) valued at 3.4 trillion US dollars.

He said this is a big economy and that Tanzania will participate in the awards competition to compete and penetrate the wider regional and continental markets.

"It is high time we produced high-quality products for easy penetration in the regional markets. The launching of the national awards is in line with the government's efforts geared at raising the quality of goods and services," he said.

He said this is the first time for Tanzania to take part in the SADC awards and thus it is important to engage closely the business community to participate actively in the competition.

The TBS Director General, Dr. Athuman Ngenya said the national awards are aimed at promoting the business sector through the advancement of the quality of goods and services in the SADC region.

He said the implementation of the initiative follows the agreement

reached among SADC members to recognise and promote the business sector through the quality of goods and services.

Dr. Ngenya further said the awards are part of the government's plans to improve goods and services produced in the country through the use of TBS standards thus ensuring that they meet the national standards.

He said the efforts are fundamental in promoting sustainable development of the society, especially in the fourth industrial revolution.

He said the competition will focus on five aspects namely award to the best company of the year, best product of the year, best service of the year, the best seller of the year and award to the best individual who did well on issues related to standards.

He explained that the awards were prepared based on two categories namely for large scale companies and small-scale companies.

He added that the launching of the 2021/22 awards will go along with the granting of awards for the year 2020 through a competition organised by TBS, Small Industries Development Organisation (SIDO), TPSF, Zanzibar Bureau of Standards (ZBS) and TanTrade.



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## TBS imparts aflatoxin knowledge to 500 stakeholders

By Neema Mtemvu

The Tanzania Bureau of Standards (TBS) has imparted knowledge on aflatoxin to more than 500 business people, transporters and processors of maize and groundnuts in four districts in three regions as a way to protect public health.

Speaking on behalf of the TBS Director General, the Head of ICT and Statistics, Mr. Jabir Saleh Abdi, said the training on aflatoxin aimed at broadening understanding among business people, processors and transporters of maize and groundnuts on the imminent danger of aflatoxin and how to evade it.

The districts involved in the training under the Tanzania Initiative for Preventing Aflatoxin Contamination (TANI-PAC) initiative were Kiteto in Manyara Region, Kongwa in Dodoma Region, Gairo and Kilosa in Morogoro Region.

The two weeks training programme was geared towards enhancing awareness on how to control aflatoxin to protect the health of the consumers and animals as well as maintain food security.

This project is under the Ministry of Agriculture and TBS

was given the obligation to provide training on aflatoxin.

Mr. Abdi said the training programme will also be offered in the districts of Kondoa, Chemba, Bahi and Babati. Other districts are Namtumbo, Newala, Nanyumbu, Nzega, Urambo, Kibondo, Kasulu, Buchosa, Bukombe and Itilima.

The regions for which the training on aflatoxin will be provided are Dodoma, Manyara, Ruvuma, Mtwara, Tabora, Kigoma, Mwanza, Geita, Simiyu and Morogoro.

Mr. Abdi mentioned some of the benefits of the training including protecting the health of the people, improving and maintaining quality of maize and groundnuts as well as protecting animal health and ensuring food security.

The other benefits of providing training on aflatoxin is to sustain market competition within and outside the country.

Businesspeople, processors and transporters have a great role to play in ensuring that the problem of aflatoxin is addressed and removed to protect the health of the people.





## ARSO Essay Competition an educational tool for the youth

In November 2021 TBS launched its annual ninth (9) ARSO essay writing competition for Higher Learning Institutions in Tanzania, as part of the ARSO Standardization Day celebrations to be marked in March 2022. This activity will go hand in hand with providing awareness on standardization to the society.

In celebration of ARSO Standardization Day 2022, Tanzania Bureau of Standards has organized various activities including essay writing for higher learning institutions in Tanzania, providing education to local Government officials and hosting its first CEOs' forum. The forum will centre on the importance of Management System Standards such as ISO 9001 and ISO 14000. All these activities aim at creating awareness of the importance of standards in promoting safe and sustainable economic development.

Winners of the ARSO competition will compete at the continental level. The

first continental winner will also have the opportunity to participate in the ARSO General Assembly in Cameroon in June 2022. TBS coordinates this exercise at the National level which involves advertising it to the higher learning institutions, receiving the essays and declaring the essay winners.

Winners at the national level will be announced during the ARSO Standardization Day 2022 celebrations to be held in March 2022. Winners will receive cash prizes along with a certificate.

Standards benefit everybody, but their benefits often remain hidden; therefore, it is important to teach the economic, societal and environmental benefits of standards at all educational levels, hence TBS agenda in participating in the African Organization for Standardization (ARSO) essay competition. The continental essay competition is one of ARSO's initiatives to provide for support in disseminating standards infor-

mation to tertiary institutions.

The essay competition was originally approved by the 49th ARSO Council held on 14th – 15th November 2013 in Nairobi, Kenya, under African Day of Standardization. So far 8 continental essay competitions have been successfully held and TBS has managed to participate in all of them and managed to take top spots in some of the years

ARSO is an intergovernmental organization to promote standardization and conformity assessment in Africa with the principal mandate to harmonize national and/or sub regional standards as African Standards and issue necessary recommendations to member bodies for this purpose and to initiate and co-ordinate the development of African Standards (ARS) with references to products which are of peculiar interest to Africa. ARSO is also mandated to encourage and facilitate adoption of international standards by member bodies and to promote and facilitate exchange of experts, information and co-operation in training of personnel in standardization activities. The organization also co-ordinates the views of its members at the ISO, IEC, OIML, Codex and other international organisations concerned with standardization activities; and to create appropriate bodies in addition to the organs of

the organization for the purposes of fulfilling its objectives.

Currently ARSO has 40 members, including Zanzibar as an observer member.

Every year for a period of eight years the African Regional Standardization Organization prepares the essay competition which aims at: Creating awareness among the African youth about the role of standardisation in the sustainable development of Africa, promoting education about standardisation in African universities and learning institutions, promoting quality culture in Africa, youth being the majority of consumers and ensuring that the youth as future policy makers advocate for policies that promote and strengthen standardization in Africa.

The above importance of essay competition goes in line with African Union agenda 2063, whereby Aspiration 6 focuses on an Africa where development is people-driven, unleashing the potential of its women and youth — the youth being a strategic resource as future leaders and policy makers. The African Union 2012 – African Youth Charter (15-35 years) aims at a strategic framework for youth empowerment and development activities; providing an avenue for effective youth participation in the development pro-

cess and encouraging stakeholders to involve the youth in their activities. Hence TBS as a standardization body has not been left behind in making sure the youth of Tanzania are made aware on the importance of standards and this is done by actively participating in the ARSO continental competition.

This year the theme is on “The role of standardisation in promoting African pharmaceutical and medical devices industries to attain self-reliance and resilience in combating covid-19 and future pandemics”. The theme is focused on the role of quality infrastructure in facilitating industrialisation and productivity as a way of addressing the endemic reliance on imports, including in the pharmaceutical products. The theme focuses at: developing intra-African regional value chains; unlocking the continent’s business potential; competitiveness of African SMEs/private sector; Africa’s industrialisation and manufacturing for essential products; and including local production and trade in the pharmaceutical industry.

TBS through the preparation of standards has the basic role of: Defining the essential parameters, the safety considerations and testing processes; setting the rules, establishing the frameworks, promoting innovation; and ensuring quality and fitness for purpose. Any

product, process or service is intended to meet the needs of the user. Standards help by identifying the optimum parameters for the performance of a process, product or service (e.g. product standards).

Standards also guard against factors that affect the health and safety of consumers (safety of the process, product or service is of great importance); enable variety reduction for the selection, inter alia, of the optimum number of sizes, ratings, grades, compositions and practices to meet prevailing needs; and provide variety reduction balancing between too many and too few varieties in the best interest of both manufacturers and consumers.

Furthermore, standards ensure compatibility of products and economies of scale, namely, suitability of processes, products or services to be used together under specific conditions to fulfil the relevant requirements, without causing unnecessary interaction.

In different sectors, standards facilitate the following: To manufacturers, standards rationalize the manufacturing process, commercialization of new products, transfer of technology, economies of scale (efficiency and effectiveness), waste and cost reduction. In risk management, customers are assured of quality and safety and variety of products. For traders, stand-

ards facilitate market access, trade and variety of products. For governments and regulators, standards facilitate regulatory activities for public interest requirements for health, safety, security and environmental protection. For technologists, standards provide starting points for research, innovation and development for further improvement of goods and services. Hence TBS ensures that all the above is achieved.

It is for these reasons that TBS has continued to participate in the ARSO essay competition since the youth is a strategic resource as future leaders and policy makers hence the importance of involving them.

***“To beat your competition,  
make quality your  
mission”***

## Milk processors urged to raise milk products quality

By Mussa Luhombero

Milk processors from Kilosa and Mvomero in Morogoro Region have been urged to raise the quality of their products to meet the required standards within and outside the country.

They were also encouraged to raise the output of milk products to meet the demand for the domestic market as well as the regional markets.

The urge and encouragement were issued by Kilosa Division Officer, Sabina Sueni, on behalf of the Kilosa District Commissioner, Majid Mwanga, at the opening of training to milk processors, suppliers and farmers organised by the Tanzania Bureau of Standards (TBS).

"The training to key stakeholders in the milk industry is of paramount importance in imparting skills on how to process high quality milk products that can easily penetrate domestic and regional markets," she said.

Similarly, she said the training has come at the right time because it will help farmers and processors acquire the right knowledge in milk processing

thus avoiding incurring losses.

She said with the training, TBS is imparting knowledge to milk processors and farmers to meet the required quality and safety standards that are to be observed during processing.

She added that the training supports the government's efforts in building a robust industrial sector that can contribute to job creation and economic growth.

These efforts are needed to make sure that all milk products produced in the country meet the required standards before being entered into the markets.

"Farmers and processors should understand that the increased milk production go hand in hand with safety and quality standards to protect the final consumers," she said.

On her part, the Kimamba Division Officer who represented Mvomero District Commissioner, Mary Kayowa said the government is committed to bolstering the industrial sector, raising quality and standards of goods that can easily compete in the

domestic and regional markets.

"The district authority believes and is committed to raising industrial productivity with the ultimate goal to contribute to job creation and economic growth," she noted.

She said all stakeholders in the milk industry should take it seriously to raise and maintain the quality of milk products as a way to participate actively in building the country's economy.

She said for the country reaching the middle-income status is a catalyst for working hard to make sure that the economy grows and its trickle-down effect is felt in the whole society.

She urged TBS to make the training a sustainable programme and reach more entrepreneurs in the district to raise the quality of goods.

TBS offered training to entrepreneurs in the Mvomero and Kilosa districts between the 6th and 10th December this year.



## TBS reaches over 11,600 stakeholders in three districts



*Awareness campaign at Usseri Primary School in Rombo District*

By Staff Reporter

**M**ore than 11,600 people in three districts have benefited from the education on how to identify and buy quality goods that was provided by the Tanzania Bureau of Standards (TBS).

The TBS Head of Public Relations and Marketing, Ms. Gladness Kaseka said this was done during a public campaign conducted in three districts namely

Rombo in Kilimanjaro Region, Lushoto in Tanga Region and Hanang in Manyara Region.

She said during the campaign, the Bureau used the opportunity to remind people on the war against substandard goods and to sensitize business people to register food and cosmetic premises.

Ms. Kaseka said out of 11,636

people reached in the campaign, 7,536 were primary and secondary schools' students and that apart from primary and secondary schools, the campaign was also conducted in market places, bus stations and auction markets.

She noted that numerous people in these areas responded positively and gathered to acquire knowledge on various is-



sues related to goods quality provided by the TBS officials.

“Through the campaigns we provided knowledge to students and teachers as well as entrepreneurs on the significance of observing standards for the safety of their health,” she noted.

She said by imparting knowledge on goods quality and standards to primary and secondary school students it is easy to influence their families and the whole society. She encouraged the public to provide information to respective authorities once they learn that certain products are of low quality or have been

banned from the local markets.

Furthermore, she urged business people to observe properly all the guidelines needed in the registration of goods and business premises which are being provided in all TBS offices.

On his part, Lushoto District Executive Director, Ikupa Mwaisyoge commended TBS for the campaigns aimed at educating people on goods quality from the district levels that would help in the efforts to remove substandard goods from the market.

“I urge TBS to extend the campaigns to reach various groups of entrepreneurs in Lushoto

District that would enable them to start the process of acquiring the licence of using the standards mark,” said Mwaisyoge.

Speaking at the event, the headteacher of Mkalema Secondary School in Rombo District, Kilimanjaro Region, Gerson Temu commended TBS for a job well done in organising and conducting awareness campaigns.

He also asked TBS to continue undertaking these programmes especially inspections at the district levels.

Ms. Kaseka said this campaign will continue in Mlele, Nkasi and Kasulu districts soon.

*“When you buy a product always look for the TBS mark which assures you of quality, reliability and safety”*

# TBS trains grape farmers to maintain standards

By Neema Mtemvu

**T**anzania Bureau of Standards (TBS) has trained over 100 grape growers and processors in Dodoma Region to manage the crop in its value chain and increase value in the market.

The training was conducted recently by TBS officials in three areas namely Dodoma City, Hombolo and Mpunguzi.

At the closing remarks, the TBS Central Zone Manager, Mr. Nickonia Mwabuka said the training was about the standards requirements on the crop and its products as well as best farming principles.

"The training also focused on good processing and hygiene regulations, various grape and grape processing technologies, business registration, packaging as well as product quality assurance and issues related to export standards and quality," said Mr. Mwabuka.

He explained that the beneficiaries of the training were those who were in the value chain, farmers, processors and oth-

er stakeholders, mostly small and medium entrepreneurs.

"This group is very important in contributing to the gross national product, increasing employment and eradicating poverty in our country," said Mr. Mwabuka.

Speaking at the opening of the training on behalf of Dodoma Regional Commissioner, Anthony Mtaka, Assistant Administrative Secretary for Economy, Production, Investment, Industry and Trade, Ms. Aziza Mumba said the government intends to increase the crop value to be one of the strategic crops to increase productivity for farmers.

She said most of the residents in Dodoma Region engage in growing grapes, but face many challenges including selling of raw grapes, and lack of quality packaging materials for their products.

Other challenges are lack of knowledge about standards requirements, best processing principles, processing technology, marketing access and more.

Ms Mumba explained that the government's intention is to ensure that it adds value to the grapes and stop the selling of raw grapes.

"This will enable our country to continue building a strong and competitive economy," she said.

She said the regional leadership believes that the training is the right way to increase productivity as well as support the government's efforts in ensuring the grape industry and its products contribute to economic growth.

"This is due to the opportunities available especially in this sector including local and regional markets. It should be noted that our country is a member state of the East African Community (EAC) and the Southern African Development Community (SADC).

"We are aware that some members and our neighbours do not grow their own grapes so for us it is an opportunity," said Mumba.



*Training of grapes stakeholders in Dodoma*

***“The bitterness of poor quality remains long after low price is forgotten! Always use TBS-certified products”***



## TBS launches essay competition for higher learning students



*The Director of Testing and Metrology, Eng. Johanes Maganga launches the 9th ARSO Essay Competition for higher learning students at national level in preparation for ARSO celebration day to be held in March 2022. The launch took place at TBS headquarters, Ubungu, Dar es Salaam on 15th November, 2021.*

By Rhoda Mayugu

**T**anzania Bureau of Standards (TBS) has launched an essay competition for students from higher learning institutions in the country, as part of the preparations for the African Organisation for Standardisation (ARSO) day in March next year.

The launching event was held in Dar es Salaam recently.

Speaking at the event, on behalf of TBS Director General, the Director of Testing and Metrology Eng. Johanes Maganga said every year ARSO

approves essay content and invites African standards institutions to prepare essay competitions for students from the higher learning institutions.

According to Eng. Maganga, five winners from each country will compete at the African level, where the winner will get an opportunity to participate in the ARSO general meeting to be held in June next year.

Eng. Maganga said TBS is coordinating the essay competition at the national level, including providing information and inviting students to participate, to receive written essays and award winners.

He said students from higher learning institutions will participate to write essays on the theme: "The Role of Standardisation in Promoting African Pharmaceutical and Medical Devices In-

dustries to Attain Self-reliance and Resilience in Combating COVID-19 and Future Pandemics".

Eng. Maganga said the essay writing competitions aims at helping African youth to understand the importance of standards in ensuring sustainable development in the continent.

"We believe that students from higher learning institutions are key stakeholders in the issue of standards, thus a unique opportunity to make them ambassadors through essay writing to demonstrate the importance of standards in economic and social levels," he added.

He said the winners will be announced and awarded cash and certificates during the commemoration of the ARSO day next year.

***“Misuse of TBS quality mark  
is a criminal offence  
punishable under the  
Standards Act  
No. 2 of 2009”***

## TBS urges manufacturers, importers of electrical equipment to observe standards



*Director of Standards Development, Mr. David Ndibalema officiates during training for suppliers and seller of power cables TBS headquarters. He is flanked by the Research and Training Manager, Mr. Hamisi Sudi and the Head of Environmental Standards Section, Ms. Nasra Hussein, representing the Standards Manager*

By Mussa Luhombero

**T**anzania Bureau of Standards (TBS) has urged local manufacturers and importers of electrical equipment to adhere to and observe quality standards to prevent house fires.

The call was issued by the TBS Director of Standards Development, Mr. David Ndibalema, during a workshop aimed to provide training to

importers, distributors, retailers and consumers of electrical wires and other electrical equipment.

Speaking on behalf of the TBS Director General, Mr Ndibalema said several challenges including the sale of substandard electrical equipment emerged after making inspections in the shops and industries in the country.



“Manufacturers, importers and retailers of electrical equipment must supply high quality products as well as provide the right information to the consumers,” he said.

He said consumers purchase and make installation of low-quality electrical equipment in the houses, thus endangering lives and assets.

“The workshop is important due to the changes and growth of the energy sector, thus enhancing knowledge to these stakeholders is paramount,” he said.

Mr. Ndibalema added that the workshop has come at the right time and it supports the government’s efforts in enhancing the energy sector contribution to the economy.

He said the private sector is an engine of the economy and TBS on behalf of the government is providing all necessary support to make sure they produce goods that meet local and global standards.

The workshop held in Dar es Salaam was organised by TBS in collaboration with the Tanzania Electric Supply Company Limited (TANESCO), Energy and Water Utilities Regulatory Authority (EWURA) and Tanzania Electrical, Mechanical and Electronics Services Agency (TEMESA).

Some of the topics covered during the workshop were the importance of standards, procedures in inspecting goods abroad and after entering into the country and inspection of goods in domestic industries.

## TBS successfully participates in SHIMMUTA sports

By Mussa Luhombero

The Tanzania Bureau of Standards (TBS) has successfully participated in the 2021 annual Inter-Parastatal and Non-Parastatal Sports Federation of Tanzania (SHIMMUTA) games that were hosted in Morogoro Region in November.

During the games, TBS teams were triumphant in several key matches, which made the Bureau one of the most feared institutions in the tournament.

In Netball, TBS won against Benjamin William Mkapa Hospital (BMH) by 38-28, Bank of Tanzania (BoT) (52-12), Mwalimu Nyerere College by 40-12 and Ardhi University (ARU) by 28-15.

In football, TBS won by 1-0 against Dar es Salaam Institute of Technology (DIT), 2-0 against

the Government Chemist Laboratory Authority (GCLA) and 2-0 against Tanzania National Parks Authority (TANAPA), won 4-0 against Arusha Institute of Accountancy (IAA) and 4-0 against the Institute of Finance Management (IFM).

Speaking at the conclusion of the tournament, TBS Sports Team Secretary, Ms. Nyabuchwenza Methusela said the two-week period for the games was also a unique opportunity for the TBS sportsmen and women to connect with fellow public servants from other institutions.

“There are many public institutions in the country and it is through the SHIMMUTA games that we can know them and meet staff from these institutions,” Methusela said.



*TBS Team participates in a tug-of-war game during the SHIMMUTA tournament in Morogoro.*

On the benefits gained, Methusela said sports help players maintain fitness and health as well as enhance efficiency in their daily work because employees spend most of the time in office without getting time to do exercises.

“Sports force us to make exercises to compete in the games. Apart from maintaining the body’s fitness, sports help users avoid diseases especially the non-communicable ones,” Methusela.

Methusela pleaded with the government to put more efforts into the SHIMMUTA games by providing an opportunity for more public institutions to participate.

For example, she said, only 40 institutions participated in the 2021 SHIMMUTA games out of the numerous institutions in Tanzania.

***“For safety and higher efficiency, always buy TBS-marked/certified electrical appliances”***



## Entrepreneurs urged to acquire TBS standards mark



*Quality Assurance Officer (TBS) Mr. Arnold Kubingwa enlightens visitors who visited the TBS pavilion at the Jua Kali exhibition which was held at Rock City Mall in Mwanza.*

By Rhoda Mayugu

Entrepreneurs have been urged to acquire the standards mark of quality issued by the Tanzania Bureau of Standards (TBS) that will enable them to easily penetrate the East African market.

The call was made by the TBS Marketing officer, Ms. Rhoda Mayugu at the recently ended 21st Jua Kali/Nguvu Kazi micro and small-scale entrepreneurs (MSMEs) exhibitions.

The exhibitions that started on December 2 this year attracted exhibitors from Tanzania, South Sudan, Burundi, Rwanda, Uganda and Kenya.

"Entrepreneurs should acquire the TBS standards mark because it would enable them to penetrate the East African market without encountering hurdles," she said.

She added, "We encourage all entrepreneurs who participated in the just ended exhibitions to make sure they acquire the standards mark because it is recognised in the EAC region."

She said by acquiring the standards mark, entrepreneurs in the country can expand their markets domestically, in the region and beyond.



She said TBS obligations include the provision of education to manufacturers, institutional and industrial sectors to enhance the production of high-quality goods as well as quality assurance.

TBS used the entrepreneurs' exhibition to educate SMEs on the need to acquire the TBS standards mark of quality to expand their business.

"We used the opportunity to inform entrepreneurs that all goods produced in the country should have the TBS standards mark," she said.

The TBS standards mark can benefit manufacturers, business people and consumers. For business people and manufacturers, the TBS standards mark gives them the confidence to penetrate and expand their markets within and outside the country. When domestic goods get TBS certification after being tested in the Bureau's laboratories, they can easily penetrate local, regional and global markets.

For consumers, the TBS standards mark gives them confidence that goods procured and consumed have met the required safety and health standards.



Quality Assurance Officer (TBS) Mr. Arnold Kubingwa enlightens visitors who visited the TBS pavilion at the Jua Kali exhibition which was held at Rock City Mall in Mwanza.

## Emerging trends of different mixture blends of composite flour ‘Lishe’ in the market



**Ashura Katunzi-Kilewela**

**S**uitable nutrition is a critical element in the prevention of numerous diseases related to civilization conditions. The leading killer diseases due to unhealthy food today are cancer, depression, diabetes and coronary heart disease (CHD). However, the main challenge today, and even in the future, will be providing people with enough safe and healthy food. Foods from animals and fish, which contain essential ingredients such as protein, unsaturated fat, and minerals, will be incredibly scarce. With increased health awareness globally due to the increased number of non-communicable diseases, the demand for a healthier lifestyle through consuming foods that prevent

and control these non-communicable diseases has increased.

In recent years, blending or mixing of different cereals and richer nutrient fruits and vegetables in the formulation of composite flour has been practised to prepare complementary foods. Complementary foods are defined by the WHO as any food or liquid other than breast milk when the infant reaches six months, and new food is introduced for consumption. These complementary foods are necessary for infant growth in terms of getting appropriate nutritional compositions.

In Tanzania, the main challenge currently our market faces is an innovation by small and medium scale entrepreneurs (SMEs) in formulating these composite flour blends. The mixed flour blends are mainly processed as a complementary food to process porridge ‘uji’. However, the porridge processed can be used as a complementary food for all age groups in the society as a breakfast meal, especially for school-going children,

the elderly, and sick people. Good quality complementary food like porridge processed from these different composite flour blends must meet necessary nutritional requirements, especially for energy and protein, and appropriate physicochemical properties like texture and viscosity to allow easy consumption.

An ongoing study conducted by the Tanzania Bureau of Standards (TBS) under the Food Risk Assessment (FRA) team drew samples of maize flour (sembe and dona), composite flour, locally grounded peanuts, and peanut butter (industrial processed) in purposively selected regions to establish aflatoxin contamination and its implication for food safety concerning aflatoxin contamination. Over 450 samples were drawn from the market in Dar es Salaam, Arusha, Moshi, Tanga, Dodoma, Morogoro, Mwanza and Shinyanga. Preliminary findings have shown several composite flours (about 51% of sample drawn) are circulated in the market processed mainly by SMEs. Several issues were identified in these com-

posite flours while waiting for laboratory test results to confirm the absence or presence and at what level of aflatoxin contaminations. The areas of concern include lack of knowledge on labelling information, an improper indication of manufacturing and expiry dates, misleading manufacturer's claim that shows therapeutic functionality, uses of infants' photos on the packaging materials and complex mixture of ingredients for processing composite flour.

Composite flour in the market is commonly a mixture of not less than five different cereals with other pulses, oilseeds, dried vegetables, nuts, etc. Among the ingredients in these composite flours include soybeans, sesame seeds, finger millet, rice, wheat, maize, rye, pumpkin seeds, sorghum, groundnuts, coconut powder, avocado, lentils, orange-fleshed sweet potatoes, dried rosella flowers, almonds, biscuits, cardamom and many more. A wide range of different food items is mixed together without proper knowledge by producers. Due to blending, as each food ingredient mixed has different quantity and combination of food compositions (macro and micronutrients), during processing (cooking), formulation of complex food matrices is likely

to happen, which might hinder proper absorption of nutrients by the body after ingestion.

The producers of composite flour 'lishe' have to understand the science of food to produce less expensive food products that meet the basic nutritional requirements for the different age groups but have all macro and micronutrient compositions. Oilseeds have been used in most of the composite flours seen in the market. The common oilseeds used in the processing of mixed flour include soybeans, peanuts and sesame seeds.

Among the new emerging oilseeds available in the market is chia seeds. The crop is increasingly earning popularity in East Africa because of its economic and human health benefits. Chia seeds are reported to contain protein (15-25%), fat (15-35%), ash (4-6%) dietary fibre (18-35%) and carbohydrates (18-31%). These seeds can be combined with one type of cereal to produce a composite flour with all the nutrients required.

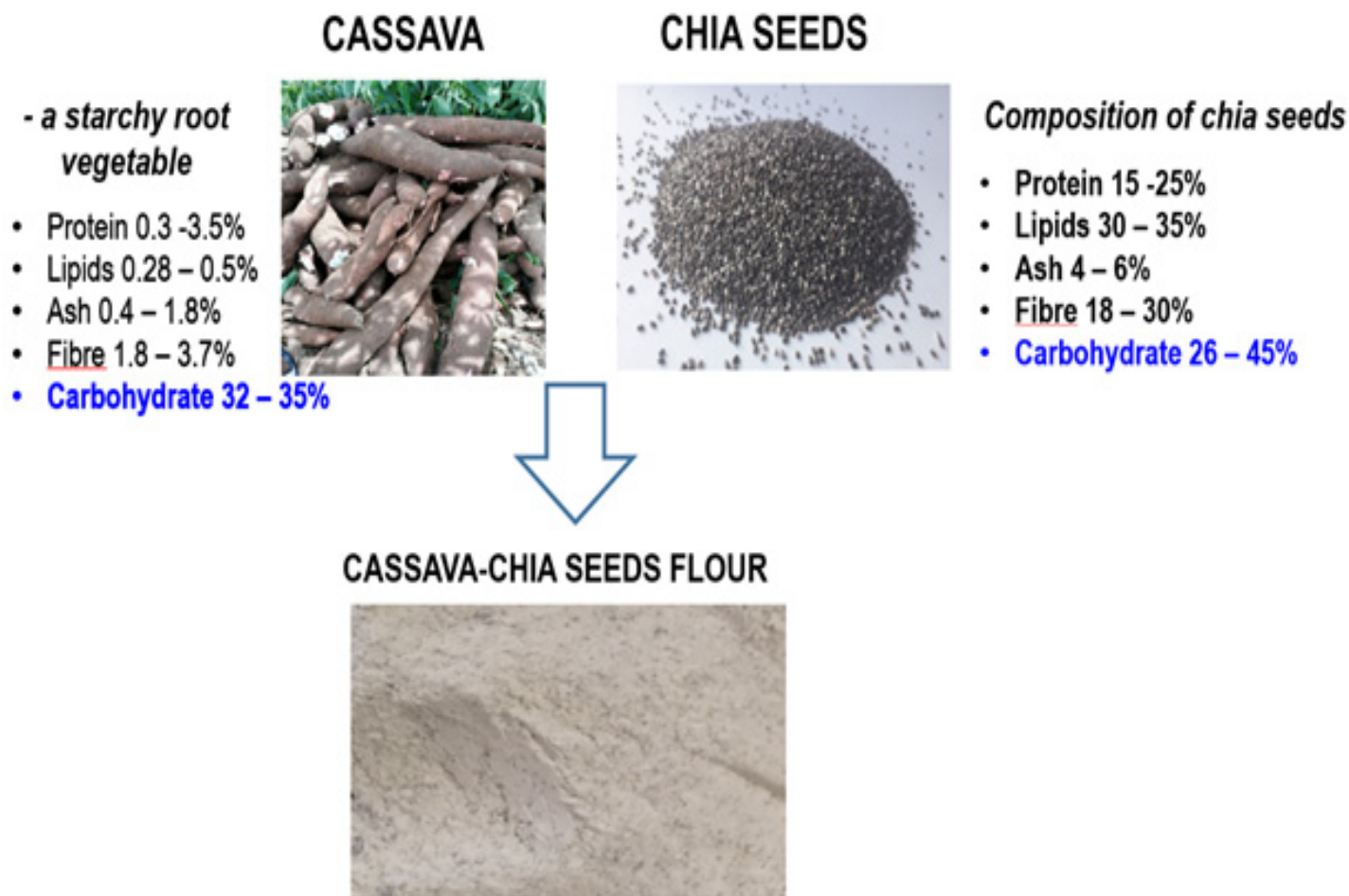
Chia seeds have been incorporated in different food products like dairy products, baking products, beverages, snacks, and other products for boosting nutritional composition. In all these applications, the incor-

poration of chia seeds has contributed to improved texture, nutritional composition in terms of protein content, and fatty acids, in addition to extending the shelf-life of the final product. When incorporated into the food, chia seeds tend to increase their shelf life due to the protein from chia seeds forming a plastic film. The plastic film has low permeability to oxygen, prevents food products from undergoing deterioration due to the presence of oxygen, and reduces or inhibits the rate of colour change, flavour change, and nutrient deterioration.

Therefore, SMEs in Tanzania are urged to produce composite flours that meet standards requirements (TZS 1607: 2014). TBS will continue to educate the general public on the safety and quality aspects of different food products processed and provide more training and knowledge specifically to SMEs due to the innovation of their products to ensure quality and safety are not compromised.

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*Example of composite flour made from cassava and chia seeds flour*

***“Quality is remembered long after the price is forgotten. Always use TBS-certified products”***

## Importance of proper usage of food additives



Mary Lihuluku

**F**ood additive means any substance not commonly consumed as a food by itself and not generally used as a typical food ingredient, whether or not it has nutritional value. From a regulatory point of view, each food additive must provide some valuable and acceptable function or attribute to justify its usage. Generally, improved quality, provision and improvement of functional property, aid in processing, and increased consumer acceptance are considered proper

functions of food additives.

There are different types of food additives and are grouped according to their functions in food. The most commonly used food additives are antioxidants, colours, emulsifiers, stabilisers, preservatives, and sweeteners. However, this article will focus on preservatives and colours because they are the most used food additives by manufacturers in Tanzania.

Processing methods can affect the pigment of the food and lead to a change in colour or complete removal of colour, affecting the appearance. Colour is one of the essential sensory intrinsic factors associated with consumers' presumption concerning food palatability, taste and flavour. Therefore, food processing companies use natural colours or artificial colours to make processed food more at-

tractive to consumers. In addition, colours are added to the product with no intrinsic colour, such as candies and soft drinks, to appeal to consumers. Banana fruits ripened by kerosene burners may form black scars on the peel and have low-quality sensory or organoleptic attributes (Islam et al., 2016; 2018; Maduwanthi and Marapana, 2019) compared to the naturally ripened ones. Similarly, they are likely to have low levels of vitamin C as compared to the naturally ripened banana (Adane et al., 2015; Islam et al., 2018).

Preservatives, also known as antimicrobial agents, are food additives used to extend the shelf life of food by protecting against spoilage caused by microorganisms. There are natural and artificial methods that are used in food preservations. The use of synthetic methods such as chemicals is more



effective for the longer shelf life of a food product



Food additives are not harmful to humans when used in a prescribed amount. However, abuse of food colours or preservatives can cause health problems to humans. Colours are more likely to be abused because colours are cheap, highly available, and manufacturers want to attract more consumers. Abuse of food colour can occur either by using excess, using permitted colours in wrong food products, or using banned colours. The case of preservatives abuse is highly unlikely due to the nature of preservatives that are acid in nature, therefore excessive use will affect the taste of the product. Moreover, preservatives are expensive, thus manufacturers tend to be cost-conscious. Overuse of preservatives may result in health effects such as skin rashes and itching, breathing difficulty, sneezing, or gastrointestinal upsets to consumers.

Moreover, abuse and excessive intake of artificial food colour have been associated with behavioural problems such as aggression and attention-deficit/hyperactivity disorder, particularly in young children. Likewise, artificial colours such as tartrazine, sunset yellow, and Ponceau 4R can induce an allergic reaction in some people, even at small concentrations.

Codex Alimentarius Commission, responsible for making international food standards, has set the maximum levels (ML) for various food groups of additives. The primary objective of establishing ML levels was to ensure that the intake of an additive from all its sources does not exceed its ADI. Acceptable daily intake (ADI) is the amount that can be consumed every day throughout an individual's lifetime without any harmful effects. Not only that, Codex Ali-

mentarius has a specific type of food additives and related food products to be added to ensure the safety of food to consumers.

Examples of food products containing colours and preservatives include candies, chewing gum, baobab (ubuyu), biscuits, and soft drinks. These food products are frequently consumed by children. Hence, when manufacturers abuse preservatives and colours, children are most likely to be affected.

To conclude, manufacturers should adhere to good manufacturing practices and proper use of food additives, especially food colours, to provide consumers with quality and safe food products.

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