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inside stories

The Permanent Secretary of the Ministry of Industry and Trade, Dr. Hashil Abdallah addresses delegates during the EAC Regional Metrology Conference which was organized by the Tanzania Bureau of Standards (TBS) and held at JNICC in Dar es Salaam recently.

Vision

"Sustainable standardization for high quality livelihood society".

Mission

"To promote standardization, safety and quality assurance in industry and commerce through standards development, certification, registration, inspection, testing and metrology services for sustainable socio-economic development".

Core Values

Customer Focus
We prioritize customers' needs first therefore committed to responding timely and proactively to their expectations.

Team work
We work together by sharing experiences while respecting each other to realize institutional goals.

Accountability
We shall be responsible to our actions, decisions and outcomes in executing our functions.our functions.

Transparency
We ensure open sharing of information and proper provision of feedback to our stakeholders in equal treatment.

Quality Policy

"Tanzania Bureau of Standards (TBS) is committed, as mandated, to deliver quality products and services in standardization, safety management, conformity assessment and metrology. TBS strives to meet legal requirements and customer needs and expectations, even exceeding them so as to retain customer loyalty. TBS provides resources and continually improves its processes to ensure that employees are capable of timely and consistently providing quality products and services."

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Recognizing the importance of metrology in health

In June 2023, the East African Community held its first Annual Regional Metrology Conference in Dar es Salaam, Tanzania. The activity went hand in hand with providing awareness of the importance of metrology in society, business, manufacturing industries and other sectors in the region.

The theme of the conference was "Metrology in Health". This theme was chosen since modern health care relies to an ever-increasing extent on quantitative measurements. Many of these measurements are made on various samples in medical testing laboratories where great care is exercised. Diagnosis and treatment often depend strongly on traceability of these physical measurements and it is important that quality control is adequate.

About 27 different papers were presented during the conference from all the EAC Partner States namely Burundi, Democratic Republic of Congo, Kenya, Rwanda, South Sudan, Tanzania and Uganda. The papers discussed the importance of metrology in relation to health in mass, volume, temperature, pressure, time and frequency, photometry, acoustics and radiation.

In the regional, verification and calibration of medical devices is yet to be acknowledged as an important factor in the health industry. One way of facilitating good decision making in providing health care in the region is through stimulating verification and calibration need to provide test results which are traceable and suitable for medical practice.

The challenges in the realm of health measurements are complex and ever-evolving, from accurate assessment of diseases, patient monitoring, manufacturing of medicines and medical devices. Therefore, the accuracy, reliability, and relevance of our measurements are of paramount importance in medical decision making.

The effectiveness of quality control steps depends directly on the accuracy and confidence with which the test and measuring instruments can yield test results. Thus systematic and periodic checking measuring instruments is very essential for reliable measurements. Today's global economy depends on reliable measurements and tests, which are trusted and accepted internationally.

To ensure accurate and reliable measurements in the region, the Conference deliberated on the creation of awareness in various ways, including EAC Secretariat to convene a joint meeting between EAMET and EAC Health Department to develop a roadmap for awareness creation to health practitioners on the importance of using accurate measurement in health facilities within the region. It was also agreed during the conference on the need to develop EAC regulations, policies and guidelines that will regulate the calibration, verification, and use of medical devices within the region.

It was further agreed that Partner States will initiate a high level awareness creation and sensitization to policymakers, on the importance of metrology and the use of accurate measurement in the health sector. Equally agreed was a roadmap for awareness creation to both medical practitioners, health facilities and the general public on the importance of calibration, verification, and maintenance of medical equipment.

These efforts are aimed at improving health care and services in the region. EAC encourages all Partner States to create awareness among health practitioners for betterment of health services to the society.

We commend the efforts made by EAC in strengthening measurements in health care. In the health care sector, errors can be costly. Where instruments are out of tolerance, they may give false information. In the field of medical treatment or diagnostics, this could mean a missed opportunity to save lives. A key factor in developing and maintaining medical equipment of sufficient accuracy is correct and continued calibration, which involves comparison.

TBS, ZBS impress House of Reps Committee

By Neema Mtemvu

The Zanzibar House of Representatives Committee on Agriculture, Trade and Tourism has expressed satisfaction by the existing collaboration between Tanzania Bureau of Standards (TBS) and Zanzibar Bureau of Standards and advised continued cooperation for the wider interests of both sides of the Union.

The remarks were made in Dar es Salaam recently by the Committee's Chairman, Hon. Yusuf Hassan Iddi (MP) during a visit to TBS to learn about the Bureau's activities. Others in the delegation led by the Zanzibar Minister for Trade and Industrial Development, Hon. Omary Said Shaaban (MP) included ZBS Director General and ZBS Board members.

"In truth, we have learnt a lot and we thank TBS for assisting ZBS officials who are now performing better than it was in the past," said Hon. Yusuf as he called for the continuation of the cooperation.

He said during the visit, they toured TBS offices at the Port of Dar es Salaam to observe the procedures for the inspection of imported goods under the Pre-Shipment Verification of Conformity (PVoC) and that of Destination Inspection (DI) programmes.

He also commended the President of the Revolutionary Government of Zanzibar, His Excellency Dr. Hussein Ali Mwinyi for improving ZBS services whereby over 8bn/- has been invested in the Isles' Bureau for the laboratories unit in order to make sure goods produced locally are examined as per standards requirements.

On his part, the Deputy Minister for Investment, Industry and Trade, Hon. Exaud Kigahe (MP) said the visitors have been able to learn about the various activities performed by TBS and see for themselves various laboratories used to examine various products.

"We as the ministry are happy for our Zanzibar brothers and sisters coming here to learn about TBS activities but more importantly to boost the relationship between the two parties of the Union," Hon. Kigahe said, adding that the cooperation will build a foundation in making sure they improve the quality of their products in order to compete in both the EAC and SADC markets.

"Now we have ratified the East African Free Trade Zone protocol and we now can compete in the entire African continent, as we can now introduce all goods made in the country as Tanzanian goods, and not Zanzibar or Mainland goods," he said.

Speaking during the visit, the Zanzibar Minister for Trade and Industrial Development, Hon. Omary Said Shaaban said the aim of their visit was to learn, increase their understanding and exchange experience between ZBS and TBS.

The Deputy Minister for Industry and Trade, Hon. Exaud Kigahe (MP) addresses members of the Zanzibar House of Representatives Committee on Agriculture, Trade and Tourism, during their visit at TBS.

TBS rallies plastics manufacturers on standards observance

By Gladness Kaseka

Tanzania Bureau of Standards (TBS) has conducted a meeting with non-woven bags stakeholders on the proper implementation of the standards.

The meeting, which was held in Dar es Salaam recently under the chairmanship of the TBS Director General, Dr. Athuman Ngenya, was partly a response to the recent concern expressed by the National Environment Management Council (NEMC) on the flooding of substandard non-woven bags in the market.

Speaking during the meeting, Dr. Ngenya advised the stakeholders to comply with the country's standards in order to preserve the environment.

He said plastic packaging and non-woven bags are important in business but TBS has been receiving several complaints claiming those products are below standard, thus the need to convene the sensitization meeting.

The Director General also called upon the public to consider checking the TBS standard mark of quality when they are purchasing those products.

"I urge the buyers to shun from buying packaging and alternative plastic bags which have no TBS mark," he added.

The NEMC Environment Management Officer, Eng. Redempta Samuel, congratulated TBS for convening the meeting with the stakeholders to educate them more about quality production, noting that the meeting will enable the producers to consider producing quality products.

"Though TBS is mandated to set standards for plastic packaging and non-woven bags, there are challenges that call for cooperation between TBS, NEMC and the stakeholders to find solutions," Eng. Samuel said.

Speaking during the meeting, the Foreign Marketing Manager of A to Z Textile Mills Ltd. in Arusha, Mr. Sylvester Kazi, said the meeting will enable the stakeholders to understand more about the procedures of making quality products including the plastic packaging and the non-woven bags. He added that A to Z as a stakeholder takes it as an opportunity to penetrate into the African market since they have been operating mostly in the local market.

The introduction of the non-woven polypropylene carrier bags in the market was meant to replace the banned polythene bags. However, this has since been misused by traders and manufacturers who have introduced low-quality carrier bags and due to the rising need of the non-woven bags in the market, it has been noted that over time, the manufacturers of these bags are producing substandard non-woven bags which cannot be used multiple times but are disposed of after single usage.

TBS Director General explained the importance of having such meetings and said the same meetings will be conducted in Mwanza, Arusha, Mbeya, Mtwara, Kigoma and Dodoma regions.

A section of non-woven stakeholders during a meeting between them and TBS held at TBS offices Ubungo, Dar es Salaam.

TBS destroys low quality products worth 400m/-

By Deborah Haule

The Tanzania Bureau of Standards (TBS) has impounded and destroyed at least 20 tonnes of low-quality products worth 400m/-.

The substandard products impounded from various area in the Eastern Zone were destroyed recently in Mkuranga, Coast Region.

Speaking during the exercise, TBS Acting Manager for the Eastern Zone, Mr. Francis Mapunda said the substandard products including cosmetics, motorcycle helmets and expired food items which had been kept in stores ready to be sold against the law, were seized by TBS inspectors during their operations in Dar es Salaam, Coast and Morogoro regions.

Mr. Mapunda noted that the products destroyed did not meet the requirements of the respective Tanzania standards and that the action was carried out as per the Bureau's establishing Act, the Standards Act Cap. 130.

"These products and the imported ones that have not followed the country's procedures, are both seized and destroyed since they have not met standards requirements," Mr. Mapunda said.

He further called upon the local traders to stop selling products that do not meet standards requirements and also not to sell banned or expired cosmetics, saying the inspectors are always at work.

"We urge traders to stop selling products that do not meet national standards, banned cosmetics and expired products. Our inspectors are ensuring that products in the market meet the respective specifications," he added, urging traders not to engage in selling such products to avoid unnecessary losses when they are destroyed.

TBS Inspector in the Eastern Zone, Mr. Aron Nzara said the effect of using the banned cosmetics include cancer and other health problems and also the economic damage. He also urged the public to make sure that they only purchase certified and registered products and check for expiring dates when buying.

TBS urged to strengthen vigilance at entry points

By Mussa Luhombero

Tanzania Bureau of Standards (TBS) has been urged to strengthen vigilance at the country's numerous border entry points to save the country from becoming a dumping place for poor quality products.

The call was made recently by the Chairman of the TBS Board of Directors, Prof. Othman Chande Othman, when Board members paid a familiarization visit to the TBS offices in the Northern Zone regions including Tanga, Kilimanjaro and Arusha.

The Chairperson noted that TBS was implementing its mandate by conducting conformity assessment to both local and imported products, but urged the Bureau to be more watchful as some unscrupulous traders may try to smuggle substandard products in the market for their own gains.

He said the Board members made the visit to examine inspection activities at border entry points and handle challenges that may hinder the implementation of the Bureau's activities.

On the issue of inadequate staff, Prof. Chande said TBS is planning to recruit more employees to guarantee a good performance that will enhance the fulfilment of the Bureau's obligations.

"TBS has a shortage of workers but we are sure that the Bureau will hire others," he added.

On his part, the Director of Quality Management, Mr. Lazaro Msasalaga, speaking on behalf of the TBS Director General, said the imported products are inspected under two systems, namely Pre-shipment Verification of Conformity (PVoC) to standards and Destination Inspection. Under PVoC, TBS uses outsourced agents to verify different products countries of origin, he explained.

Mr. Msasalaga said TBS conducts routine and market surveillance inspections for both local and imported products in the market to see if they are complying with the standards.

Standards bodies submit standards for EAC harmonization

By Gladness Kaseka

Tanzania has submitted three standards claims before the 25th East African Standards Committee meeting, for due consideration. The claims would later be approved to feature in the East African Standards (EAS) catalogue.

Tanzania Bureau of Standards (TBS) Director of Quality Management, Mr. Lazaro Msasalaga singled out claims on Foods General Requirements (second edition), Nutrition Labelling Requirements (second edition) and claim on the use of Nutrition and Health (second edition) as standards that will be considered for harmonization and later domestication by EAC Partner States.

He was speaking on the sidelines of the committee meeting that brought together chief executives of regional bureaus of standards from the seven Partner States.

"The sole purpose of such standards is not only to facilitate trade within the EAC, but also to protect consumers of these products," Mr. Msasalaga explained.

The TBS official said Tanzania had rolled out the three standards that the packaging of products within the regional economic bloc and the nutritional benefits of such products get harmonized among the Partner States.

The Managing Director of Kenya Bureau of Standards (KEBS), Lieutenant Colonel (Rtd) Bernard Njiraini, on his part disclosed that the meeting would also approve 69 standards with a view of facilitating trade across the region.

"Our objective is to enable mutual recognition of standards marks," the KEBS boss said.

Mr David Livingstone Ebiru from the Uganda National Bureau of Standards (UNBS) disclosed that the meeting would also delve on a number of conformity assessments, with a particular focus on Codex Alimentarius, or 'Food Code', which is a collection of standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission.

Un-harmonized standards and other trade documentation and duplicative inspections and testing hamper trade, causing overall delays and increases the cost of doing business within the EAC.

According to the International Organization for Standardisation (ISO), harmonized standards are "standards on the same subject approved by different standardising bodies or authorities, that establish interchangeability of products, processes and services, or mutual understanding of test results or information provided according to these standards

Delegates attending the EAC Standards Committee meeting pose for a group photo at the EAC Headquarter office in Arusha recently.

TBS, councils' partner in strengthening food, cosmetics control

By Deborah Haule

Tanzania Bureau of Standards (TBS) has signed a Memorandum of Understanding (MoU) with Local Government Authorities to jointly undertake food premise registration.

The MoU was signed by the TBS Lake Zone Manager, Ms. Happy Kanyeka and Mwanza councils' executive directors and witnessed by the Mwanza Regional Administrative Secretary, Mr. Balandya Elikana.

Ms. Kanyeka noted that all councils that signed the contracts would start their operations effectively July 1st 2023 and that the Bureau's expectations are to see the services provided reach the community at the grassroots level.

She said one of the challenges to be addressed following the agreement would be delay of

services to customers due to shortage of staff.

In addition to the signing of the MoU, TBS provided one tablet to each council to be used by inspectors in performing the joint tasks.

Mwanza Regional Administrative Secretary, Mr. Elikana said the government's mission is to ensure that the region has a strong network for quality control and cosmetics safety.

"The partnership between TBS and Local Government Authorities will help ensure regulatory activities are done faster and more efficiently," said Mr. Elikana, calling upon the inspectors to take care of the issued tablets.

On his part, Ilemela Municipality Mayor, His Lordship Renatus Mruga praised TBS and the government for their decision to enter into partnership that will bring about efficiency of the implementation of the duties.

Council, Mr. Emmanuel Sherembi (right) and the TBS Lake Zone Manager Ms. Happy Kanyeka (left) display the signed cooperation agreement between TBS and Local Government Authorities on registration of food and cosmetics business premises.

TBS urges MSMEs to use free services

By Gladness Kaseka

Tanzania Bureau of Standard (TBS) has called on micro, small and medium entrepreneurs (MSMEs) and other goods producers in Tanga region to embrace the government's offer of free conformity assessment services with the aim of empowering them to effectively compete and expand their market scope into East African territories and Africa at large.

TBS Northern Zone Manager, Engineer Joseph Mwaipaja made the call recently, while briefing journalists who visited the Bureau's pavilion at the 10th TCCIA- Tanga Trade and Tourism Exhibition which took place at Mwahako Grounds in Tanga.

He said product classification is vital in devising a marketing strategy that helps to create effective customer-centric marketing strategies.

He explained that Tanga had recently become an international trade gateway after the government implemented numerous strategic mega projects like improvement of Tanga Port and the building of the East Africa Crude Oil Pipeline (EACOP).

He pointed out that the projects will be a game changer by bringing other opportunities through increased demand for goods and services.

Earlier, Investment, Industries and Trade Acting Permanent Secretary Mr. Conrad Millinga who officially launched the exhibition on behalf of the Minister for Investment, Industry and Trade asked the business stakeholders to effectively use the African Continental Free Trade Area (AFCFTA) agreement that will progressively eliminate tariffs on intra-Africa trade, making it easier for African businesses to trade within the continent and benefit from growing the Africa market.

He noted that for entrepreneurs to benefit with AFCFTA, they are supposed to improve their products because quality is key to achieving a competitive edge as it promotes greater customer satisfaction.

On 13 December 2018 through AFCFTA East African Partner States which are Burundi, Kenya, Uganda, Rwanda and Tanzania agreed to make trade between them and with other countries cheaper, faster and more straightforward in a significant boost for economic integration in East Africa and continental trade facilitation.

The AFCFTA was founded in 2018, and on 9th September 2021, the Parliament of Tanzania ratified the agreement.

TBS officer, Ms. Zainabu Mziray talks to visitors at the TBS pavilion during the 10th TCCIA Tanga trade and tourism exhibition which took place at mwahako grounds in Tanga.

TBS to increase its efficiency, service delivery

By Gladness Kaseka

Tanzania Bureau of Standards (TBS) will increase its efficiency and service delivery in Central and Lake Zone regions when its state-of-the-art laboratories and its headquarters in Dodoma come operational early 2024.

TBS Board Chairperson, Prof. Othman Chande Othman made the pledge after inspection of the construction progress of the six-storey building of the Bureau's new designated headquarters and test house.

He said upon completion, the Central and Lake Zone customers will benefit as they will spend a shorter time to take their samples for testing unlike when they rely on the Dar es Salaam testing facilities.

So far, he said, the construction has reached 35 percent and he was satisfied with the construction pace.

"The construction progress is per the contract terms, the quality and standards are on course" said Prof Othman, adding: "The laboratories will be state-of-the-art which will include sample testing for both local and foreign consumers and will increase efficiency by 50 percent."

The construction of the building which costs 25bn/- is expected to be completed by March 2024. When completed, the Dodoma test house will ease workload of the main laboratories in Dar es Salaam but also ease dispensation of services for Central and Lake Zones regions' customers. It will also cut cost as they will not be required to travel long distances to meet the services unlike currently when they are supposed to go to Dar es Salaam for testing services.

Prof. Othman said the laboratories will be fixed with the latest technological facilities which will be inter-connected with other laboratories. Moreover, the Dodoma-based facilities will have the capability and technology to test electronic devices.

On his part, Project Consultant, Mr. Casmil Ntobangi said the project is going on as scheduled and he was optimistic that it will be completed on time.

He assured the Bureau's Board that they will play their best to submit the project as per the contract to fast-track service delivery as well as accommodate TBS staff relocation to Dodoma as per Government directives.

The Project Contractor, Eng. Ramadhani Yassin from NECC Ltd said they are on the right track and they might submit even before schedule as they have addressed some of the challenges including water which would cause delay.

A glimpse of the construction of the Dodoma TBS Viwango House in progress

Buy building materials that meet standards, public told

By Neema Mtemvu

People seeking to build houses and other projects should scrutinise and acquire building materials that meet the required standards and are a true value for money.

This, according to Mwanza Regional Administrative Secretary, Mr. Emil Kasagala will be an important step in addressing the problem of low quality building materials in the country.

“Building materials that do not meet the true value for money like iron sheets, nails and reinforcement bars can result in huge loss to buyers and weak building infrastructure,” he said on Wednesday after meeting importers and manufacturers of building materials in the region.

He said already most people are forced to spend more money than they could have otherwise injected into other projects for maintaining the houses because they used knowingly or unwittingly poor-quality materials.

He said manufacturers and importers of building materials have a fundamental obligation to observe the country’s laws to avoid selling poor quality building materials in the local market.

“Importing and manufacturing low quality building materials is turning the country into a dumping place and destroying the country’s economy,” he said.

He said substandard building materials make locally made materials uncompetitive in the market and ultimately kill domestic industries.

On her part, a TBS official from the Lake Zone, Ms. Nuru Mwasulama said public awareness campaigns carried out by TBS on the need to produce quality building materials are of paramount importance.

“People planning to build houses and other projects should make due diligence in obtaining materials that meet TBS standards,” she said insisting that importers and manufacturers have the primary obligation to ensure they sell building materials that meet the country’s standards.

She said TBS will continue to conduct a series of programmes including frequent inspections to eliminate low quality products from markets, but before that, creating awareness of quality products to manufacturers and importers is recommended.

Govt vows to bolster laboratory measurements

By Neema Mtemvu

The Government has vowed to continue investing in scientific research and extending its support to laboratory technicians in the country to enable them to come up with solutions to various challenges.

This will focus on increasing the efficiency in the metrological part to enable local laboratories to become capable of making accurate measures that will be reliable in terms of quality both locally and around the globe.

The Permanent Secretary of the Ministry of Investment, Industry and Trade, Dr. Hashil Abdallah made the statement recently, while addressing delegates at a Metrology Conference which was organised by the Tanzania Bureau of Standards (TBS).

“As part of recognising the importance of metrology in the country, we will continue to support scientists to enable them to conduct research and be able to come up with solutions and also enable laboratory technicians to conduct measurements for better results,” he said.

Furthermore, Dr. Abdallah commended metrology workers for their commitment to the measurement sector by providing quality and standard measurements which are reliable both locally and internationally.

He also challenged delegates from the East African Community Partner States to consider the importance of having quality measurements in improving health conditions since they play a bigger role.

“You should understand that metrics are not just about putting numbers on the report books but they play a bigger role in various health

issues including making medical decisions and treatment plans, which leads to people's wellbeing," he said.

On his part, the TBS Director General, Dr. Athuman Ngenya said the purpose of the conference themed 'Metrology in health' was to acknowledge the importance of metrology in daily basics including the health sector which is more important to human life.

He said, TBS decided to focus on the health metrology sector due to its importance and also of various challenges including wrong decisions which mostly produced wrong results.

"Sometimes medical tests have challenges including getting invalid results where sometimes the problem is in the test, that's why we have decided to start there," said Dr. Ngenya.

The Permanent Secretary of the Ministry of Industry and Trade, Dr. Hashil Abdallah (third right, seated) poses with EAC delegates during the EAC Regional Metrology Conference held in Dar es Salaam recently.

The Permanent Secretary of the Ministry of Industry and Trade, Dr. Hashil Abdallah addresses delegates during the EAC Regional Metrology Conference which was organized by the Tanzania Bureau of Standards (TBS) and held at JNICC in Dar es Salaam recently.

TBS, LGAs sign deal on food, premises registration

By Neema Mtemvu

Tanzania Bureau of Standards (TBS) has signed a partnership agreement with Local Government Authorities in Dar es Salaam on the registration of food and cosmetics business premises in an effort to promote the well-being of the end user.

The agreement will be dealing with various tasks including verification of premises before giving permission to operate to ensure that the business is meeting the TBS requirements which will guarantee safety in the services.

According to the Bureau, there are about 4,140 food stores and 1,060 of cosmetic buildings from different municipalities that have been granted the permission to operate after meeting the requirements.

"TBS and the local government authorities are going to be cooperating in registering food and cosmetics buildings to ensure that only qualified premises will be allowed to conduct the business," said Eng Aman Mafuru, the Deputy Dar es Salaam Regional Administrative Secretary.

He said the local government authorities has wide access to the citizens including the SMEs so a pact with TBS will lead to business improvements to ensure the safety and health of the customers.

Additionally, Eng. Mafuru said the partnership will increase effectiveness such that services will be provided timely while 40 per cent of the collection from the operation will be taken by the City Council.

TBS Director General, Dr. Athumani Ngenya said the purpose for their partnership is to keep promoting safety in the production field to ensure that customer safety remains number one priority for the standards body.

Dr. Ngenya added that their cooperation will help increase revenue since the number of premises will be increasing and more business will be conducted.

"As a standards body we are obliged to protect the well-being of the citizens and to do so, we have seen it wise to join hands with Local Government Authorities," said Dr. Ngenya.

Eng. Aman Mafuru, the Deputy Dar es Salaam Regional Administrative Secretary and TBS Director General, Dr. Athuman Ngenya sign an agreement between TBS and Local Government Authorities on cooperation in the registration of food and cosmetics business premises.

TBS urges public to use certified products

By Rhoda Mayugu

Tanzania Bureau of Standards (TBS) has urged the public to buy certified products while checking expiry dates to avoid using substandard products that can be dangerous to human health and the environment.

The call was made by Mr. Hamis Seleleko, Senior Quality Assurance Officer (TBS) during the 6th Exhibition of the National Economic Empowering Council in Kigoma Region.

"We encourage the public to read the information found on the products and to check quality mark and expiry dates. This is due to the presence of both expired and low-quality products in the markets which are endangering the environment and human health," said Mr. Seleleko.

Mr. Seleleko also urged the public to avoid using cosmetics products that have been banned by the government due to toxic substances, and he sensitised the matter by showing various samples of products that have toxic substances to the public who attended the exhibition and called upon them to address the standards body immediately whenever they come across such products.

TBS had a chance to train SMEs who attended the exhibition by educating them on procedures to acquire the TBS mark licence to add more value to their products.

Moreover, visitors were informed on the Government's programme to empower MSMEs by certifying their products free of charge for three years.

"The government's motivation is to see that MSMEs produce quality products, so that our economy continues to grow and even reach the level of being one of the largest economies in

Africa," said Seleleko, adding that MSMEs have been recognized as important participants in developing the national economy.

TBS Senior Quality Assurance Mr. Hamisi Seleleko, disseminates information on standards and quality assurance during the 6th Exhibition of the National Economic Empowerment in Kigoma.

Minister commends the Bureau on winning a continental award

By Gladness Kaseka

The Minister for Industry and Trade, Hon. Dr. Ashatu Kijaji has commended Tanzania Bureau of Standards for the efficiency and professionalism that helped it win the African Regulator of the Year Award for 2023.

Hon. Dr. Kijaji made the comments recently at TBS offices in Dar es Salaam, when officially receiving the award and presenting it to the general public.

"The award is a demonstration of the good job you are doing. But you need to remain firm in ensuring that standards for goods and services are scaled up," she said, adding: "Efficiency and hard work have brought a positive image not only to the organization, but also in the business industry. It is also proving high level of professionalism in matters of standardization."

Dr. Kijaji also said the government is optimistic to continue extending its support to the TBS management to ensure the continuation of the availability of quality products in markets and protect customers' wellbeing.

Furthermore, she urged the TBS management through the Chairperson, Prof. Othman C.

Othman that they should not just rely on the award rather they should keep up the good work to ensure the continuation of availability of quality services in the country.

"This pace has to continue to enable the organization be able to continue competing against other global authorities," Dr. Kijaji stressed, urging the Bureau to stand firm in ensuring the standards for goods and services are observed to protect local manufacturers as well as the safety and health of the people.

TBS was established as part of the efforts by the government to strengthen the supporting institutional infrastructure for the industry and commerce sectors of the economy.

Specifically, the Bureau is mandated to undertake measures for quality control of products of all descriptions and to promote standardization in industry and commerce.

The African Leadership Organization (UK) Limited, publishers of the African Leadership Magazine (ALM), has been organizing the African Business Leadership Awards (ABLA) for thirteen years. The African Leadership Magazine (ALM) announced the winners of the 13th edition after completion of the 3-step points-based selection process that included a call for nomination, the ABLA online poll which ended on 2023-05-20 and the ALM editorial board's final review of the vote entries and supporting evidence.

After all that painstaking process, TBS emerged the winner and the trophy award was officially received on 12th July, 2023 in London, United Kingdom.

The Minister for Industry and Trade, Hon. Dr. Ashatu Kijaji receives the African Regulator of the Year 2023 trophy from the Chairman of the TBS Board of Directors, Prof. Othman Chande Othman at TBS offices in Dar es Salaam.

Finalized Standards

During the period under review, the Bureau finalized a total of 475 standards.

New Projects

For the period under review the following projects were initiated for standards development.

1.1.Initiated building and construction standards

i. BCDC 7 (2007) NWI Waste Stabilization Ponds - Code of practice - Part 1: Anaerobic type.

ii. BCDC 7 (2008) NWI Waste Stabilization Ponds - Code of practice - Part 2: Facultative type.

iii. BCDC 7 (2009) NWI Waste Stabilization Ponds - Code of practice - Part 3: Maturation type.

iv. BCDC 7 (2010) NWI Waste Stabilization Ponds - Code of practice - Part 4: Operation, maintenance, safety and monitoring.

v. BCDC 7 (2011) NWI Sludge Dewatering equipment – sand, gravel and underdrains.

vi.BCDC 1 (2030) NWI Environmental management for concrete and concrete structures — Part 2: System boundary and inventory data

vii.BCDC 1 (2031) NWI Environmental management for concrete and concrete structures — Part 4: Environmental design of concrete structures

viii.BCDC 1 (2032) NWI Environmental management for concrete and concrete structures — Part 6: Use of concrete structures

ix.BCDC 1 (2033) NWI Environmental management for concrete and concrete structures — Part 8: Environmental labels and declarations

x. BCDC 1 (2034) NWI /ISO/TS 16774-1:2017 Test methods for repair materials for water-leakage cracks in underground concrete structures — Part 1: Test method for thermal stability

xi.BCDC 2 (2097) NWI Refractories - determination of dynamic young modulus (MOE) at elevated temperatures by impulse excitation of vibration.

xii.BCDC 2 (2096) NWI Refractory products - measurement of dimensions and external defects of refractory bricks - Part 2 Corner and edge defects and other surface.

xiii.BCDC 2 (2096) NWI Refractory product - measurement of dimensions and external defects of refractory bricks - Part 1 Dimensions and conformity to drawings.

1.2.Initiated general technics standards

i. GDC 4 (2012) NWI Packaging -Tactile warnings of danger – Requirements

ii. GDC 4 (2013) NWI Packaging -Transport packaging for dangerous goods - Test methods

iii.GDC 4 (2014) NWI Packaging - Transport packaging for dangerous goods - Recycled plastics material

iv.GDC 4 (2015) NWI Packaging - Flexible intermediate bulk containers (FIBCs) for non-dangerous goods

v. GDC 4 (2016) NWI Child-resistant packaging - Requirements and testing procedures for reclosable packages

vi.GDC 4 (2017) NWI Child-resistant non-reclosable packaging for pharmaceutical products - Requirements and testing

vii.GDC 4 (2018) NWI Packaging - Child-resistant packaging - Requirements and testing procedures for non-reclosable packages for non-pharmaceutical product

viii.Bamboo sticks for culinary and related Purposes-Specification (GDC 4 (2167) NWI)

ix.Polyethylene Terephthalate (PET) Preforms-Specification (GDC 4 (2166) NWI)

1.3.Initiated mining and minerals standards

i. MMDC 9 (2057) NWI Standard Test Method for Determination of Gold in Activated Carbon by Fire Assay Gravimetry

ii. MMDC 9 (2056) NWI Standard Test Methods for Determination of Gold in Cyanide Solutions

iii. ISO 6230:1989 Manganese ores - Determination of size distribution by sieving

iv. ISO 320:1981 Manganese ores - Determination of sulphur content - Barium sulphate gravimetric methods and sulphur dioxide titrimetric method after combustion

v. ISO 549:1981 Manganese ores - Determination of combined water content - Gravimetric method

vi. ISO 5889:1983 Manganese ores and concentrates - Determination of Silicon content - Gravimetric method

vii. ISO 4293:1982 Manganese ores and concentrates - Determination of phosphorus content - Extraction-molybdovanadate photometric method

viii. TBS/ MMDC 4 (2067) CD1 High-tensile steel chains (round link) for chain conveyors and coal ploughs

ix. TBS/ MMDC 4 (2068) CD1 Rock drilling - Extension drill-steel equipment for percussive long-hole drilling - Reverse-buttress threaded equipment 1 1/16 and 1 1/4 in (27 and 32 mm)

x. TBS/MMDC 4 (2069) CD1 Rock drilling – Extension drill steel equipment for percussive long-hole drilling Reverse-buttress-threaded equipment 1 1/2 to 2 1/2 in (38 to 64 mm)

xi. TBS/MMDC 4 (2070) CD1 Rotary core diamond drilling equipment – System C

xii. TBS/MMDC 4 (2071) CD1 Mining - Wireline diamond core drilling equipment - System CSSK

xiii. MMDC 7 (2111) NWI Jewellery and precious metals - Determination of palladium - Gravimetry using dimethylglyoxime.

xiv. MMDC 7 (2110) NWI Jewellery - Determination of platinum in platinum jewellery alloys - Gravimetric method after precipitation of diammonium hexachloroplatinate.

1.4. Initiated chemicals standards

i. CDC 13 (2041) NWI Polishes — Specification — Part 3: Floor polish water emulsion buffable type

ii. CDC 17(2058) Petroleum and Lubricants-Methods of classification-definition of classes

iii. CDC 17(2059) Petroleum Products – Determination of foaming Characteristics of lubricating Oils

iv. CDC 17(2060), Petroleum Products – Lubricating grease-determination of dropping point

v. CDC 17(2061), Petroleum Products – Lubricating Grease - Sampling of grease

vi. CDC 11 (2073), Plastics-Symbols and abbreviated terms part 1: Basic Polymers and their Special Characteristics

vii. CDC 11 (2074), Plastics-Symbols and abbreviated terms part 2: Fillers and reinforcing materials

viii. CDC 11 (2076), Plastics-Symbols and abbreviated terms part 3: Plasticizers

ix. CDC 11 (2077), Plastics-Symbols and abbreviated terms part 4: Flame retardants

x. CDC 11 (2079), Plastics-General identification and Marking of plastics products

xi. CDC 3 (2179) DTZS/EAS 967-1:2022, Butter for cosmetic use - Specification - Part 1: Shea butter

xii. CDC 3 (2178) DTZS/EAS 842-1:2022, Hair shampoo - Specification - Part 2: Synthetic detergent-based

xiii. CDC 3 (2177) DTZS/EAS 835-1:2022, Bath preparations - Specification - Part 1: Synthetic detergent-based foam baths and shower gels

xiv. CDC 3 (2176) DTZS/EAS 876:2022, Skincare creams, lotions and gels – Specification

xv.CDC 3 (2173) DTZS/EAS 377-1:2022, Cosmetics and cosmetic products - Part 1: List of prohibited substances

xvi.CDC 3 (2174) DTZS/EAS 377-2:2022, Cosmetic and cosmetic products - Part 2: List of substances which cosmetic products must not contain except subject to the restrictions laid down

xvii.CDC 3 (2175) DTZS/EAS 377-3:2022, Cosmetics and cosmetic products - Part 3: List of allowed colorants, preservatives and UV- filters

xviii.CDC 3 (2172) DTZS/EAS 346:2022, Labelling of cosmetics - Requirements

xix.CDC 3 (2171) DTZS/EAS 342:2022, Pomades and solid brilliantines - Specification

xx.CDC 3 (2170) DTZS/EAS 340:2022, Nail polish – Specification

xxi.CDC 3 (2168) DTZS/EAS 126:2022, Petroleum jelly for cosmetic use – Specification

xxii.CDC 3 (2169) DTZS/EAS 338:2022, Chemical hair relaxers and hair waving products – Specification.

xxiii.CDC 5 (2240) NWI Laboratory glassware - Interchangeable spherical ground joints

xxiv.CDC 5 (2241) NWI Laboratory glassware - Straight-bore glass stopcocks for general purposes

xxv.CDC 5 (2242) NWI Laboratory glassware - Bottles - Part 1: Screw-neck bottles

xxvi.CDC 5 (2243) NWI Laboratory glassware - Bottles - Part 2: Conical neck bottles

xxvii.CDC 5 (2244) NWI Laboratory glassware - Bottles - Part 3: Aspirator bottles

xxviii.CDC 5 (2245) NWI Laboratory glassware - Methods for assessing the chemical resistance of enamels used for colour coding and colour marking

xxix. CDC 5 (2246) NWI Laboratory glassware - Separating funnels and dropping funnels

xxx. CDC 5 (2247) NWI Glass - Hydrolytic resistance of glass grains at 121 °C - Method of test and classification.

1.5.Initiated agriculture and food standards

i. AFDC 12 (2109) NWI Avocado seed powder Specification

ii. AFDC 11 (2083) NWI/ ISO/TS 20224-8:2022 Molecular biomarker analysis - Detection of animal-derived materials in foodstuffs and feedstuffs by real-time PCR - Part 8: Turkey DNA detection method

iii. AFDC 11 (2084)/NWI ISO/TS 20224-9:2022 Molecular biomarker analysis - Detection of animal-derived materials in foodstuffs and feedstuffs by real-time PCR - Part 9: Goose DNA detection method

iv. AFDC 22 (2085) NWI Processed meat code of practice Part: 1 GMP-Hygiene and sanitation and quality assurance

v. AFDC 22 (2086) NWI Processed meat code of practice Part: 2 GMP-Process control

vi. AFDC 22 (2087) NWI Processed meat code of practice Part: 3 HACCP Application

vii. AFDC 16 (2107) NWI Soy yoghurt - Specification

viii. AFDC 16 (2107) NWI Plant Based protein yoghurt - Specification

ix. AFDC 05 (2112) NWI Bread Improver – Specification

x. AFDC 05 (2113) NWI Flour Improver -Specification

1.6.Initiated environmental management standards

i. EMDC 8 (2051) /ISO 22526-1:2020-Plastics — Carbon and environmental footprint of bio based plastics — Part 1: General principles.

ii. EMDC 8 (2052) /ISO 22526-2:2020- Plastics — Carbon and environmental footprint of bio based plastics — Part 2: Material carbon footprint, amount (mass) of CO2 removed from the air and incorporated into polymer molecule.

iii. EMDC 8 (2053) /ISO 22526-3:2020- Plastics

— Carbon and environmental footprint of bio based plastics — Part 3: Process carbon footprint, requirements and guidelines for quantification.

iv. EMDC 8 (2054) Plastics - Determination of the degree of disintegration of plastic materials in marine habitats under real field conditions.

v. AFDC 10 (2180) Fertilizers, soil conditioners and beneficial substances –Vocabulary

vi. AFDC 10 (2181) Fertilizers -Marking - Presentation and declarations

vii. AFDC 10 (2182) Fertilizers, soil conditioners and beneficial substances – Classification

viii. AFDC 10 (2183) Fertilizers and soil conditioners -Determination of arsenic, cadmium, chromium, lead and mercury contents

ix. AFDC 10 (2184) Fertilizers and soil conditioners - Analytical methods for Sulfur Coated Urea (SCU)

x. AFDC 10 (2185) Fertilizers and soil conditioners - Sulfur Coated Urea (SCU) - General requirements

xi. AFDC 10 (2186) Fertilizers and liming materials - Sampling and sample preparation - Part 1: Sampling

xii. AFDC 10 (2187) Fertilizers and liming materials - Sampling and sample preparation - Part 2: Sample preparation

xiii. AFDC 10 (2187) Fertilizers - Determination of extracted phosphorus.

1.7.Initiated mechanical engineering standards

i. MEDC 2 (2019) WD Metallic materials - Tensile testing - Part 1: Method of test at room temperature

ii. MEDC 2 (2020) WD Metallic materials - Bend test

iii. MEDC 2 (2021) WD Safety of machinery - Minimum gaps to avoid crushing of parts of the human body

iv. MEDC 2 (2022) WD Lifts (elevators), escalators and moving walks – Risk assessment and reduction methodology

v. MEDC 2 (2023) WD Cranes - Safety - Load lifting attachments

vi. MEDC 9 (2029) WD Railway safety management - General

vii. MEDC 9 (2036) WD Technical Requirements for Engineering and Operational Standards - General

viii. MEDC 9 (2037) WD Technical Requirements for Engineering and Operational Standards - Rolling Stock

ix. MEDC 9 (2038) WD Human Factors Management

x. MEDC 9 (2039) WD Technical Requirements for Engineering and Operational Standards- Track, Civil and Electrical Infrastructure- Level Crossing

xi. MEDC 9 (2040) WD Technical Requirements for Engineering and Operational Standards- Operational Principles for Safe Movement on Rail.

xii. MEDC 11 (2094) NWI Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 5: Cone meters

xiii. MEDC 10 (2075) FTZS Steel head hammer - Specification

xiv. MEDC 10 (2078) FTZS Hoe - Specification

xv. MEDC 10 (2080) FTZS Machete - Specification

xvi. MEDC 10 (2081) FTZS Shovels and spades - Specification

xvii. MEDC 10 (2082) FTZS Hacksaw blades – Specification

xviii. MEDC 9 (2098) CD1 Electric road vehicles - Road operating characteristics

xix. MEDC 9 (2099) CD1 Electric road vehicles - Reference energy consumption and range - Test procedures for passenger cars and light commercial vehicles

xx. MEDC 9 (2100) CD1 Electrically propelled road vehicles - Conductive power transfer

- Safety requirements

xxi. MEDC 9 (2101) CD1 Electrically propelled road vehicles – Vocabulary

xxii. MEDC 9 (2102) CD1 Electrically propelled mopeds and motorcycles - Safety specifications - Part 2: Vehicle operational safety

xxiii. MEDC 9 (2103) CD1 Electrically propelled mopeds and motorcycles - Safety specifications - Part 1: On-board rechargeable energy storage system (RESS)

xxiv. MEDC 9 (2104) CD1 Electrically propelled mopeds and motorcycles - Safety specifications - Part 3: Electrical safety

xxv. MEDC 9 (2105) CD1 Battery-electric mopeds and motorcycles - Performance - Part 1: Reference energy consumption and range

xxvi. MEDC 9 (2106) CD1 Battery-electric mopeds and motorcycles - Performance - Part 2: Road operating characteristics

1.8. Initiated textile and leather standards

i. TDC 11 (2209), ISO 3376, Leather — Physical and mechanical tests — Determination of tensile strength and percentage elongation

ii. TDC 11 (2210), ISO 10195, ISO 10195:2018 Leather — Chemical determination of chromium (VI) content in leather — Thermal pre-ageing of leather and determination of hexavalent chromium.

iii. TDC 11 (221I), SO 11641, Leather — Tests for colour fastness — Colour fastness to perspiration.

iv. TDC 11 (2212) ISO 14268, Leather — Physical and mechanical tests — Determination of water vapor permeability.

v. TDC 11 (2213) ISO 17070, Leather — Chemical tests — Determination of tetrachlorophenol-, trichlorophenol-, dichlorophenol-, monochlorophenol-isomers and pentachlorophenol content.

vi. TDC 11 (2214) ISO 17076, Leather — Determination of abrasion resistance.

vii. TDC 11 (2215) ISO 17234, Leather — Chemical tests for the determination of certain azo colorants in dyed leathers.

viii. TDC 11 (2216) ISO 17226, Leather — Chemical determination of formaldehyde content.

ix. TDC 11 (2217) ISO 23910, Leather — Physical and mechanical tests — Measurement of stitch tear resistance

Training

During the period under review, the Bureau continued to implement its training programme. A summary of courses conducted during the period under review is indicated hereunder:

Long Term Training

A total number of 18 staff were facilitated to attend long term training in the country.

Short Term Trainings

During the period under review staff were facilitated to attend group training inside the country as indicated here under.

- A total number nine (9) staff attended A workshop on Capacity Building for RAAWU Leaders from 18th- 22 September, 2023 in Morogoro.
- A total number of fifty-seven (57) staff attended Induction Course from 2nd to 6th October, 2023 at Morogoro.
- A total number of forty-one (41) staff attended group Training on Risk Management for Budget Officers from 27th November to 01st December, 2023 at Kibaha- Pwani.

Training on Standardization and quality assurance

During the period under review, the following trainings were conducted to SMEs and other stakeholders as indicated hereunder:

Trainings on Standardization to 1400 Stakeholders from four subsectors (04) subsectors

S/N	NAME OF TRAINING	NUMBER OF TRAININGS	NUMBER OF PARTICIPANTS	DATE	LOCATION
01.	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Honey & Bee products.	11	40	18th to 19th September, 2023	Itigi -Singida
			35	21st to 22nd September, 2023	Uyui -Tabora
			29	25th to 26th September, 2023	Kongwa - Dodoma
			29	29th to 30th September, 2023	Dodoma -city
			47	30th November to 1st December, 2023	Kigoma -Kibondo
			35	04th to 05th December 2023	Mlele - Katavi
02	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Bakery & Confectioneries.	11	27	29th to 30th September, 2023	Dodoma -City
			44	06th to 07th November, 2023	Tanga - City
			30	08th to 09th November, 2023	Mbeya - City
			34	13th to 14th November 2023	Arusha -City
			26	27th to 28th November, 2023	Kigoma -ujiji

03	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Legumes	06	33	6th to 7th	Kiteto - Manyara
			37	9th to 10th November, 2023	Babati - Manyara
			34	13th to 14th	Moshi - Kilimanjaro
			33	16th to 17th	Karatu - Karatu
04	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Fruits & Vegetables	08	25	6th to 7th November, 2023	Mbeya - City
			39	9th to 10th November, 2023	Tanga -Lushoto
			32	13th to 14th November, 2023	Njombe - Iringa
			29	16th to 17th November, 2023	Iringa -
			31	20th to 21th November, 2023	Arumeru - Karatu
05	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Maize & Maize flour	2	39	27th to 28th November 2023	
			21	30th November to 1st December, 2023	Mpanda -Rukwa
06	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Salt	02	28	1st November, 2023	Mtwara
			43	02nd November 2023	Lindi
			105	04th to 5th December, 2023	Uvinza - Kigoma
07	Training on standards, quality control, premise registration and product certification to SMEs and other stakeholders of Milk & Milk Product	01	42	07th to 08th December, 2023	Kigoma - Ujiji

Trainings on quality control and quality assurance to stakeholders

S/N	NAME OF TRAINING	NUMBER OF	DATE	LOCATION
01.	Training on Laboratory Quality Control to employees from private and government sectors.	18	24th to 28th July 2023	TBS, Test House
02.	Training on Quality Control and Documentation to staff from Mwanza Precious Metal Refinery Company Ltd	07	11th to 15th August, 2023.	Mwanza
03.	Training on Quality Management in the Cosmetic Industries to employees from private and government sectors.	07	11th to 15th September, 2023	TBS, Test House
04.	Training on requirement and implementation of ISO/IEC 17025:2017 to participants from private and government sectors	09	2nd to 6th October, 2023	TBS, Test House
05.	Pre-assessment on implementation of ISO/IEC 17025:2017 to staff from TAEC	04	9th to 13th October, 2023	Arusha
06.	Training on requirement and implementation of ISO 15189:2022 participant from private sector.	01	16th to 20th October, 2023	TBS, Test House
07.	Awareness training on ISO/IEC 17025:2017 to Singida Gold Mines staff	15	18th to 20th October, 2023	Singida Gold mine
08.	Training on Hazard Analysis and Critical Control Point (HACCP) to participants private and government sectors.	28	6th to 10th October, 2023	TBS, Test House
09.	Training on requirement and implementation of ISO/IEC 17025:2017 to staff from Mining Commission	. 18	6th to 10th November, 2023	Mining commission Dar es Salaam
10.	Training on laboratory quality system documentation to private and government sectors	05	20th to 24th November, 2023	TBS, Test House
11.	Training on root cause analysis and corrective actions to staff from Tanzania Fertilizer Regulatory Authority (TFRA)	05	6th to 10th November, 202	Morogoro
12.	Training on food safety and quality assurance to participants from Delicious Cashews Limited	45	30th November to 1st December, 2023	Tandahimba –Mtwara

13.	Training on internal audit - ISO/ IEC 17025:2017 to private and government sectors.	05	04th to 06th December, 2023	TBS, Test House
14.	Training on awareness of ISO 15189:2022 to participants from private and government health sector	56	13th December, 2023	TBS, Test House

Trainings in collaboration with other institutions

S/N	NAME OF TRAINING	NUMBER OF PARTICIPANTS	DATE	LOCATION
01.	Training on animal feed standards, quality assurance of animal feeds and its raw materials, TBS certification and Compliance of animal feed standards to MSMEs processing animal feed in collaboration with	30	25th August, 2023	Four Point Sheraton hotel, Dar es Salaam
02.	Training on standards and 'tbs' mark certification procedures to manufacturers of different products from kibaha - Pwani	27	28th November, 2023	Kibaha Pwani

Recruitment

During the period under review the following staff were recruited and placed in different Directorate/Unit.

S/N	Name	Designation	Department	Date Hired
1.	Abdallah Juma Selemani	Records Management Assistant II	Administration and Human Resources Management	2023-08-21
2.	Deogratius Moses Mpembe	Accounts Officer II	Finance and Accounts Unit	2023-08-21
3.	Deric Byera Mutoka	Accountant II	Finance and Accounts Unit	2023-09-05
4.	Emily Alfred Mwambola	Editor II	Standards Development	2023-09-04
5.	Enossy Roitt Mwitula	Assistant Supplies Officer II	Procurement Management Unit	2023-08-21

6.	Fredrick James Lema	Metrologist II	Testing and Metrology Services	2023-09-04
7.	Godlove Leonard Augustino	Metrologist II	Testing and Metrology Services	2023-08-31
8.	Hosea John Mongi	Technician II	Administration and Human Resources Management	2023-09-04
9.	Imani Justini Mabena	Technician II	Administration and Human Resources Management	2023-09-04
10.	Innocent Machele Maiga	Metrologist II	Testing and Metrology Services	2023-09-07
11.	Jeremia Edom Mwalyaje	Metrologist II	Testing and Metrology Services	2023-09-19
12.	Jesca John Oisso	Legal Officer II	Legal Services Unit	2023-09-04
13.	John George Kazungu	Metrologist II	Testing And Metrology Services	2023-09-26
14.	Maulidi Bundala Lintu	Transport Officer II	Administration and Human Resources Management	2023-08-21
15.	Oswalda Onesmo Kawishe	Engineer II	Administration And Human Resources Management	2023-09-05
16.	Shafii Saidi Kumwalu	Metrologist II	Testing and Metrology Services	2023-09-01
17.	Stephen Daud Kyejo	Metrologist II	Testing and Metrology Services	2023-09-04
18.	Stepheno John Mwakajonga	Metrologist II	Testing and Metrology Services	2023-08-18
19.	Yasini Amri Mateleka	Metrologist II	Testing and Metrology Services	2023-08-31
20.	Joyce Boniface Mallya	Metrologist II	Testing and Metrology Services	2023-09-06
21.	Anyopa David Mayonjo	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
22.	Kassim Eliasa Nkya	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
23.	Beatrice Rogathe Lema	Quality Assurance Officer II	Quality Management	10/19/2023

24.	Shamim Ismail Isimbula	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
25.	Jackline Benedict Nyandoa	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
26.	George Justine Temu	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
27.	Happiness Saria Lema	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
28.	Hellen Mosses Mollel	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
29.	Irene John Mboya	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
30.	Mary Seuri Lilayo	Quality Assurance Officer II	Compliance and Enforcement	10/19/2023
31.	Moses Moses Munuo	Quality Assurance Officer II	Northen Zone	10/19/2023
32.	Shabani Azizi Ally	Quality Assurance Officer II	Northen Zone	10/19/2023

Retirement

During the period under review one staff namely Ms. Solana Msimbe (Principal Laboratory Assistant) retired from the Public Service on 5th December, 2023.

Building a responsible AI: How to manage the AI ethics debate

In today's rapidly evolving tech landscape, responsible artificial intelligence (AI) stands at the forefront of efforts to align AI with societal values and expectations. While still growing and developing at an accelerated pace, AI is already augmenting human life. The technology is now increasingly commonplace in our homes, our workplaces, our travels, our healthcare and our schools. What would have seemed like science fiction just two decades ago – such as self-driving cars and virtual personal assistants – is set to become a fixture of our everyday lives.

Responsible AI is the practice of developing and using AI systems in a way that benefits society while minimizing the risk of negative consequences. It's about creating AI technologies that not only advance our capabilities, but also address ethical concerns – particularly with regard to bias, transparency and privacy. This includes tackling issues such as the misuse of personal data, biased algorithms, and the potential for AI to perpetuate or exacerbate existing inequalities. The goal is to build trustworthy AI systems that are, all at once, reliable, fair and aligned with human values.

Where do we go from here? How do we better frame the technology to unleash the full potential of AI? A robust ecosystem of standards and regulations will be needed to ensure the responsible development, deployment and use of AI as we navigate this era of remarkable, exponential innovation. Here, we examine the complex and evolving field of AI ethics in artificial intelligence, and how we should approach this transformative but uncharted technology.

What is responsible AI?

As AI evolves, it has the potential to bring life-changing advances. So, before AI's increasing momentum gathers even more pace, it is crucial to prioritize responsible AI development, which takes into account all potential societal impacts.

Responsible AI is an approach to developing and deploying artificial intelligence from both an ethical and legal standpoint. The goal is to employ AI in a safe, trustworthy and ethical way. Using AI responsibly should increase transparency while helping to reduce issues such as AI bias.

So why all the hype about "what is AI ethics"? The ethics of artificial intelligence are a huge challenge to humankind. Mindful and responsible innovation is not an easy concept in itself, but it is crucial to first grasp the question of what AI ethics are and integrate them into the core of the development and application of AI systems. In short, ethical AI is based around societal values and trying to do the right thing. Responsible AI, on the other hand, is more tactical. It relates to the way we develop and use technology and tools (e.g. diversity, bias).

Why is responsible AI important?

As AI becomes more business-critical for organizations, achieving responsible AI should be considered a highly relevant topic. There is a growing need to proactively drive fair, responsible, ethical AI decisions and comply with current laws and regulations.

Understanding the concerns of AI is the starting point for creating an ethical framework to guide its development and use. Any organization wishing to ensure their use of AI isn't harmful should openly share this decision with as diverse a range of stakeholders as it can reasonably reach, along with consumers, clients, suppliers and any others who may be tangentially involved and affected.

Developing and applying AI along the principles of AI ethics requires transparency in decision-making processes and the development of actionable policies of AI ethics. With considered research, widespread consultation and analysis of ethical impact, coupled with ongoing checks and balances, we can ensure that AI technology is developed and deployed responsibly, in the interests of everyone, regardless of gender, race, faith, demographic, location or net worth.

What are the principles of responsible AI?

Confronting ethical concerns means engaging with their ramifications with foresight and commitment. It's vital to view AI's ethical dimension not as an obstacle but as a conduit to lasting and sustainable tech progress. That's why embedding responsible AI principles is essential to its evolution in a direction that benefits all.

While there isn't a fixed, universally agreed-upon set of principles for AI ethics, several guidelines emerge. Some key principles of AI

ethics are:

Fairness: Datasets used for training the AI system must be given careful consideration to avoid discrimination.

Transparency: AI systems should be designed in a way that allows users to understand how the algorithms work.

Non-maleficence: AI systems should avoid harming individuals, society or the environment.

Accountability: Developers, organizations and policymakers must ensure AI is developed and used responsibly.

Privacy: AI must protect people's personal data, which involves developing mechanisms for individuals to control how their data is collected and used.

Robustness: AI systems should be secure – that is, resilient to errors, adversarial attacks and unexpected inputs.

Inclusiveness: Engaging with diverse perspectives helps identify potential ethical concerns of AI and ensures a collective effort to address them.

Promoting responsible AI practices

These principles should help to steer considered and responsible decision making around AI. In order to transition from theory to practice, organizations must create actionable policies of AI ethics. Such policies are crucial in weaving ethical considerations throughout the AI life cycle, ensuring integrity from inception to real-world application.

While organizations may choose different routesto embed responsible AI practices into their operations, there are a few AI best practices that can help implement these principles at every stage of development and deployment.

When deciding how to establish AI ethics, companies should:

Foster collaboration across all disciplines, engaging experts from policy, technology, ethics and social advocacy to ensure multifaceted perspectives

Prioritize ongoing education on AI best practices at all levels to maintain awareness and adaptability

Implement AI ethics throughout the technology's design, building them into AI solutions from the ground up

Establish clear oversight mechanisms, such as ethics committees or review Boards, to monitor compliance and guide ethical decision making

Protect end-user privacy and sensitive data through strong AI governance and data usage policies

Encourage transparency in AI processes, enabling accountability and trust from stakeholders and the public

Keeping up with AI best practice

To keep your AI system trustworthy, it's important to focus on three key areas: feeding it good, diverse data; ensuring algorithms can handle that diversity; and testing the resulting software for any mislabelling or poor correlations.

Here's how to achieve this:

Design for humans by using a diverse set of users and use-case scenarios, and incorporating this feedback before and throughout the project's development.

Use multiple metrics to assess training and monitoring, including user surveys, overall system performance indicators, and false positive and negative rates sliced across different subgroups.

Probe the raw data for mistakes (e.g. missing values, incorrect labels, sampling), training skews (e.g. data collection methods or inherent social biases) and redundancies – all crucial for ensuring responsible AI principles of fairness, equity and accuracy in AI systems.

Understand the limitations of your model to mitigate bias, improve generalization and ensure reliable performance in real-world scenarios; and communicate these to users where possible.

Continually test your model against responsible AI principles to ensure it takes real-world performance and user feedback into account, and consider both short- and long-term solutions to the issues.

Responsible AI: examples of success

By integrating responsible AI best practices

and principles, we can ensure we end up with generative AI models that ultimately enrich our lives while keeping humans in charge. As we steadily transition towards a more responsible use of AI, numerous companies have already succeeded in creating AI-powered products that are safe and secure.

Let's take a look at some responsible AI examples:

The Fair Isaac Score, by analytics software firm FICO, is a credit scoring system that uses AI algorithms to assess creditworthiness. FICO maintains responsible AI practices by regularly auditing its scoring models for bias and disparities based on mathematics instead of subjective human judgement.

Healthcare startup PathAI develops AI-powered diagnostics solutions to aid pathologists in diagnosing diseases. To ensure the safe and responsible use of AI in its software, the company validates the accuracy and reliability of its algorithms through rigorous clinical testing and peer-reviewed studies.

With its people-first approach, IBM's Watsonx Orchestrate is revolutionizing talent acquisition. This AI solution for HR and recruitment promotes fairness and inclusivity in the hiring process by generating diverse pools of candidates, using fair assessment criteria, and prompting managers to incorporate diverse perspectives in the interview process.

Ada Health provides users with personalized medical assessments and advice. The AI-powered chatbot safely handles the diagnosis and screening of common conditions like diabetic retinopathy and breast cancer. AI best practices are ensured through transparent disclosure that users are interacting with an AI chatbot.

Using a constellation of satellites, Planet Labs is pioneering the use of AI in satellite imagery, transforming how we monitor the environment, analyse climate patterns and assess agricultural yields. By collaborating with environmental organizations and policymakers, the company ensures AI best practices are embedded in its model.

The standards approach

in collaboration with the International Electrotechnical Commission (IEC), is keeping pace with this pursuit, crafting International Standards that safeguard and propel the principled application of AI technology.

In shaping ethical AI, the world's governments, organizations and companies need to embody these values, ensuring that their pursuit of innovation is accompanied by ethical responsibility. International Standards will help to establish a high watermark of ethics in AI, consistently guiding the best practice in this transformative industry.

A commitment to responsible AI is not a one-time act, but a sustained effort involving vigilance and adaptation. However, organizations should be aware that this commitment not only guides AI to align with common welfare, it also opens doors to its vast potential.

ISO/IEC 42001:2023AI management systems

Reaping the rewards

There is every reason to be optimistic about a future in which responsible AI enhances human life. It is already making game-changing strides in healthcare, education and data analytics. It has the capacity to supercharge human resilience and ingenuity at a time when we – and the planet – need it most. Rooted in ethical design, it can offer us a symbiosis of technological innovation and core human principles, culminating in an inclusive, flourishing and sustainable global community.

Responsible AI represents a comprehensive vision to mirror society's ethical fabric within machine intelligence. It signifies a pledge to forge AI systems that uphold human rights, privacy and data protection. Through this lens, every AI initiative undertaken becomes a stepping stone towards a future where technology not only empowers, but also respects and enhances, the human condition.

Source ISO website

Renewable energy: Driving the transition to a sustainable world

As the world transitions toward a low-carbon future, technology is leading the charge, unlocking scalable solutions for a greener planet. Solar-clad skyscrapers harness the sun's rays, while offshore wind farms power massive batteries destined for cities and industries. Nearby, a once-smog-filled factory now runs

cleanly on locally sourced biofuel. This isn't science-fiction – it's the promise of what renewable energy can deliver.

How do we make this vision a reality? What breakthroughs in solar, bioenergy and energy storage are driving us forward? And how can each of us contribute to reducing our carbon footprint?

Join us as we delve into the innovations shaping the clean energy revolution. Whether you're a business leader steering your organization through change or a curious mind eager to learn, this guide illuminates the path to a sustainable tomorrow. The energy transition is here – let's explore it together.

Bioenergy: Transforming organic matter into energy

Imagine powering your business with the remnants of last night's dinner or the sawdust from a lumberyard. That's bioenergy – nature's way of turning waste into watts. This versatile power is revolutionizing industries, from airlines flying on algae-based fuels to factories running on agricultural leftovers. It's not just about being green; it's about growing your bottom line.

Bioenergy offers a double win: reducing waste disposal costs while generating cheap, renewable power. And unlike its renewable counterparts, wind and solar, bioenergy delivers on-demand electricity, come rain or shine. From small biogas digesters to large-scale biomass plants, this sector is ripe with opportunity. Will your business be at the forefront of this bio-revolution, or will you be left composting in the past?

Ready to tap into this incredible potential? Don't miss out – read our article: "Bioenergy: Transforming organic matter into energy".

Solar energy: Harnessing the power of the sun

Solar energy isn't just sunshine, it's a golden opportunity. Consider powering your business with the same rays that warm our planet. From rooftop panels to vast solar farms, this technology is revolutionizing how we think about electricity. It's not just clean; it's increasingly cost-effective, with prices decreasing as efficiency soars.

Companies worldwide are harnessing solar energy to slash operating costs, boost sustainability credentials, and future-proof their operations. As batteries improve and grids modernize, solar is changing its positioning as an unreliable power source. Today, the question isn't whether solar will transform the energy landscape – it's whether you'll be leading the charge or playing catch-up.

Don't miss the opportunity to turn sunshine into savings! Take the leap towards a brighter future by harnessing the power of the sun.

Energy storage: Powering the future of renewable energy

Energy storage is the unsung hero of renewable power. Think of it as a giant battery for the planet. When the sun shines bright or the wind blows strong, we capture that excess energy instead of letting it go to waste. Then, on calm or cloudy days, we tap into our energy savings account. It's like having your personal backup generator.

The technology is advancing in leaps and bounds. From pumped hydro systems to cutting-edge batteries, industry is constantly finding innovative ways to keep the lights on 24/7 using green energy. But it isn't just about your daily energy needs; it's about strategic power management. With clever energy storage, your company can slash peak-hour costs, selling excess energy back to the grid, and never breaking a sweat during blackouts. The future of energy storage isn't just bright – it's nothing short of brilliant.

Intrigued? Discover how the world is powering the future of renewable energy.

Carbon footprint: Measuring and reducing our environmental impact

In today's business landscape, your carbon footprint is much more than environmental metrics, it's a measure of efficiency, innovation and foresight. That's why carbon calculation is gaining so much traction – it's the game-changer that's helping companies reduce their carbon emissions while boosting their bottom line. It's like hitting the sustainability jackpot.

Embracing this shift goes beyond mere compliance. It's about future-proofing operations against rising carbon taxes,

harnessing renewable solutions, and meeting the expectations of eco-conscious consumers and investors. In an era where carbon disclosure is becoming the norm, your energy choices are your corporate calling card. The question now isn't whether you can afford to go renewable – it's whether you can afford not to.

Learn how to measure and reduce your carbon footprint. Get insights from our latest article: "Carbon footprint: Measuring and reducing our environmental impact".

ISO 9806:2017Solar energy — Solar thermal collectors — Test methods

ISO 13065:2015Sustainability criteria for bioenergy

ISO 14064-1:2018Greenhouse gases

A sustainable energy future

As we've journeyed through the dynamic world of renewable energy – from groundbreaking solar technologies to reducing carbon footprints – one message shines through: sustainable power is transforming our world. The challenge now is to ensure quality, consistency and long-term impact. Enter ISO standards.

These global frameworks act as a catalyst for progress. For communities, they drive collaboration and build trust, enabling local clean energy efforts to deliver meaningful results. For businesses, they provide a blueprint for innovation and operational excellence, signalling a commitment to environmental stewardship.

The real question is: How will you take part? Whether you're shaping strategy in the boardroom or making greener choices at home, everyone has a role to play. The clean energy revolution is underway – will you help drive it, or simply watch it pass by?

Source ISO website

Contribution of standards in achieving health and well-being

Fatuma Mauniko

Standards Officer

Food safety has multiple dimensions, and it is intrinsically linked to achieving the Sustainable Development Goals (SDGs), such as zero hunger, good health and well-being, poverty elimination, gender equality, water and sanitation, sustainable production and consumption, and climate change.

The integral role of food safety in achieving these SDGs was highlighted during the WHO/

Food and Agriculture Organization of the United Nations (FAO)/African Union (AU) International Food Safety Conference in Addis Ababa earlier in 2019. Hence, there is a need to recognize that the SDGs will be unattainable without adequate, safe and healthy food, particularly for domestic consumers in developing countries.

Considering the importance of food safety for public health and overall socioeconomic development, ensuring safe and healthy food for all individuals is crucial. Achieving food safety is a complex endeavour in addressing various challenges throughout the value chain, influenced by many internal and external factors, including scientific, socio-cultural and economic aspects.

Food safety is a shared responsibility, and it needs joint efforts of all stakeholders; governments, food business operators, consumers and academics across the food chain, to include the broader network beyond food and health and to engage the food security, nutrition, environmental and socioeconomic sectors for making food safety a long-term investment.

Tanzania Bureau of Standards (TBS), amongst other responsibilities, ensures food safety in the country. In so doing, it has the mandate to formulate, promulgate and implement national standards in different sectors, including the Food and Agriculture sector, with over (30) technical committees responsible for the development of standards covering food technologies, food safety, agricultural produce, livestock and livestock products, poultry and poultry products, etc.

To ensure the quality and safety of the products, the following continue to be done on standardization activities:

- Developing and reviewing national food standards;
- Involvement of stakeholders relevant to their areas of expertise in the development of national food standards; and
- Participation in the regional and international food standards setting to ensure requirements set align with national practices.

Contribution of standards on the health issues

To protect from foodborne diseases posed by biological, chemical and physical hazards, among other parameters, food products standards establish the safety maximum level limits on the following parameters: -

a)Food additives

A food additive can be defined as a substance whose intended use will lead to its incorporation into the food or affect the food's characteristics. Food additives generally benefit the food producer, processor or consumer. For the consumer, additives can improve the organoleptic qualities of foods, improve the nutritional value, or ease the preparation of ingredients and meals.

Their functions can usually be classified as one of the following:

i) to maintain or improve nutritional quality;

ii) to maintain or improve product safety or quality;

iii) to aid in processing or preparation; and

iv) to enhance sensory characteristics (FDA, 1979, 1992).

Food products standards stipulate the permitted food uses or usage levels of food additives in alignment with the requirements of codex standards and should be declared on the Label. But as regulators, we need to challenge ourselves to the risk associated when food additives and other artificial chemicals are combined.

b)Heavy metal contaminants

Food contamination with heavy metals is another concern for human and animal health. The most common heavy metals are mercury, lead, chromium, cadmium, and arsenic. The concentration of heavy metals in water resources, air, and food is assessed in this regard (Mousavi et al., 2013; Ghorani-Azam et al., 2016; Luo et al., 2020). Metals, among the other environmental pollutants, may also occur naturally and remain in the environment. Hence, human exposure to metals is inevitable, and some studies have reported gender differences in the toxicity of metals (Vahter et al., 2007; Tchounwou et al., 2012).

Heavy metals may frequently react with biological systems by losing one or more electrons and forming metal cations with affinity to the nucleophilic sites of vital macromolecules. Several acute and chronic toxic effects of heavy metals affect different body organs. Gastrointestinal and kidney dysfunction, nervous system disorders, skin lesions, vascular damage, immune system dysfunction, birth defects, and cancer are the some of the complications of heavy metal's toxic effects. Simultaneous exposure to two or more metals may have cumulative effects (Fernandes Azevedo et al., 2012; Cobbina et al., 2015; Costa, 2019; Gazwi et al., 2020). High-dose of heavy metals exposure, particularly mercury and lead, may induce severe complications such as abdominal colic pain, bloody diarrhoea, and kidney failure (Bernhoft, 2012; Tsai et al., 2017).

To protect human health, maximum levels of heavy metals are set in food products standards in alignment with established limits by the Codex Alimentarius Commission.

c) Pesticide residues and veterinary drugs

i) Pesticides residues

A maximum residue limit (MRL) is the

highest level of pesticide residues that is legally tolerated in or on food or feed when pesticides are applied correctly following Good Agricultural Practice.

ii) Veterinary drug residues

The maximum residue limit (MRL) is the maximum concentration of residues legally tolerated in a food product obtained from an animal that has received veterinary medicine. Traces of active ingredients and metabolites that remain in food after being applied on the farm or in postharvest handling or treatment of animals are considered to be toxicological and can be found in different types of food products such as animal tissues, milk, honey, eggs, etc.

More than 1,000 pesticides are used worldwide to ensure food is not damaged or destroyed by pests. Each pesticide has different properties and toxicological effects. According to WHO, maximum levels for pesticides residues and veterinary drugs in the food products standards should be established.

iii) Biological agents

Bacteria, parasites and viruses are the major causative agents of foodborne diseases and sources of contamination from the environment. They could enter food during production, harvest, storage, retailing and preparation for consumption. Good hygienic practices should be examined during food products' production, processing and handling. Food products standards set microbiological limits level to safeguard the health of the consumers.

iv) Naturally occurring plant food toxicants

Some plant foods evolve defence mechanisms to protect themselves from predators by producing inherent chemicals as secondary metabolites. These metabolites are beneficial for the plant but toxic to other organisms, including humans. Hydrogen cyanide (HCN), Ochratoxin, and tannins are examples of naturally occurring toxins and are available in different types of plant food products.

Consumption of it may result in acute toxicity, including nausea, dizziness, stomach discomfort, vomiting, and skin allergies, whereas chronic health consequences can cause irreversible harm to essential organs and systems such as the immune system, kidneys, and reproductive system, and in severe cases, they can be carcinogenic and fatal. Food products standards set the maximum limits level to safeguard consumers' health with regard to these toxins.

Capability of the food industry to supply safe food

Food production, processing and marketing are conducted by a highly fragmented large number of small producers and handlers who lack appropriate knowledge and expertise. They are responsible for processing different food products for domestic consumption through open markets, supermarkets, schools, hospitals, restaurants, street food vending and other methods.

Equipping them with appropriate knowledge and expertise on Good Agricultural Practices, Good Beekeeping practices, Good Fishing Practices and Good Animal Husbandry can ensure the availability of safe raw materials. Training them in Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Point (HACCP) system will ensure the requirements of the standards are observed throughout the food value chain.

Conclusion

Due to technological changes and national, regional and international market expansion, various interventions need to be implemented to ensure food safety in achieving public health and overall socioeconomic development. First and foremost, the food value chain need to be updated and improved to provide analytical skills for monitoring of microbiological and chemical contaminants to reassure communities of safe food supply. Also, there is a need to improve risk assessment data based on the level of exposure to different contaminants and institute a strict mechanism to identify potential risks on the food products to be used as national reference data, also considered on the formulation and reviewing of food products standards. Moreover, more efforts are needed in integrating epidemiological data for rapid detection and response to outbreaks of foodborne diseases to protect human health.

Food standards are a significant tool in preventing foodborne diseases

Mary Ottaru

Standards Officer

Safe food is a primary determinant of human health and well-being. And even though it is a fundamental human right to access safe, nutritious and healthy food, many communities cannot exercise the right to safe food. As a result, people will suffer from foodborne diseases, which will significantly impacting public health and development.

Unsafe food can cause acute or chronic diseases – including more than 200 diseases ranging from diarrhoea to cancers, which sometimes lead to permanent disability or death.

Foodborne diseases are caused by consuming food or beverages contaminated with harmful levels of bacteria, viruses, parasites, or chemicals. The symptoms of foodborne illnesses can range from mild to severe and may include nausea, vomiting, diarrhoea, fever, and abdominal pain. In extreme cases, foodborne diseases can lead to hospitalization and even death.

The World Health Organization (WHO 2015) estimates that more than 600 million people fall ill and 420,000 die every year from eating contaminated food. Nobody should die from eating food. These are preventable deaths.

World Food Safety Day is celebrated annually on 7 June to draw attention and mobilize action to prevent, detect and manage foodborne risks and raise awareness on food safety's importance.

This year's theme, 'Food standards save lives,' highlighted the role that food standards play in ensuring the safety and quality of food, ultimately saving lives.

When you eat, how do you know your food is safe? Food standards are rules and regulations that ensure that food is safe, nutritious and of good quality. They cover everything from the farming and production of food to its storage, transportation and packaging.

Food standards are critical in preventing foodborne diseases by ensuring food is produced, processed and distributed safely and hygienically. They define the maximum levels of additives, contaminants, residues of pesticides and veterinary drugs that can be safely consumed. Furthermore, food standards specify how the food should be measured, packaged and transported to keep it safe. They also ensure that food is nutritious and quality, essential for maintaining a healthy diet. They include guidelines for food safety management systems designed to identify and control food safety hazards. Thanks to the application of food standards on nutrition and allergen labelling, consumers can know whether the food will be good for them.

Food standards require producers to prevent contamination and minimize the risk of foodborne diseases. For example, food standards may require that food be cooked to a specific temperature to kill harmful bacteria, that surfaces and equipment be cleaned and sanitized regularly, and that food be stored at appropriate temperatures to prevent the growth of bacteria.

Food standards have a significant impact in reducing the incidence of foodborne diseases. For example, implementing food safety regulations such as the Hazard Analysis and Critical Control Points (HACCP) system has significantly decreased foodborne diseases over the past few decades

However, there is still work to be done to further reduce the incidence of foodborne diseases. In many developing countries, food safety regulations are not as strict as they could be, and there is a lack of enforcement of existing regulations. Additionally, new challenges, such as the globalization of food production and distribution, mean that food standards must be

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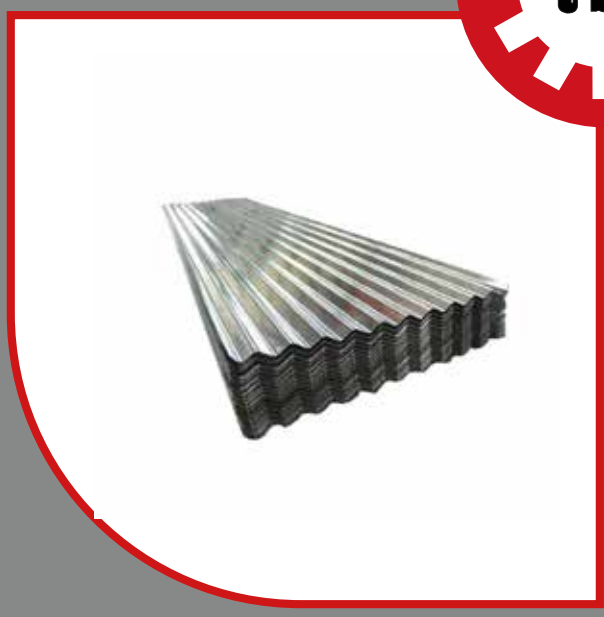

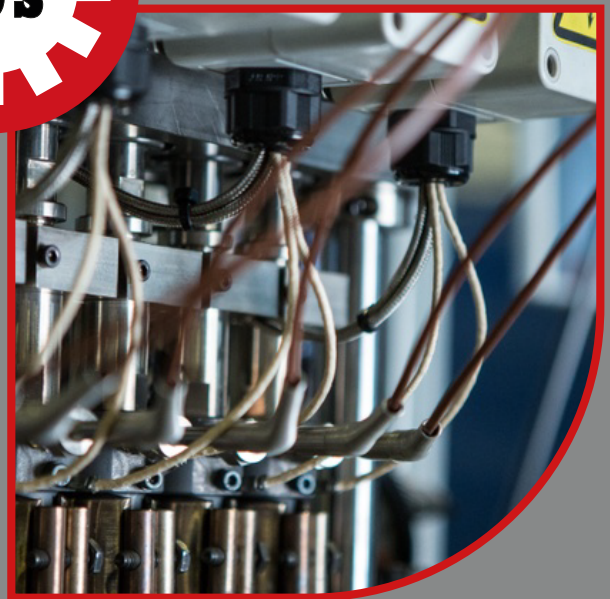

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