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inside stories

Members of the Zanzibar House of Representatives Committee for Finance, Business and Agriculture in a group photo with the TBS Management during their familiarization visit at TBS headquarters

VISION

A model of excellence in standardization and quality assurance services by 2025.

MISSION

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

QUALITY POLICY

Tanzania Bureau of Standards (TBS) endeavours, as mandated, to deliver quality products that include standards and quality assurance services by meeting and even exceeding customers' requirements so as to retain their loyalty. TBS provides resources and continually improves her processes to ensure that employees are capable of consistently producing quality products at the right time.

CORE VALUES

i. Customer focus
We deliver services to meet consumers' expectations.

ii. Quality culture
We employ the best available practices and professional values in performing our duties.

iii. Transparency
We exercise openness, impartiality, accurately and promptly share information with all stakeholders.

iv. Integrity
We constantly demonstrate impartiality, fairness and honesty while upholding the highest ethical standards.

v. Team work
We work together through concerted efforts to achieve our corporate goals.

CONTENTS

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TBS role in industrialization is beyond description

At 41, the Tanzania Bureau of Standards (TBS) boasts of enviable progress in supporting institutional infrastructure for the industry and commerce sectors of the economy. Mandated to undertake measures for quality control of products of all descriptions and to promote standardization in industry and commerce, the Bureau has proved to be a stimulus to industrial development.

Standardization is one of the basic components which any infrastructure must include in order to develop a sound economy. It is the foundation which a country needs in order to be able to assimilate imported technology and utilize its potential.

During its existence, TBS has shown the road to a more plentiful life in registering and promoting standards for hundreds of users in the country, and tested hundreds of thousands of products through its ultramodern testing laboratories based in Dar es Salaam.

By and large, the nation's standards watchdog has fulfilled its mission of inculcating awareness into, and promoting adoption of standardization and quality assurance by the industry and commerce sectors with the view to complement national effort to offer products of better quality and higher competitive edge on both internal as well as external markets with the overall objective of promoting the availability of good and safe products for the Tanzanian population and enhancing economic development.

The Bureau has done so through rationalizing the manufacturing process, eliminating or reducing wasteful material or labour, reducing inventories of both raw materials and finished products, reducing the cost of manufacture, and assuring the quality of goods purchased and services received.

TBS has contributed to industrial development through training on good manufacturing practices, good hygienic practices and other related quality assurance training to producers, manufacturers and small and medium enterprises (SMEs). This has enabled producers, manufacturers and SMEs to produce quality products which can access markets, safeguard consumers, and also adhere with environmental issues.

The Bureau's product certification has provided the ideal partnership to industries to add value to their businesses, to help manufacturers to have market access - break into new markets, market development, speed to market, risk management, product differentiation and competitive edge.

The Fifth Phase Government of President John Magufuli has vowed to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation as part of the Tanzania Development Vision 2025 which lays emphasis on a diversified and semi-industrialized economy with a substantial industrial sector comparable to typical middle-income countries.

The objectives of this policy pronouncement are two-fold, first that Tanzania's entire industrial production should be increased, second that production should be geared towards more efficient economic and social use.

This comes from the realization that to participate effectively in the global trade, Tanzania must develop the capacity to meet international standards. This is a formidable challenge in order to achieve sustainable growth in the economy as envisaged in the Development Vision.

The long-term objective is to improve the economy by strengthening standardization and quality assurance at the in-plant and national levels, which will help improve the quality of

locally-produced goods, make the quality of local materials more efficient and reduce costs, help ensure fairness in trade and commerce, and in the control of imports and promotion of exports.

Emergent industrializing nations such as Tanzania must produce both for domestic consumption and export. This means that compulsory national standards must be established for specific consumer products which can affect the health or safety or for which there is monopoly of ownership.

TBS has, therefore, a very important role to play in the day-to-day management of Tanzania's economy in order to create more order in the goods/money-worthiness and quality despite some challenges hindering its performance.

These challenges include the lack of capacity to generate sufficient income to fully meet its operating and development costs. The major sources of internally generated income are from certification activities. These include implementation of standards through the Standards Mark Licensing and Batch Certification Scheme which have grown remarkably since the promulgation of the Imports Regulations in 1998. The other sources are sales of standards, testing and calibration services. These sources are not enough to cover both operation and capital development like expansion of TBS infrastructure, purchasing of state-of-the-art equipment, building of new laboratories and expansion of routine operations.

As the economy grows and borders open up, the need for standards enforcement becomes more obvious than ever. With local businesses flourishing and more SMEs coming into the market in big numbers, the need for protecting consumers against sub-standard goods is more important now than ever before. This calls for TBS to expand its capacity to be able to meet this growing demand.

Shortage of staff is the biggest challenge to TBS operations followed by lack of enough space within the existing laboratories which can accommodate both human resources as well as equipment. But challenges as challenges are a source of inspiration since the impact of standardization in the national economy is massive and attracting increasing political importance.

Good luck! TBS has won the ground for quality assurance.

ANY DOUBT WITH IMPORTED PRODUCT? SHOP WITH CONFIDENCE WITH ISM MARK

EAC countries strive to phase out lead in paints

Participants of a workshop on the development of national and regional regulations and standards on lead in paints in a group photo. The two-day workshop was held at TBS headquarters in mid September, 2016.

East African countries have been urged to critically address the issue of lead in paints which has adverse effects economically and on human health.

The Tanzania Bureau of Standards Acting Director General, Mrs. Edna Ndumbaro, made the remark recently in Dar es Salaam, during the opening of a two day East African Workshop on the development of national and regional regulations and standard on lead in paints.

Mrs Ndumbaro said lead is a cumulative toxicant particularly hazardous to young children and pregnant women and that no safe level of lead exposure has been established, therefore it is high time for developing countries to work on it.

"Lead in paints is a major route of lead exposure, especially for children and is still widely available in developing countries and countries with economies in transition, hence need for special attention," she insisted.

She commended the United Nations Environment Programme (UNEP) for their commitment towards the global initiatives on elimination of lead in paints as well as their participation in this regional workshop.

"This is a great forum where you will share experience and discuss the challenges and opportunities facing the campaign towards the elimination of lead in paints by 2020," she commented.

In his presentation, the United Nations Environment Programme Senior Progamme Officer, Chemicals and Waste Branch Division of Technology Industry, Mr. Eisaku Toda said on pregnant women, pregnancy mobilizes lead stored in bone, releasing it back into blood where it can be circulated to maternal tissues and the fetus.

Other effects include increased risk of hypertension during pregnancy and reduce fetal growth.

Mr. Toda said in order to rescue the situation in December 2015 the East Africa Sub-regional Workshop was convened in Addis Ababa Ethiopia, whereby Government officials, experts from USA and stakeholders from 15 African countries namely Benin, Burundi, Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Malawi, Nigeria, Rwanda, Sudan, Tanzania, Uganda and Zambia attended the meeting.

He further said during the meeting they came into an agreement that by 2020 all countries should have adopted legally binding laws, regulations, standards and/or procedures to control the production, import, export, sale and use of lead paints with special attention to the elimination of lead decorative paints and lead paints for other applications most likely to contribute to childhood lead exposure.

Regarding the Action Plan 2015-2016, Mr. Toda said among other things it encourages governments in countries where legal limits are not currently in place to establish and enforce national legal limits on lead in paint, with special attention to the elimination of lead decorative paints and lead paints for other applications most likely to contribute to childhood lead exposure.

Also the action plan encourages industry activities to voluntarily stop the manufacture and sale of lead paint, focusing on residential and decorative paints containing lead additives in countries where legal limits are not currently in place.

Furthermore it sensitize increased awareness of the health and environmental risks posed by lead paint, to help prompt actions by governments and manufacturers to stop the production and sale of lead paints.

Ms Angela Bandemehr, from the United States Environmental Protection Agency said a recent report developed by UNEP in partnership with World Resources Institute highlights the status of lead regulations around the world.

She said the report stipulates that over the years, legal restrictions on lead have successfully decreased the use of lead in fuel, plumbing and other products and processes. These restrictions have effectively reduced the level of lead exposure in human populations.

However, she said paints containing lead are still widely manufactured and purchased in many countries across the world.

She further said the report analyses the importance of legislation and regulations which are still needed in many developing countries around the world to reduce exposure to lead.

Ms. Bandemehr also said report highlights the need for lead paint laws to protect children and workers in the

developing world and regardless of the limits, the report further looks towards enforcement on manufacture, use and trade to phase-out lead in paint.

The workshop was co-hosted by the Government of the United Republic of Tanzania and the United Nations Environment Programme and attended by participants from Tanzania, Kenya, Uganda, Ethiopia, South Africa, China and the United States of America.

TBS grants 96 licences, certificates to manufacturers

A cross section of TBS clients listen to the guest of honour, Assistant Director of Business and Market Sensitization from the Ministry of Industry, Trade and Investment, Mr. Christopher Nassari (not in picture) during the grant of licences ceremony.

Tanzania Bureau of Standards (TBS) has granted 96 licence and certificates to manufacturers of various products tested and verified to conform to relevant standards.

In an event held at TBS headquarters recently, 46 standards mark licences, 11 tested product certificates and one quality management system certificate were granted to various manufacturers. Nine licences were also extended.

In his opening remarks, the Guest of Honour, the Assistant Director of Business and Market Sensitization from Ministry of Industry, Trade and Investment, Mr. Christopher Nassari, said the government is proud of their success. He urged them to strengthen cooperation with TBS by ensuring that all the time their products meet the required standards.

Mr. Nassari further said, while ensuring local products are of quality, the government through TBS will also continue to fights against substandard products in the market by continuing implementing Pre-shipment Verification of Conformity to Standards (PVoC) and strengthening entry point offices.

"We want your products to compete fairly in the market, therefore the government will make sure that all substandard and counterfeit products do not exist in the market," declared Mr. Nassari.

He said TBS is currently in a campaign of removing substandard products in the market and during the exercise, from January, 2106 to November, 2016, TBS seized 8,536 roofing sheets, 584 solar batteries, five tons of used undergarments, 1,250 used tyres and 939,000 litres of oil lubricants, and some of the products have already been destroyed.

On her part, Engineer Tumaini Mtitu, Director of Quality Management, said TBS will continue to educate the public on the importance of standardization and quality assurance for the economic betterment and industrial development.

Eng. Mtitu said all manufacturers are TBS stakeholders, thus they should be free to contact TBS any time. At the same, she asserted, TBS inspectors will continue to make follow-ups in areas of production and throughout the market to ascertain the manufacturers' continued adherence to standards.

Manufacturers granted with licences and certificates include small scale entrepreneurs, medium scale and large scale manufacturers from within and outside the country.

One of the small scale entrepreneurs, Mr. Kelvin Stephen from Maswa Family Group, manufacturer of writing chalks, congratulated TBS for their effort to train SMEs which inspired his group to follow the required procedures for certification.

"TBS should continue to assist SMEs in rural areas through training, if we really aim at turning Tanzania into an industrial country," he insisted.

TBS urged to strengthen public education in rural areas

Quality Assurance Officer, Ashura Katunzi (left) briefs secondary school students in Lindi on TBS activities

It has been observed that public education on issues of standardization and quality assurance activities needs to be extended further to the rural areas for them to easily identify substandard products in the market.

Speaking during the just ended Nane Nane Exhibition in Lindi Region, one of the visitors, Mr. Athuman Juma from Masasi District, a common citizen, said that it was his first time to see TBS officials and get vital information regarding standardization and quality assurance activities.

He insisted that efforts to impart knowledge on standardization and quality assurance to the general public need to be intensified as the majority of people in the rural areas consume products without checking on their quality.

"Most of our people in the rural areas do not know what TBS is and worse enough when they buy products they just look for the cheap price and not otherwise. Something just needs to be done," he insisted.

Responding to his appeal, TBS Quality Assurance Officer, Ms. Ashura Katunzi said TBS has been conducting various training courses to the SMEs in urban and rural areas countrywide, although it is difficult to reach all groups of people due to budget constraints.

Apart from training SMEs, Ms. Katunzi said TBS also uses print and electronic media to educate the public on various issues pertaining to standardization and quality assurance matters. However, she said plans are underway to open a zonal office in Mtwara which will serve for all neighbouring regions and districts.

TBS has been participating in the Nane Nane exhibitions whereby exhibitors use the platform to educate manufacturers and the public at large on the importance of certifying products and consuming quality product.

This year the exhibition was officially opened by the Minister for Energy and Minerals, Hon. Sospeter Muhongo on 2016-08-01 and closed by the Vice President of United Republic of Tanzania, Hon. Sami Suluhu Hassan on 2016-08-08.

Mwijage urges TBS staff to work diligently

A cross section of TBS Workers Council members listen to the Minister for Industry, Trade and Investment, Hon. Charles Mwijage (not in picture) during the launch of the Council

The Minister for Industry, Trade and Investment, Hon. Charles Mwijage has urged TBS staff to work diligently as the public depends on TBS for their health, safety and environmental protection.

Hon. Mwijage made the remark recently at TBS Headquarters in Dar es Salaam recently, during the launching of the TBS Workers Council, where he used the opportunity to counsel workers on the need to work by following rules and procedures and to avoid temptations to take bribes.

He said by accepting bribes, one actually jeopardizes people's health and safety, as the public depends on TBS in ensuring quality of products. He warned those who will be involved in corruption that stern measures will be taken against them as per relevant laws.

Hon. Mwijage admitted that TBS faces many challenges, including but not limited to complaints on unfair promotions and salary increment. However, he added, those challenges can be resolved through collaboration between TBS management, the Workers Council and the Ministry.

"I promise that after approval of your Organization Structure by the Treasury Registrar all the complaints will be resolved," he assured.

The launching ceremony was also attended by the Chairman of the TBS Board of Directors, Professor Maboko Makenya.

Reps Committee commends TBS

The Zanzibar House of Representatives Committee for Finance, Business and Agriculture has commended Tanzania Bureau of Standards (TBS) for its technical support to its sister organization in the Isles, the Zanzibar Bureau of Standards (ZBS).

Speaking on the Committee's behalf, during a one familiarization tour at TBS headquarters in Dar es Salaam recently, the Committee Vice Chair, Hon. Hamida Issa said Zanzibar is proud of TBS for the training it offers to ZBS staff since its establishment in 2012.

Hon. Hamida said they are aware of the signed Memorandum of Understanding (MoU) between ZBS and TBS which has, to a great extent, strengthened the bond between the two organizations, which enables ZBS to use TBS laboratory facilities in testing various samples from Zanzibar, attachment for ZBS staff and adoption of Tanzania Standards.

On his part, Hon. Gerey Hamad said awareness creation on issues of standardization and quality assurance is needed in Zanzibar for manufacturers of various products in Zanzibar to use ZBS services.

"We congratulate the government of Tanzania for the efforts made in installing state-of-the-art equipment for

testing various products," he said, adding that the Committee will advise the government of Zanzibar to do the same for ZBS.

Eight members of Zanzibar House of Representatives were accompanied by the Director General of ZBS, Mr. Khatib Mwadini Khatib.

In his welcoming remarks, TBS Acting Director General, Prof. Egid Mubofu said the Bureau will continue to extend its support to ZBS.

On the issue of fighting against substandard products in the market, Prof. Mubofu said TBS has opened more zonal and border offices, including Mbeya, Mwanza and Arusha zonal offices, so as to curb the situation and bring services closer to stakeholders.

"We will continue seizing all substandard and counterfeit products, for our local products to compete fairly in the market," Prof. Mubofu emphasised.

TBS urges SMEs to observe quality

Tanzania Bureau of Standards (TBS) has stressed on the need to observe quality as the backbone of the country's growth and sustainability of local industries.

TBS Acting Director General, Prof. Egid Mubofu made the remark recently during the opening of a one day seminar on quality issues for small and medium entrepreneurs in Ilala District.

Prof. Mubofu said there is a big need for standardization that lays a foundation for competitiveness in local and international markets.

He said TBS has been striving to build quality awareness and consciousness among entrepreneurs as well as the general public at large, so that a small and medium entrepreneur can as well enjoy opportunities available in the market.

"TBS has this year set aside 200 million shillings to support SMEs in attaining the standard mark of quality," he elaborated and added that all SMEs which require to get support should route their applications through the Small Industries Development Organization (SIDO).

He further said TBS provides training opportunities prior to applying for the certification and that SMEs need to improve working environment in order to get more support to easily market their produces.

Prof. Mubofu said SMEs are exempted from paying certification fees for the first three years.

On his part, the Acting Dar es Salaam Regional Commissioner, Mr. Msongela Palela, who is also the Ilala District Executive Director, urged SMEs to produce quality goods that would enable them to secure best prices in local and foreign markets.

The one day seminar organized by TBS was also conducted in Temeke, Kigamboni and Kinondoni districts.

RC commends TBS efforts

Tanzania Bureau of Standards (TBS) has been commended for educating entrepreneurs and the public at large on matters of standardization and quality assurance.

The commendation was given by the Tabora Regional Commissioner Hon. Aggrey Mwanri, during the inauguration of a one-week exhibition organized by the Small Industries Development Organization (SIDO) in Tabora. The exhibition, also attended by TBS, among other government institutions, was held at Chipukizi Grounds in Tabora in September 2016.

Addressing organizers and exhibitors, the RC said TBS was doing a tremendous job in educating entrepreneurs on quality matters, as quality is the basis for sustainable business. He urged people in Tabora to make full use of business opportunities in their region instead of staying idle waiting for opportunities.

Alongside the exhibition, a number of Small and Medium Entrepreneurs (SMEs) attended the training organized and administered by TBS, regarding procedures to get the TBS Standards Mark of Quality for their products.

The training, which was sponsored by the Marketing Infrastructure, Value Addition and Rural Finance (MIVARF) Support Programme under the Prime Minister's Office, went concurrently with creation of awareness to the small and medium-sized producers on the importance of certified products to the producer and the consumer.

At least 232 SMEs from Dodoma, Singida, Dar es Salaam, Shinyanga, Mbeya, Rukwa, Kigoma, Katavi, Tabora, Morogoro, Arusha and the neighboring country Kenya participated in the exhibitions.

The producers showcased different categories of products such as honey, detergents, handcrafts, leather products, machines, vikoi, batiks, soaps, flour, peanut butter, spices and water filters, just to mention a few.

TBS Senior Marketing Officer, Ms Gladness Kaseka said TBS attended the exhibition with the aim of bringing the Bureau's services closer to SMEs and creating awareness regarding various activities carried out by the country's standards body to the people of Tabora.

She asserted that TBS has set procedures which an SME is required to follow and enjoy TBS certification services for free. She called on the general public to develop a culture of buying TBS certified products from shops and markets.

On their part, SMEs asked TBS to maintain communication with trade officers at regional and district levels so that SMEs can be well informed on various training opportunities.

MEETINGS HELD

During the period of July — December 2016, the following standardization meetings were held:

S/N	MEETING	DATE
1	National Consultative Meeting on Fish and Fishery Products (AFDC 23)	2016-07-18
2	Communication Equipment Technical Committee (EEDC 6)	2016-07-22
3	Cells and Batteries Technical Committee (EEDC2)	2016-07-27
4	Fire and Firefighting Technical committee (MEDC 13)	2016-07-28
5	Quantities, Units, Symbols and Conversion Factors Technical Committee (GTDC 1)	2016-07-28
6	Mining and Minerals Divisional Standards Committee (MMDC)	2016-07-28 & 29
7	Alcoholic Beverages Technical Committee (AFDC 13)	2016-07-29
8	Foundation and Soil for Civil Engineering Purpose Technical Committee (BCDC 13)	2016-08-02
9	Milk and Milk Products Technical Committee (AFDC 14)	2016-08-09
10	Wastewater Technical Committee (EMDC 1)	2016-08-11
11	Building and Construction Divisional Standards Committee (BCDC)	2016-08-11 & 12
12	National Consultative Committee in Building and Construction Engineering	2016-08-17
13	Manned Security Technical Committee (EEDC 4)	2016-08-18
14	Working Group Meeting for Processed Fruits and Vegetables (AFDC 12) Technical Committee	2016-08-19
15	Pipes and Pipe Fittings Technical committee (MEDC 4)	2016-08-24
16	Working group meeting under the Sanitation Structure and Sanitary Appliance Technical Committee(BCDC 7)	2016-08-26
17	Spices and Condiments Technical Committee (AFDC 7)	2016-8-29 & 31
18	Soaps and Detergents Technical Committee (CDC 2)	2016-09-06
19	Agriculture and Food Divisional Standards Committee (AFDC)	2016-09-06 & 07
20	Solid Waste Technical Committee (EMDC 11)	2016-09-09
21	Working Group under Soaps and Detergents Technical Committee (CDC 2)	2016-09-13
22	Industrial and Laboratory Chemicals Technical Committee (CDC 7)	2016-09-15
23	Sampling Procedure and Test Methods Technical Committee (TDC5)	2016-09-15
24	Pharmaceuticals Technical Committee (CDC 16)	2016-09-20
25	Sampling Procedure and Test Methods Technical Committee (TDC5)	2016-09-22
26	The Working Group under the Automotive Components Technical committee (MEDC 9)	2016-09-23
27	Environmental Management Divisional Standards Committee (EMDC)	2016-09-29
28	Electrical Engineering Divisional Standards Committee (EEDC)	2016-09-29
29	Fats and Oils Technical Committee (AFDC 04)	2016-09-30
30	Working Group under Water Quality Technical Committee (CDC 6)	2016-09-30
31	Foundation and Soil for Civil Engineering Purposes (BCDC13)	2016-10-02
32	Societal Security Technical Committee (GTDC7)	2016-10-05
33	Nutrition and Foods for Special Dietary Uses Technical Committee (AFDC 6)	2016-10-05
34	Petroleum and Petroleum Products Technical Committee (CDC15)	2016-10-6
35	National Consultative Meeting under the Mechanical Engineering Standards Section	2016-10-07
36	Mechanical Engineering Divisional Standards (MEDC) Committee	2016-10-13
37	Working Group under Wastewater Technical Committee (EMDC 1)	2016-10-18
38	National Consultative Meeting under Leather and Leather Products (TDC 11)	2016-10-19
39	Medical Devices Technical Committee (CDC 21)	2016-10-19
40	Exploration Technical Committee (MMDC 1)	2016-10-20
41	Roofing and Finishes Technical Committee (BCDC 9)	2016-10-21

42	Cells and Batteries Technical Committee (EEDC2)	2016-10-26
43	Spices and Condiments Technical Committee (AFDC 7)	2016-10-27
44	Timber Structures Technical Committee (BCDC12)	2016-10-27
45	Working Group under Wastewater Technical Committee (EMDC 1)	2016-10-28
46	Manned Security Technical Committee (EEDC 4)	2016-11-02
47	Communication Equipment Technical Committee (EEDC6)	2016-11-03
48	Working Group meeting under the Industrial and Laboratories Chemicals Technical Committee (CDC7)	2016-11-04
49	Sawn Timber, Sawn Logs and Wood Components Technical Committee (BCDC 6)	2016-11-04
50	Milk and Milk Products Technical Committee (AFDC 14)	2016-11-11
51	Alcoholic Beverage (AFDC 13) Working Group under Food and Agriculture	2016-11-15
52	Housekeeping, Entertainment and Sports Equipment Technical Committee (CDC 18)	2016-11-16
53	Petroleum and Petroleum Products Technical Committee (CDC 15)	2016-11-17
54	Mining and Minerals Divisional Standards Committee (MMDC)	2016-11-24
55	Soap and Detergents Technical Committee (CDC2)	2016-11-24
56	Textiles Technical Committee (TDC5)	2016-11-25
57	General Sampling and Test Methods Technical Committee (AFDC 03)	2016-11-29
58	Chemistry and Chemical Engineering (ARSO/THC 05) ARSO Technical Harmonization	2016-11-30-2016-12-02
59	Chemical Divisional Standards Committee	2016-12-02
60	Chemical Divisional Standards Committee	2016-12-06
61	Building and Construction Divisional Standards Committee (BCDC)	2016-12-07 & 08
62	Packaging Technical Committee (GTDC 4)	2016-12-08
63	Pumps and Flow Measuring Equipment Technical Committee (MEDC 11)	2016-12-08
64	Antimicrobial Resistance Working Group (WG-AMR) under Biotechnology (AFDC 11)	2016-12-13-16
65	Working Group under Solar Power Systems Technical Committee (EEDC 5)	2016-12-14
66	Textiles Technical Committee (TDC3)	2016-12-15
67	Application of Statistical Methods and Quality Assurance Technical Committee (GTDC 3)	2016-12-16

THINK NO FURTHER TBS GOT YOU COVERED IN ENSURING QUALITY OF GOODS IN THE MARKET.

FINALIZED TANZANIA STANDARDS

During the period of July — December, 2016 the following 73 Tanzania Standards were finalized:

1.1 Mechanical Engineering Standards

1) **FTZS 1927: 2016/ISO 2107:** 2007 Aluminium and aluminium alloys - Wrought products - Temper designations

2) **FTZS 1928 -1: 2016/ISO 6362 -1:** 2014 Wrought aluminium and aluminium alloys - Extruded rods/ bars, tubes and profile - part 1: Technical conditions for inspection delivery

3) **FTZS 1928 -2: 2016/ISO 6362 -2:** 2014 Wrought aluminium and aluminium alloys - Extruded rods/ bars, tubes and profile - part 2: Mechanical properties

4) F**TZS 1928 -3: 2016/ISO 6362 -3:** 2014 Wrought aluminium and aluminium alloys - Extruded rectangular bars - part 3: Tolerances on shape and dimensions

5) **FTZS 1928 -5: 2016/ISO 6362 -5:** 2014 Wrought aluminium and aluminium alloys - Extruded rods/ bars - tubes and profiles - part 5: Round, square and hexagonal bars - Tolerances on shape and dimensions

6) **FTZS 1928 -6: 2016/ISO 6362 -6:** 2014 Wrought aluminium and aluminium alloys - Extruded rods/ bars - tubes and profiles - part 6: Round, square rectangular and hexagonal tubes - Tolerances on shape and dimensions

7) **FTZS 1928 -7: 2016/ISO 6362 -7:** 2014 Wrought aluminium and aluminium alloys - Extruded rods/bars - tubes and profiles - part 7: Chemical composition

8) **FTZS 169:2016/ISO 261:** 1998 General purpose metric screw threads - General Plan

9) **FTZS 170: 2016/ISO 965-1:** 2013 General purpose metric screw threads - Tolerance - Principles and basic data

10) **FTZS 171:2016/ISO 965-2:** 1998 General Purpose metric screw threads - Tolerances - Limits of sizes for general purpose external and internal screw threads - Medium quality.

1.2 Mining and Mineral Processing Standards

1) **FTZS 1934 - 1:2016/ISO 1213-1:1993** Solid mineral fuels – Vocabulary – Part 1: Terms relating to coal preparation

2) **FTZS 1934 - 2:2016/ISO 1213 -2:1992** Solid mineral fuels – Vocabulary – Part 2: Terms relating to sampling, testing and analysis

3) **FTZS 1935:2016/ISO 18283:2006** Hard coal and coke - Manual sampling

4) **FTZS 1936 -1:2016/ISO 7404 - 1:2016** Methods for the petrographic analysis of coals — Part 1: Vocabulary

5) **FTZS 1936-2:2016/ISO 7404 - 2:2009** Methods for the petrographic analysis of coals — Part 2: Methods of preparing coal samples

6) **FTZS 1936-3:2016/ISO 7404 - 3:2009** Methods for the petrographic analysis of coals — Part 3: Method of determining maceral group composition

7) **FTZS 1936-4:2016/ISO 7404 - 4:1988** Methods for the petrographic analysis of bituminous coal and anthracite – Part 4: Method of determining microlithotype, carbominerite and minerite composition

8) **FTZS 1936-5:2016/ISO 7404 - 5:2009** Methods for the petrographic analysis of coals — Part 5: Method of determining microscopically the reflectance of vitrinite

9) **FTZS 1937:2016/ISO 11760:2005** Classification of coals

1.3 Electrical Engineering Standards

1) **FTZS144-1:2016/ IEC 60095-1:2006** Lead acid starter batteries - Part 1: General requirements and Methods of Test

2) **FTZS 1948-11:2016/ IEC 60896-11:2002** Stationary Lead acid batteries - Part 11: Vented types - General requirements and Methods of Test

3) **FTZS 1948-21:2016/ IEC 60896-21:2004** Stationary Lead acid batteries - Part 21: Valve regulated types - Methods of Test

4) **FTZS 1949-1-1:2016/ IEC 62676-1-1:2013** Video Surveillance Systems for use in Security Applications - Part 1-1: System Requirements - General

5) **FTZS 1950-11-1:2016/ IEC 60839-11-1:2013** Alarm and Electronic Security Systems - Part 11-1: Electronic Access Control Systems - System and Components Requirements

6) **FTZS 1951-9-5:2016/ IEC/TS 62257-9-5:2016** Recommendations for small renewable energy and hybrid systems for rural electrification - Part 9-5: integrated system - Selections of stand-alone lighting kits for rural electrification.

7) **FTZS 1952:2016** Off-grid solar photovoltaic lighting kits - Requirements

8) **FTZS 1954:2016/ IEC 60065:2014** Audio, video and similar electronic apparatus - Safety requirements

9) **FTZS 1953-1:2016/ IEC 60950-1:2013** Information technology equipment - Safety - Part 1: General requirements

1.4 Building and Construction Standards

1) **FTZS 1939: 2016** Civil engineering specifications—Penetration grade bitumen

2) **FTZS 1940:2016** Civil engineering specifications—Medium--Curing Cutback bitumen

3) **FTZS 1941: 2016** Civil engineering specifications—Anionic bitumen road emulsion

4) **FTZS 1942: 2016** Civil engineering specifications—Cationic bitumen road emulsion

5) **FTZS1943: 2016** Civil engineering specifications—Performance Graded Asphalt Binder

6) **FTZS 1944:2016/ISO 17064:2004** Wood-based panels — Fibreboard, particleboard and oriented strand board (OSB) — Vocabulary

7) **FTZS 1945: 2106/ ISO16895:2016** Wood-based panels — Dry-process fibreboard

8) **FTZS 1946: 2016/ ISO 16893: 2016** Wood-based panels — Particleboard

9) **FTZS 1947-1:2016/ ISO 27769-1:2009** Wood-based panels — Wet-process fibreboard —Part 1: Classifications

10) **FTZS 1947-2: 2016/ ISO 27769-2:** 2016 Wood-based panels—Wet-process fiberboard—Part 2: Requirements

1.5 General Techniques Standards

1) **FTZS 1757-1:2016 / ISO 80000-1:1994,** Quantities and Units-Part 1: General

2) **FTZS 1757-2:2016 / ISO 80000-2:2009,** Quantities and Units- Part 2: Mathematical sign sand symbols to be used in the natural sciences and technology

3) **FTZS 1757-3:2016 / ISO 80000-3: 2006,** Quantities and Units-Part 3: Space and time

4) **FTZS 1758: 2016 / ISO 8601: 2004,** Data elements and interchange formats - Information interchange-Representation of dates and times

1.6 Agriculture and Food Standards

1) **FTZS 1931:2016** - Cotton seeds for oil extraction - Specification

2) **FTZS 1933:2016** - Code of hygienic practice for groundnuts (peanuts)

3) **FTZS 29: 2016** - Spices and Condiments - Nomenclature

4) **FTZS 1938:2016** - Dates Specification

5) **FTZS 1929:2016** Bees wax- specification

6) **FTZS 1488:2016/ ISO 750:1998** Fruit and vegetable products —Determination of titratable acidity

7) **FTZS 1489:2016/ ISO 751:1998** Fruit and vegetable products —Determination of water-insoluble solids

8) **FTZS 1490:2016/ ISO 762:2003** Fruit and vegetable products —Determination of mineral impurities content

9) **FTZS 1492:2016 / ISO 2447-1998** Fruit and vegetable products —Determination of tin content

10) **FTZS 1493:2016/ ISO 5517-1978** Fruits and Vegetables - Determination of Iron content -1,10-Phenanthroline Photometric Method

11) **FTZS 1495:2016/ ISO 7952-1994** Fruits, vegetables and derived products - Determination of topper content - Method using flame atomic absorption spectrometry

12) **FTZS 1496:2016/ ISO 2173-2003** Fruit and vegetable products — Determination of soluble solids — Refractometric method

13) **FTZS 1500:2016/ ISO 6636/2-1981** Fruits, vegetables and derived products - Determination of zinc content - Part 2: Atomic absorption spectrometric method

14) **FTZS 1501:2016/ ISO 6637-1984** Fruits, vegetables and derived products - Determination of mercury content - Flameless atomic absorption method

15) **FTZS 1502:2016/ ISO 6634-1982** Fruits, vegetables and derived products - Determination of arsenic content - Silver diethyldithiocarbamate

16) **FTZS 1503:2016/ ISO 763-2003**- Fruit and vegetable products — Determination of ash insoluble in hydrochloric acid

17) **FTZS 1504:2016/ ISO 2448-1998**- Fruit and vegetable products — Determination of ethanol content.

1.7 Chemical Standards

1) **FTZS 1869-1:2016/ISO 9964-1:1993,** Water quality -- Determination of sodium and potassium-- Part 1: Determination of Sodium by atomic absorption spectrometry.

2) **FTZS 1870:2016/ISO 15061:2001,** Water quality -- Determination of dissolved bromate -- Method by liquid chromatography of ions

3) **FTZS 1871:2016/ISO 10566:1994** Water quality - Determination of aluminium - Spectrometric method using pyrocatechol violet

4) **FTZS 1872:2016/ISO 28540:2011** Water quality — Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water — Method using gas chromatography with mass spectrometric detection (GC-MS)

5) **FTZS 1873-1:2016/ISO 15681-1:2003** Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA)- Part 1: Method by flow injection analysis (FIA)

6) **FTZS 1880:2017** Priming paints for steel-Specification

7) **FTZS 1881:2017** Bituminous paint for cold application excluding use in contact with portable water-Specification

8) **FTZS 1879:2017** Varnishes for interior use - Specification

9) **FTZS 673:2016** Fuel Oil Specification (Revision of TZS 673:2014)

10) **FTZS 1869-1:2016/ISO 9964-1:1993,** Water quality -- Determination of sodium and potassium-- Part 1: Determination of Sodium by atomic absorption spectrometry

11) **FTZS 1870:2016/ISO 15061:2001,** Water quality -- Determination of dissolved bromate -- Method by liquid chromatography of ions

12) **FTZS 1871:2016/ISO 10566:1994** Water quality - Determination of aluminium - Spectrometric method using pyrocatechol violet

13) **FTZS 1872:2016/ISO 28540:2011** Water quality — Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water — Method using gas chromatography with mass spectrometric detection (GC-MS)

14) **FTZS 1873-1:2016/ISO 15681-1:2003** Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) - Part 1: Method by flow injection analysis (FIA).

DRAFT STANDARDS FLOATED FOR STAKEHOLDERS' COMMENTS

During the period of July - December 2016, the following standards were sent for stakeholders' comments:

1) **EEDC 2 (4805) P3/ IEC 60095-1:2006** Lead acid starter batteries - Part 1: General requirements and Methods of Test
2) **EEDC 2 (4808) P3/ IEC 60896-11:2002** Stationary Lead acid batteries - Part 11: Vented types - General requirements and Methods of Test

3) **EEDC 2 (4809) P3/ IEC 60896-21:2004** Stationary Lead acid batteries - Part 21: Valve regulated types - Methods of Test

4) **EEDC 4 (4974) P3/ IEC 62676-1-1:2013** Video Surveillance Systems for use in Security Applications - Part 1-1: System Requirements - General

5) **EEDC 4 (4975) P3/ IEC 60839-11-1:2013** Alarm and Electronic Security Systems - Part 11-1: Electronic Access Control Systems - System and Components Requirements

6) **EEDC 5 (4719) P3/ IEC/TS 62257-9-5:2016** Recommendations for small renewable energy and hybrid systems for rural electrification - Part 9-5: integrated system - Selections of stand-alone lighting kits for rural electrification

7) **EEDC 6 (4812) P3/ IEC 60950-1:2013** Information technology equipment - Safety - Part 1: General requirements

8) **EEDC 6 (4908) P3/ IEC 60065:2014** Audio, video and similar electronic apparatus - Safety requirements

9) **MEDC4 (4653) P3/ ISO 8492:2013** - Steel tubes - Method for flattening test (Rev TZS 150:2009)

10) **MEDC 2 (4655) P3/ISO 7 - 1: 2000** -Pipe threads where pressure - tight joints are made on threads-Specification (Revision of TZS 153:1982)

11) **MEDC 4 (4976) P3/ISO 7 - 2: 2000** -Pipe threads where pressure - tight joints are made on threads-Specification (Revision of TZS 153:1982). Part2: Verification by means of limiting gauges

12) **MEDC4 (4973) P3/ISO 15649: 2001** - Petroleum and natural gas industries - Piping

13) **MEDC 13 (4939) P3/ ISO 7240-14:2013** - Fire detection and alarm Systems-Part 14: Design, installation, commissioning and service of fire detection and fire alarm systems in and around buildings

14) **MEDC 13 (4940) P3/ ISO 7240-16:2007** - Fire detection and alarm Systems-Part 16: Sound system control and indicating equipment

15) **MEDC 13 (4941) P3/ ISO 7240-8:2014** - Fire detection and alarm Systems-Part 8: Point - type fire detectors using a carbon monoxide sensor in combination with a heat sensor

16) **MEDC 13 (4942) P3/ ISO/ TS 7240-9:2012** - Fire detection and alarm Systems-Part 9: Test fires for fire detectors

17) **MEDC 13 (4943) P3/ ISO 11999-5:2015** - PPE for firefighters - Test methods and requirements for PPE used by firefighters who are at risk of exposure to high levels of heat and / or flame while fighting fires occurring in Structures-Part 5: Helmets

18) **MEDC 2 (4803) -P3 / ISO 2107:2007** - Aluminium and aluminium alloys — Wrought products — Temper designations

19) **MEDC 2 (4801) -P3 / ISO 6362-1:2012** - Wrought aluminium and aluminium alloys — Extruded rods/bars, tubes and profiles — Part 1: Technical conditions for inspection and delivery

20) **MEDC 2 (4752) -P3 / ISO 6362-2:2014** - Wrought aluminium and aluminium alloys — Extruded rods/bars, tubes and profiles — Part 2: Mechanical properties

21) **MEDC 2 (4816) -P3 / ISO 6362-3:2012** - Wrought aluminium and aluminium alloys — Extruded rods/bars, tubes and profiles — Part 3: Extruded rectangular bars — Tolerances on shape and dimensions

22) **MEDC 2 (4817) -P3 / ISO 6362-5:2012** - Wrought aluminium and aluminium alloys -- Extruded rods/ bars, tubes and profiles -- Part 5: Round, square and hexagonal bars -- Tolerances on shape and dimensions

23) **MEDC 2 (4817) -P3 / ISO 6362-6:2012** - Wrought aluminium and aluminium alloys- Extruded rods/bars, tubes and profiles -- Part 6: Round, square, rectangular and hexagonal tubes -- Tolerances on shape and dimensions

24) **MEDC 2 (4817) -P3 / ISO 6362-7:2014** - Wrought aluminium and aluminium alloys -Extruded rods/bars, tubes and profiles -- Part 7: Chemical composition

25) **MEDC 1 (4656)P3 / ISO 261:1998**, - ISO general purpose metric screw threads - General plan and selected sizes for screws, bolts and nuts (Revision TZS 169:1983)

26) **MEDC 1 (4657) P3 / ISO 262: 1998** - ISO general purpose metric screw threads - Tolerances: - Principles and basic data. (Revision TZS 170:1983)

27) **MEDC1 (4658) P3 / ISO 965: 1998** - ISO general purpose metric screw threads - Tolerances: limits of sizes for commercial external and internal screw threads - Medium quality

28) **MEDC 9 (4754) P3**- Air cleaner equipment for internal combustion engines and compressors

29) **MEDC 9 (4753) P3** - Requirements for automotive spare parts

30) **MEDC 2 (4804) P3** - Wrought aluminium and aluminium alloys - Extruded profile - Dimensions, shapes and its Tolerances

31) **MEDC 2 (4659) P3** - Steel pipes - Hot-dip zinc coating - Specification (Rev TZS 147: 2009)

32) **MMDC 3 (4762) P3/ISO 5069-1:1983** Brown coals and lignites - Principles of sampling - Part 1: Sampling for determination of moisture content and for general analysis

33) **MMDC 3 (4754) P3/ISO 13909-1:2001** Hard coal and coke - Mechanical sampling - Part 1: General introduction

34) **MMDC 3 (4755) P3/ISO 13909-2:2001** Hard coal and coke - Mechanical sampling - Part 2: Coal - Sampling from moving streams

35) **MMDC 3 (4756) P3/ISO 13909-3:2001** Hard coal and coke - Mechanical sampling - Part 3: Coal - Sampling from stationary lots

36) **MMDC 3 (4757) P3/ISO 13909-4:2001** Hard coal and coke - Mechanical sampling - Part 4: Coal - Preparation of test samples

37) **MMDC 3 (4758) P3/ISO 13909-5:2001** Hard coal and coke - Mechanical sampling - Part 5: Coke - Sampling from moving streams

38) **MMDC 3 (4759) P3/ISO 13909-6:2001** Hard coal and coke - Mechanical sampling - Part 6: Coke - Preparation of test samples

39) **MMDC 3 (4760) P3/ISO 13909-7:2001** Hard coal and coke - Mechanical sampling - Part 7: Methods for determining the precision of sampling, sample preparation and testing

40) **MMDC 3 (4761) P3/ISO 13909-8:2001** Hard coal and coke - Mechanical sampling - Part 8: Methods of testing for bias

41) **MMDC 3 (4815) P3 / ISO 1213-1:1993(E)** Solid mineral fuels - Vocabulary - Part 1: Terms relating to coal preparation

42) **MMDC 3 (4742) P3/ ISO 1213-2:1992(E)** Solid mineral fuels - Vocabulary - Part 2: Terms relating to sampling, testing and analysis

43) M**MDC 3 (4767)) P3/ISO 18283:2006** Hard coal and coke — Manual sampling

44) **MMDC 3 (4770) P3/ISO 7404-1:2016** Methods for the petrographic analysis of coals — Part 1: Vocabulary

45) **MMDC 3 (4771)) P3/ISO 7404-2:2009** Methods for the petrographic analysis of coals — Part 2: Methods of preparing coal samples

46) **MMDC 3 (4772)) P3/ISO 7404-3:2009** Methods for the petrographic analysis of coals — Part 3: Method of determining maceral group composition

47) **MMDC 3 (4773)) P3/ISO 7404-4:1988** Methods for the petrographic analysis of bituminous coal and anthracite – Part 4: Method of determining microlithotype, carbominerite and minerite composition

48) **MMDC 3 (4774)) P3/ISO 7404-5:2009** Methods for the petrographic analysis of coals — Part 5: Method of determining microscopically the reflectance of vitrinite

49) **MMDC 3 (4762) P1/ISO 5069-1:1983** Brown coals and lignites – Principles of sampling – Part 1: Sampling for determination of moisture content and for general analysis

50) **AFDC 13(3903) P3**, Malt drink - Specification

51) **AFDC 26 (4535) P3,** Fresh watermelons - Specification

52) **AFDC 10 (4588) P3 Fertilizers** - Methods for determination of free acidity(Revision of TZS 1283:2010)

53) **AFDC 10 (4585) P3 Fertilizer** – Determination of Nitrate Nitrogen (Revision of TZS 1284:2010)

54) **AFDC 10 (4581) P3 Solid fertilizers** - Determination of moisture content (Revision of TZS 990: 2009)

55) **AFDC 10 (4589) P3 Fertilizers and Soil Conditioners** - Vocabulary (Revision of TZS 156: 2009)

56) **AFDC 10 (4579) P3 Solid fertilizers**- Preparation of samples for chemical and physical analysis (Revision of TZS 1013:2008)

57) **AFDC 10 (4580) P3 (Revision of TZS 1014:2008)** Solid fertilizers and soil conditioners - Test sieving

58) **AFDC 10 (4583) P3 Fertilizers** - Determination of total nitrogen content - Titrimetric method after distillation (Revision of TZS 1015: 2008)

59) **AFDC 10 (4584) P3 Fertilizers** - Determination of ammoniacal nitrogen content - Titrimetric method after distillation (Revision of TZS 1016: 2008)

60) **AFDC 10 (4587) P3 Fertilizers** - Extraction of water-Soluble phosphate (Revision of TZS 1105:2009)

61) **AFDC 10 (4586) P3** Determination of phosphorous content- Quinoline phosphomolybdate- Gravimetric method (Revision of TZS1108:2009)

62) **AFDC 10 (4086) P3** Fertilizer - Calcium ammonium nitrate (CAN) - Specification (Revision of of TZS 777:2003)

63) **AFDC 10 (4468) P3** Fertilizer – Potassium chloride (muriate of potash) - Specification (Revision of of TZS 779:2003)

64) **AFDC 10 (4463) P3** Fertilizer – Ammonium Sulphate - Specification (Revision of TZS 158:2010)

65) **AFDC 10 (4092) P3** Fertilizer – Triple Superphosphate - Specification (Revision of TZS 157:2009)

66) **AFDC 10 (4467)** Fertilizer - Urea - Specification P3 (Revision of TZS 776:2003)

67) **AFDC 10 (4087) P3** Fertilizers - Mono-Ammonium Phosphate and Di-Ammonium Phosphate (MAP & DAP) - Specification (Revision of TZS 893:2006)

68) **AFDC 10 (4470) P3** Fertilizer- Potassium sulphate (sulphate of potash) - Specification (Revision of TZS 783:2006)

69) E**MDC 9 (4074) P3** Determination of Nitrogen dioxide in workplace atmosphere

70) **EMDC 9 (4075) P3** Determination of phosphine in workplace atmosphere

71) **EMDC 9 (4076) P3** Determination of Stibine in workplace atmosphere

72) **EMDC 9 (4077) P3** Determination of 1,3-Butadiene in workplace atmosphere

73) **EMDC 9 (4078) P3** Determination of Benzene in workplace atmosphere

74) **EMDC 9 (4079) P3** Determination of Butane in workplace atmosphere

75) **EMDC 9 (4080) P3** Determination of Formaldehyde in workplace atmosphere

76) **EMDC 9 (4081) P3** Determination of Methyl mercaptan in workplace atmosphere

77) **EMDC 9 (4082) P3** Determination of Sulphur dioxide in workplace atmosphere

78) **CDC 21 (5018) P3**-Medical devices-Quality management systems-Requirements for regulatory purposes

79) **CDC 21 (5019) P3**-Biological evaluation of medical devices-Part 1: Evaluation and testing within a risk management process

80) CDC 21 (5020) P3- Biological evaluation of medical devices-Part 2: Animal welfare requirements

81) **CDC16 (4980) P3**-Containers and accessories for pharmaceutical preparations- Part 1: Drop-dispensing glass bottles

82) **CDC16 (4981) P3**-Containers and accessories for pharmaceutical preparations-Part 2: Screw-neck glass bottles for syrups

83) **CDC16 (4982) P3**- Labeling and marking of pharmaceutical products-Specification

84) **TDC5 (4781) P3;** Textiles - Tests for colour fastness-Part C10: Colour fastness to washing with soap or soap and soda

85) **TDC5 (4782) P3;** Textiles- Tests for colour fastness - Colour fastness to light: Daylight

86) **TDC5 (4783) P3;** Textiles - Tests for colour fastness-Assessing change in colour

87) **TDC5 (4789) P3;** Textiles-Test for colour fastness - Assessing staining

88) **TDC5 (4784) P3;** Textiles - Test for colour fastness to rubbing

89) **TDC5 (4785) P3;** Textiles - Tests for Colour fastness - Colour fastness to perspiration

90) **TDC5 (4786) P3;** Textiles - Tests for colour fastness-Colour fastness to rubbing: Organic solvents

91) **TDC5 (4787) P3;** Textiles - Tests for colour fastness - Colour fastness to spotting by water

92) **TDC5 (4788) P3;** Textiles - Tests for colour fastness - General principles of testing

93) **CDC15 (4029) P3;** Fuel Oil Specification

NEW PROJECTS INITIATED

During the period of July — December, 2016 the following standardization projects were initiated:

1) **EEDC 4 (5069) P1 Alarm systems** - Intrusion and hold-up systems - Part 1: System requirements
2) **EEDC 4 (5070) P1 Alarm systems**- Intrusion and hold-up systems- Part 2-2: Intrusion detectors - Passive infrared detectors

3) **EEDC 4 (5071) P1 Alarm systems**- Intrusion and hold-up systems- Part 7: Application guidelines

4) **EEDC6 (5067) P1** Universal serial bus interfaces for data and power - Part 1-1: Common components – USB Battery Charging Specification, Revision

5) **EEDC6 (5076) P1** Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements

6) **EEDC6 (5077) P1** Coaxial communication cables – Part 1-1: Capability approval for coaxial cables

7) **EEDC6 (5078) P1** Coaxial communication cables – Part 1-100: Electrical test methods – General requirement

8) **EEDC6 (5079) P1** Coaxial communication cables – Part 1-101: Electrical test methods – Test for conductor d.c. resistance of cable

9) **EEDC6 (5080) P1** Coaxial communication cables – Part 1-102: Electrical test methods – Test for insulation resistance of cable dielectric

10) **EEDC2 (5073) P1** Secondary cells and batteries containing alkaline or other non-acid electrolytes-Nickel-cadmium prismatic secondary single cells with partial gas recombination

11) E**EDC2 (5072)P1** Secondary cells and batteries containing alkaline or other non-acid electrolytes -Sealed nickel-cadmium prismatic rechargeable single cells

12) **CDC6(5014) P1** Water for construction -Specification

13) **CDC6(5015) P1** Water for aquaculture -Specification

14) **CDC6(5016) P1** Water for irrigation -Specification

15) **CDC6(5017) P1** Receiving waters -Specification

16) **CDC 18 - (4988) P1** – Hard or Soft Sweeping Brooms - Specification

17) **CDC 18 - (4989) P1** – Painters' and Decorators' Brushes - Specification

18) **CDC 18 - (4990) P1**- Strainer Mop Buckets - Specification

19) **CDC 18 - (4991) P1**- Brush, Commode Chutes - Specification

20) **CDC 18 - (4992) P1** -Wet Mops (with cotton strands) - Specification

21) **CDC 09** – (5009) P1 Oxygen for medical use - Specification (Rev. TZS 1229:2010)

22) **CDC 09** – (5010) P1Gaseous oxygen "technical grade" - Specification (Rev. TZS 217:1984)

23) **CDC 09** – (5011) P1Gaseous carbon dioxide "technical grade" - Specification (Rev. TZS 216:1984)

24) **CDC 09** – (5012) P1 Gaseous nitrogen "technical grade" - Specification (Rev. TZS 218:1984)

25) **CDC 09** – (5013) P1Dissolved acetylene gas - specification

26) **MMDC 1** (5034) P1 Standard guide for use of metal detection method for subsurface exploration

27) **MMDC 1** (5035) P1 Classification of terminologies for exploration of mineral deposits

28) **MEDC (5027) P1** – Classification of Buses

29) **MEDC (5028) P1** – Automotive maintenance workshop – requirements

30) **MEDC (5029) P1** - Trailers/Semi trailer - Specification

31) **EEDC6 (4908) P1** Audio, Video and similar electronic apparatus– Safety requirements

32) **EEDC6 (4909) P1** Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services – Part 1: Common technical requirements

33) **EEDC2 (4966) P1** Stationary Lead acid batteries–Part 22: Valve regulated types–Requirements

34) **EEDC2 (4967) P1** Secondary cells and batteries containing alkaline or other non– acid electrolytes– Vented nickel– Cadmium prismatic rechargeable single cells

35) **EEDC4 (4974) P1** Video Surveillance Systems for use in security applications– Part 1–1 System Requirements– General

36) **EEDC4 (4975) P1** Alarm and Electronic Security Systems– Part 11–1; Electronic access control systems– system and components requirement

37) **TDC5 (5118)-Textiles -Dyestuffs Part 1:** General principles of testing coloured textiles for dye stuffs identification

38) **TDC5 (5119)-Textiles -Dyestuffs Part 2:** General method for determination of extractable dyestuff including allergenic and carcinogenic dyestuffs (method using pyridine–water)

39) **TDC5 (5120)-Textiles -Woven or knitted fabrics**–determination of length and width

40) **TDC5(5123)-Textiles** -Woven, knitted fabrics and garments–determination of dimensional change machine method

41) **TDC5 (5116)-Textiles** -Test for colour fastness–Part XII–colour fastness to hot pressing

42) **TDC5 (5117)-**Textiles -Test for colour fastness–PartD01: colour fastness to dry cleaning using perchloroethylene solvent

43) **TDC3 (5124)-**Textiles -Dust mask specification

44) T**DC3 (5125)-**Textiles - Cotton Swabs specification

45) **TDC3 (5126)**–Textiles -Open mouth woven poly–sack–made from polypropylene tape yarn–specification

46) **AFDC 14 (5074)** Rev. (TZS 1207:2009) P1 Emmental cheese - Specification

47) **AFDC 14 (5075)** Rev. (TZS 1205:2009) P1 Havarti cheese - Specification

48) **AFDC 14(5089) P1/ISO 11816-2:2016** - Milk and milk products - Determination of alkaline phosphastase activity - Part 2: Fluorimetric method for cheese

49) **AFDC 14(5090) P1/ISO 8968-4:2016** - Milk and milk products - Determination of nitrogen content and true protein content calculation (Reference method)

50) **AFDC 14(5091) P1/ISO 27105:2016** - Milk and cheese - Determination of hen's egg white lysozyme content by high performance liquid chromatography

51) **AFDC 14(5092) P1/ISO 19344:2015** - Milk and milk products - Starter cultures, probiotics and fermented products - Quantification of lactic acid bacteria by flow cytometry

52) **AFDC 14(5093) P1/ISO16958:2015** - Milk, milk products, infant formula and adult nutritionals - Determination of fatty acids composition - Capillary gas chromatographic method

53) **AFDC 14(5094) P1/ISO 17758:2014** - Instant dried milk - Determination of the dispensability and wettability

54) **AFDC 14(5095) P1/ISO 16297:2013** - Milk -Bacterial Count - Protocal for the evaluation of alternative methods

55) **AFDC 15(5064)** P1 Cake - Specification

56) A**FDC 15(5065)** P1 Buns - Specification

57) **AFDC 15(5066)** P1 Cookies - Specification

58) **CDC3(5127)** P1 Cosmetics and toilet products - Methods of sampling (Revision of TZS 314: 1999)

59) **CDC3 (5128) P1** Petroleum jelly for cosmetic industry - Part 1: Specification (Revision of TZS 318(Part 1): 1999)

60) **CDC3 (5129) P1** Petroleum jelly for cosmetic industry - Part 2: Marketed petroleum jelly products ready for use as body ointment (Revision of TZS 318 (Part 2): 1999

61) **CDC3 (5130) P1** Cosmetics and air freshener aerosols - Specification (Revision of TZS 811: 2004)

62) **CDC3(5131) P1** Skin care oils - Specification (Revision of TZS 1133:2010)

63) **CDC 10(5134) P1**- Writing paper and certain classes of printed matter - Trimmed sizes - A and B series, and indication of machine direction (Revision of TZS 63: 2009)

64) **CDC 10(5135) P1- Paper** - Determination of Bursting Strength (Revision of TZS 79: 2009)

65) **CDC 10(5136) P1- Paper and board** - Sampling to determine average quality (Revision of TZS 80: 1980)

66) **CDC 10(5137) P1- Paper and board** - Determination of grammage (Basic Mass) (Rev. of TZS 81: 1980)

67) **CDC 10 (5138) P1 - Paper and board** - Determination of water absorptiveness - Cobb method (Revision of TZS 423: 2009)

68) **CDC 10 (5139) P1 - Paper and board** - Determination of tearing resistance (Elmendorf method) (Revision of TZS 747: 2003)

69) **CDC 10 (5140) P1-Ball Point Pen Ink** - Specification (Revision of TZS 71:1980)

70) **CDC6(5014) P1 Water for construction** -Specification

71) **CDC6(5015) P1 Water for aquaculture** -Specification

72) **CDC6(5016) P1 Water for irrigation** -Specification

73) **CDC6(5017) P1 Receiving waters** -Specification

74) **CDC3(5130) P1 Rev of TZS 811: 2004** Cosmetics and air freshener aerosols - Specification

QUALITY IS A STORY BEHIND EVERY PRODUCT

In a bid to ensure that TBS staff are equipped with new skills, knowledge and mindset to provide quality service to the public, the Bureau organized and allowed some employees to attend various long and short term training courses in between July and December 2016.

During the period under review, a total of 25 members of the TBS staff attended various long term courses sponsored by TBS within and outside the country. The long courses attended include Masters degrees in Engineering Management, Oil and Gas Management, Renewable Energy, Mathematical Modeling, Production Engineering, Environment Technology Management, Food Quality and Safety Assurance, Chemistry, Public Health and Food Safety, Physics and Business Administration.

Other long term courses attended are Bachelor of Science in Petroleum Chemistry, Bachelor of Medical Laboratory Science, Diploma in Computing and Information Technology and Diploma in Secretarial Studies.

During the period under review, TBS organized a number of short courses for its staff. Overall, the courses were attended by a frequency of 400 staff. The courses include ISO 9001:2015 Quality Management System, training on Open Performance Review Appraisal System, National Standard Strategy and Business Plan, ISO 14001:2015 Introduction, Implementation and Internal Auditors, training for Trade Union leaders, Training on PVoC Programme, Training on Sampling and Sample Size, Training on Open Performance Review and Appraisal System and Training on National Institute to Micro, Small and Medium Enterprises.

Others were Training on beekeeping and honey processing technology, Total Quality Management and ISO 9001:2015/14001/22000/27000 and Six Sigma (TQM) at the National Institute for Micro Small & Medium Enterprises, Training on Automobile Industry Development and Management, Training on Fertilizer Production, Application and Demonstration, Training on Environmental Engineering Technology and Training on Pico Solar and PV System and Capacity Building on Establishment of Testing Facility for Testing Solar Pico Products.

Other courses attended were training on fertilizer Quality Control, Textile Testing Quality Control, Training Programme on Standardization and Quality Assurance, training on Textile Mill Management, Specialized Course on Trade Remedies under WTO and a Short Course on Operation Maintenance, Repair and Calibration of bio-medical equipment.

PRODUCT SAMPLES TESTED AND CALIBRATIONS MADE

One of the main activities undertaken by TBS is carrying out testing of various products and and calibration of various equipment. This is done in order to find out if the products or equipment meet the requirements of respective national standards.

During the period under review, several requests for testing, calibration and packaging services were received and tests/calibrations were performed in various TBS laboratories as is clearly shown in the following table:

Samples tested and calibrations done during the July - December, 2016

S/N	LABORATORY	EXPECTED OUTPUT	ACTUAL	% ACHIEV-EMENT
1	Building and construction	650	470	72
2	Chemistry	650	1417	218
3	Electrical	300	924	308
4	Food	1100	1939	176.2
5	Metrology	3750	3311	88.2
6	Mechanical	500	1260	252
7	Packaging	150	231	154
8	Textile	400	1252	313
TOTAL		**7500**	**10804**	**144**

Engineer Peter Martin perfoms testing of condom samples in the Textile Laboratory.

RETIREMENT
Four members of staff retire

Four members of TBS staff retired during the period July - December 2016.

The members, Principal Standards Officer Eng. Thomas Mnunguli, Senior Laboratory Technician Mrs. Mary Mlembe, Senior Library Attendant Mr. Kassim Kassim and Receptionist Mrs. Victoria Sagamba retired after attaining the statutory retirement age for public servants.

Eng. Mnunguli who was also the Head of Electrical Standards Section under the Directorate of Standards Development retired on 2016-08-12, while Mr. Kassim who worked under the Documentation and ICT Department retired on 2016-08-04. Meanwhile, Mrs. Mlembe who was working in the Textile and Leather Laboratory retired on 2016-08-04 and Mrs. Sagamba who was working in the Printing Workshop under the Editing and Reprography Section retired on 2016-12-27.

Eng. Thomas Mnunguli was employed by the Bureau on 1984-01-21 and had therefore worked for the Bureau for almost 33 years, while Mrs. Mlembe was employed on 1985-12-16 and had worked for the Bureau for 31 years. Likewise, Mr Kassim joined the Bureau on 1995-12-18 and therefore served for 21 years while Mrs Sagamba was employed on 1977-12-23 and had worked with the Bureau for 31 years.

Eng. Thomas Mnunguli

Mr. Kassim Kassim

Mrs. Mary Mlembe

Mrs. Victoria Sagamba

RESIGNATION

During the period under review three members of staff resigned, namely Inspection Technician Mr. Dadi Elia, Procurement Officer Mr. Yuvenal Sandy and Senior Metrologist Mr. Alphonce Kagoma. They resigned with effect from 2016-07-31, 2016-07-15 and 2016-12-22 respectively.

OBITUARY

The Late Joshua Lubango

Inspection technician passes on

Tanzania Bureau of Standards (TBS) regrets to announce the death of a member of its staff.

The late Lubango joined the Bureau on 2014-07-01 as Inspection Technician II on contract basis and since then he had worked hard in performing his duties and responsibilities.

Mr. Joshua Lubango (33), an Inspection Technician, passed away on 2016-12-04 at Ilala Hospital, where he was hospitalized. He was laid to rest on 2016-12-07 in Dodoma.

The deceased fell sick suddenly as he prepared to go to work on 2016-12-03 and was rushed to KMS Dispensary in Keko where he was attended and discharged. However at night his situation changed and he was rushed to Mnazi Mmoja Hopsital from where he was further transferred to Amana Hospital where he died hours later.

May his soul rest in eternal peace.

During the period of July - September 2016, the TBS information centre received several International Standards to add to its current stock of standards. Among others, the following standards are of special intrest:

AGRICULTURE STANDARDS

1. **ISO 3767-1:2016 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment** - Symbols for operator controls and other displays - Part 1: Common symbols

2. **ISO 3767-2:2016 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment** - Symbols for operator controls and other displays - Part 2: Symbols for agricultural tractors and machinery

3. **ISO 3767-3:2016 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment** - Symbols for operator controls and other displays - Part 3: Symbols for powered lawn and garden equipment

4. **ISO 3767-4:2016 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment** - Symbols for operator controls and other displays - Part 4: Symbols for forestry machinery

5. **ISO 3767-5:2016 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment** - Symbols for operator controls and other displays - Part 5: Symbols for manual portable forestry machines

6. **ISO 14820-1:2016 Fertilizers and liming materials** - Sampling and sample preparation - Part 1: Sampling

7. **ISO 14820-2:2016 Fertilizers and liming materials** - Sampling and sample preparation - Part 2: Sample preparation

8. **ISO 15604:2016 Fertilizers** - Determination of different forms of nitrogen in the same sample, containing nitrogen as nitric, ammoniacal, urea and cyanamide nitrogen

9. **ISO 18642:2016 Fertilizer and soil conditioners** - Fertilizer grade urea - General requirements

10. **ISO 18644:2016 Fertilizer and soil conditioners** - Controlled -release fertilizer - General requirements

11. **ISO 25475:2016 Fertilizers** - Determination of ammoniacal nitrogen

12. **ISO 25705:2016 Fertilizers** - Determination of urea condensates using high-performance liquid chromatography (HPLC) - Isobutylidenediurea and crotonylidenediurea (method A) and methylene- urea oligomers (method B)

BUILDING AND CONSTRUCTION MATERIALS STANDARDS

1. **ISO 11528:2016 Building and civil engineering works - Sealants** - Determination of crazing and cracking following exposure to artificial or natural weathering

2. **ISO 12578:2016 Timber structures** -Glued laminated timber - Component performance requirements

3. **ISO 18402:2016 Timber structures** - Structural insulated panel roof construction - Test methods

CHEMICAL STANDARDS

1. **ISO 1043-1:2016 Plastics** - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics

2. **ISO 1043-4:2016 Plastics** - Symbols and abbreviated terms - Part 4: Flame retardants

3. **ISO 1219-1:2016 Fluid power systems and components - Graphical symbols and circuits diagrams** - Part 1: Graphical symbols for conventional use and data-processing application

4. **ISO 1219-3:2016 Fluid power systems and components - Graphical symbols and Circuits diagrams** - Part 3: Symbols modules and connected symbols in circuit diagrams

5. **ISO 4623-2:2016 Paints and varnishes** - Determination of resistance to filiform corrosion - Part 2 Aluminum substrates

6. **ISO 4629-1:2016 Binders for paints and varnishes** - Determination of hydroxyl value - Part 1: Titrimetric method without using a catalyst

7. **ISO 4629-2:2016 Binders for paints and varnishes** - Determination of hydroxyl value - Part 2: Titrimetric method using a catalyst

8. **ISO 5781:2016 Hydraulic fluid power** - Pressure reducing valves, sequence valves, unloading valves, throttle valves and check valves - Mounting surfaces

9. **ISO 7368:2016 Hydraulic fluid power** – Two-port slip-in cartridge valves p- Cavities

10. **ISO 8254-3:2016 Paper and board** - Measurement secular gloss - Part 3: 20 gloss with a converging beam, TAPPI method

11. **ISO 9197:2016 Paper, board and pulps** - Determination of water - soluble chlorides

12. **ISO 11476:2016 Paper and board** - Determination of CIE whiteness, C/2 (indoor illumination conditions)

13. **ISO 11672:2016** Connectors for fluid power and general use - Designation and nomenclature

14. **ISO 13543:2016** Copper, lead, zinc and nickel sulfide concentrates - Determination of mass of contained metal in a lot

15. **ISO 13725:2016 Hydraulic fluid power** - Method for evaluating the buckling load of a hydraulic cylinder

16. **ISO 16148:2006 Gas cylinder** - Refillable seamless steel gas cylinder - Acoustic emission testing (AT) for periodic inspection

17. **ISO 16260:2016 Paper and board** - Determination of internal bond strength

18. **ISO 16993:2016 Solid biofuels** - Conversion of analytical results from one basis to another

19. **ISO 16994:2016 Solid biofuels** - Determination of total content of sulfur and chlorine

20. **ISO 17885:2016 Plastics piping systems** - Mechanical fitting for pressure piping systems - Specifications

21. **ISO 18582-1:2016 Fluid power** – Specification of reference dictionary - Part 1: General overview on organization and structure

22. **ISO 18797-1:2016** Petroleum, petrochemical and natural gas industries - External corrosion protection of risers by coatings and linings - Part 1: Elastomeric coating systems-polychloroprene or EPDM

23. **ISO 18846:2016** Solid biofuels Determination of fines content in samples of pellets

24. **ISO 18847:2016** Solid biofuels Determination of particle density of pellets and briquettes

25. **ISO 19880-1:2016** Gaseous hydrogen - Fuelling stations - Part 1: General requirements.

ENVIRONMENT HEALTH PROTECTION SAFETY STANDARDS

1. **ISO 4126-1:2016** Safety devices for protection against excessive pressure - Part 1: Safety valves

2. **ISO 4126-5:2016** Safety devices for protection against excessive pressure - Part 5: Controlled safety pressure relief systems (CSPRS)

3. **ISO 7027-1:2016** Water quality - Determination of turbidity - Part 1: Quantitative methods

4. **ISO 7076-6:2016** Fire protection – Foam fire extinguishing systems - Part 6: Vehicle mounted compressed air foam systems

5. **ISO 7240-24:2016** Fire detection and fire alarm systems - Part 24: Fire alarm loudspeakers

6. **ISO 13168:2016** Water quality - Simultaneous determination of tritium and carbon 14 activities - Test method using liquid scintillation counting

7. **ISO 17294-2:2016 Water quality** – Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes

8. **ISO 17943:2016 Water quality** - Determination of volatile organic compounds in water - Methods using headspace solid- phase micro-extraction (HS-SPME) followed by gas chromatography-mass spectrometry (GC-MS)

9. **ISO /TS 17951-1:2016 Water quality** - Determination of fluoride using flow analysis (FIA and CFA) - Part 1: Method using flow injection analysis (FIA) and spectrometric detection after off-line distillation

10. **ISO /TS 17951-2:2016 Water quality** - Determination of fluoride using flow analysis (FIA and CFA) - Part 2: Method using continuous flow analysis (CFA) with automated in -line distillation

11. **ISO 18220:2016 Water quality** – Larval development test with the harpacticoid copepod Nitocra Spinipes

12. **ISO 18635:2016 Water quality** - Determination of short - chain polychlorinated alkanes (SCCPs) in sediment, sewage sludge and suspended (particulate) matter - Method using gas chromatography- mass spectrometry (GC-MS) and electron capture negative ionization (ECNI)

13. **ISO 18763:2016** Soil quality Determination of the toxic effects of pollutants on germination and early growth of higher plants

14. **ISO 24678-6:2016 Fire safety engineering** - Requirements governing algebraic formulae - Part 6: Flashover related phenomena

FOOD STANDARDS

1. **ISO 8968-4 IDF 20-4:2016 Milk and milk products** - Determination of nitrogen content – Part 4: Determination of protein and non- protein nitrogen content and true protein content calculation (Reference method)

2. **ISO 11816-2 IDF 155-2:2016 Milk and milk products** – Determination of alkaline phosphatase activity - Part 2: Fluorimetric method for cheese

3. **ISO 16140-1:2016 Microbiology of the food chain** - Method validation - Part 1: Vocabulary

4. **ISO 16140-2:2016 Microbiology of the food chain** - Method validation - Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method

5. **ISO 17468:2016 Microbiology of the food chain** - Technical requirements and guidance on establishment or revision of a standardized reference methods

MECHANICAL STANDARDS

1. **ISO 2575: 2010 Road vehicles** - Symbols for control, indicators and tell-tales

2. **ISO 2901:2016 Iso metric trapezoidal screw threads** - Basic and design profiles

3. **ISO 3070-2:2016 Machine tools** – Test conditions for testing the accuracy of boring and milling machines with horizontal spindle - Part 2: Machines with movable column along the X- axis (floor type)

4. **ISO 3536:2016 Road vehicles** - Safety glazing materials - Vocabulary

5. **ISO 3581:2016 Welding consumables** - Covered electrodes for manual metal arc welding of stainless and heat- resisting steels - Classification

6. **ISO 4759-3:2016 Tolerances for fasteners** - Part 3: Washers for bolts, screws and nuts - products grades A, C and F

7. **ISO 6892-1:2016 Metallic materials** - Tensile testing - Part1: Method of test at room temperature

8. **ISO 7121:2016 Steel ball valves for general**- purposes industrial applications

9. **ISO 7637- 3:2016 Road Vehicles** - Electrical disturbances from conduction and coupling - Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines

10. **ISO 9692 -3 :2016 Welding and allied processes** - Types of joint preparation – Part 3: Metal inert gas welding and tungsten inert gas welding of aluminum and its alloys

11. **ISO 10924 -1:2016 Road vehicles - Circuit breakers** - Part 1: Definition and general test requirements

12. **ISO 10924 -5:2016 Road vehicles - Circuit breakers** - Part 5: Circuit breakers with bolts with rated voltage of 450V

13. **ISO 11452- 3:2016 Road vehicles** – Components test methods for electrical disturbances from narrowband radiated electromagnetic energy - Part 3: Transverse electromagnetic (TEM) cell

14. **ISO 12619-3:2016 Road Vehicles** - Compressed gaseous hydrogen (CGH2) and hydrogen/ natural gas blend fuel system component - Part 3: Pressure regulator

15. **ISO 12619-4:2016 Road Vehicles** - Compressed gaseous hydrogen (CGH2) and hydrogen/ natural gas blends fuel system component - Part 4: Check valve

16. **ISO 12619-5:2016 Road Vehicles** - Compressed gaseous hydrogen (CGH2) and hydrogen/ natural gas blends fuel system component - Part 5: Manual cylinder valve

17. **ISO 13674-2:2016 Road Vehicles** - Test method for the quantification of on- Centre handling – Part 2: Transition test.

18. **ISO 13976:2016 Hot** -rolled steel sheet in coils of structural quality and heavy thickness

19. **ISO 14230-2:2016 Road Vehicles** - Diagnostics communication over K-Line (DoK- Line) – Part 2: Data link layer

20. **ISO 14513:2016 Road Vehicles** - Pedestrian protection - Head impact test method

21. **ISO 15031-3:2016 Road Vehicles** - Communication between vehicles and external equipment for emissions- related diagnostics – Part 3: Diagnostic connector and related electrical circuits: Specification and use

22. **ISO 15765-2:2016 Road Vehicles** - Diagnostic communication over controller Area Network (DoCAN) - Part 2: Transport protocol and network layer services

23. **ISO 15765-4:2016 Road Vehicles** - Diagnostic communication over controller Area Network (DoCAN) - Part 4: Requirements for emissions-related systems

24. ISO 16063-32:2016 Methods for the calibration of vibration and shock transducers- Part 32: Resonance testing - Testing the frequency and the phase response of accelerometers by means of shock excitation

25. **ISO 16486-4:2016 Plastics piping systems for the supply of gaseous fuels** – Unplasticized polyamide (PA-U) piping systems with fusion jointing and mechanical jointing - Part 4: Valves

26. **ISO 17745:2016 Steel wire ring net panels** - Definitions and specification

27. **ISO 17885:2016 Plastics piping systems** - Mechanical fitting for pressure piping systems - Specifications

28. **ISO 17987-1:2016 Road Vehicles** - Local Interconnect Network (LIN) - Part 1: General information and use case definition

29. **ISO 17987-2:2016 Road Vehicles** - Local Interconnect Network (LIN) - Part 2: Transport Protocol and network layer services

30. **ISO 17987-3:2016 Road Vehicles** - Local Interconnect Network (LIN) - Part 3: Protocol specification

31. **ISO 17987-4:2016 Road Vehicles** - Local Interconnect Network (LIN) - Part 4: Electrical physical layer (EPL) specification 12V/24V

32. **ISO 18106:2016** Passenger car, commercial vehicle, truck and bus tyres - Methods for measuring snow grip performance - Loaded new tyres

33. **ISO IEC 60086-3:2016** Primary batteries- Part 3: Watch batteries

PACKAGING STANDARDS

1. **ISO 13355:2016 Packaging** - Complete, filled transport packages and unit loads - Vertical random vibration test

2. **ISO /TS 19709-3:2016** Transport packaging - Small load container systems - Part 3: Bond Stackable System (BSS)

TEXTILE STANDARDS

1. **ISO 105-DO2:2016 Textiles** - Tests for colour fastness - Part DO2: Colour fastness to rubbing: Organic solvents

2. **ISO 18254-1:2016 Textile** - Methods for the detection and determination of alkylphenol ethoxylates (APEO) - Part 1: Method using HPLC-MS

3. **ISO 18825-2:2016 Clothing** - Digital fitting - Part 2: Vocabulary and terminology used for attributes of the virtual human body

4. **ISO 19076 IULTCS/IUP 58:2016 Leather** - Measurement of leather surface - Using electronic technique

Enabling sustainable and smart cities for improved quality of life

IEC, ISO and ITU host international forum to tackle pain points that limit Smart Cities' development. The World Smart City Forum was held on Wednesday, 13 July 2016 at the Sands Expo and Convention Centre, Marina Bay Sands in Singapore, co-located with the World Cities Summit and Singapore International Water Week.

Smart Cities promise improved quality of life for the world's estimated 3.9 billion urban dwellers1, while at the same time allowing better, more efficient use of resources and improved security. However many barriers limit Smart City development. Key pain points that inhibit Smart Cities have been under the spotlight at the first World Smart City Forum, held in Singapore on 13 July 2016.

The Forum was organized by the IEC (International Electrotechnical Commission), in partnership with ISO (International Organization for Standardization) and ITU (International Telecommunication Union).

These three organizations publish International Standards that provide technical tools to enable the integration of city services and technologies.

The World Smart City Forum recognized that cities battle with pain points like the sustainable supply of energy or water, or the elimination of the gridlock and related pollution caused by congested transport networks. City leaders and international experts shared insights into how major efficiency gains can be made by horizontally interconnecting individual systems such as energy, water, sanitation and waste management, transportation, and security.

However, as the Forum heard, on the operational level many of the systems used in today's cities are from different suppliers and maintained by different agencies who sometimes work in isolation. To connect them both physically and virtually, standardized interfaces need to be put in place, and this is where IEC, ISO and ITU have a global leadership role.

Now more than ever before, many different organizations and entities need to collaborate to help make cities smarter. Meeting the challenges of technology integration will demand broad cooperation via a systems approach. For city planners, utilities and service providers, International Standards are essential enablers, assuring an expected performance level and compatibility between technologies.

Says Frans Vreeswijk, IEC General Secretary and CEO: "Energy is the golden thread that allows cities and economies to prosper. We know that almost 70% of all energy produced globally is consumed by cities and that by 2050, an estimated 66% of the world's population will live in urban areas. City authorities will face unprecedented challenges of satisfying their citizens' basic needs while increasing their sustainability. IEC is committed to helping cities reach their Smart City objectives faster, more efficiently and with better outcomes. Moreover we welcome active, ongoing participation in our Smart City work."

On 15 July the IEC System Committee (SyC) on Smart Cities will be launched, with representatives from more than 20 countries convening in Singapore. This new Systems Committee will foster the development of International Standards in the field of electrotechnology to help with the integration, interoperability and effectiveness of city systems.

Says Kevin McKinley, Acting ISO Secretary-General: "International Standards are the foundation for building smarter, more sustainable urban environments. They help systems and products work together, and spread new ideas, technology and efficiency. For example, ISO's work on city indicators helps cities identify the areas they need to improve on, and the recently published standard on sustainable development in communities will help communities themselves own and drive their future. In addition, ISO has many standards on water, transportation, construction and many other sectors will help cities address the diverse challenges they face."

Says Chaesub Lee, Director of the ITU Telecommunication Standardization Bureau: "The information and communication technology (ICT) sector has gained a diverse range of new stakeholders in recent years, and we see ample evidence of this in the Smart City arena. The World Smart City Forum in Singapore offered valuable input to ITU's standardization work, contributing to our ongoing efforts to ensure that ICT standardization speaks to the needs of the many public and private-sector actors deploying ICTs as enabling technologies to meet smart-city objectives."

Says Tan Kok Yam, Head of the Smart Nation Programme Office, Prime Minister's Office, Singapore: "Collaboration is key in a complex world where digital technology offers so much potential, and at the same time, comes with many challenges. Governments and businesses need to work closely to address the challenges of sustainability, transport, housing and healthcare, among others. Standards that enable

inter-operability, and increase mutual trust, and strengthen in systems resilience and cybersecurity are critical, as the key enablers to the open creative environment that we seek.

More than 400 city planners, city leaders, architects, utilities, transport planners, safety/security/data specialists, standardization specialists and industry representatives joined the event. The Forum was supported by many important city organizations and international, regional and national standards bodies.

New ISO standard to help communities manage sustainable development

How can a community become more sustainable? What strategy should it adopt? A new ISO standard will help communities answer these questions and put in place a framework to become more sustainable and resilient.

Rapid urbanization, both in the developed and the developing world, brings with it challenges for local, national and regional authorities linked, for example, to the spatial distribution of people and resources, or the use and consumption of land.

A new International Standard, ISO 37101, *Sustainable development in communities - Management system for sustainable development - Requirements with guidance for use,* will support communities to put in place a sustainable development strategy that takes into account their economic, social and environmental context.

The standard will also encourage communities to become more proactive and help them show interested parties that an appropriate management system is in place.

The successful implementation of the standard will generate and build consensus on sustainable development within communities, improve the sustainability, smartness and resilience of strategies, programmes or plans conducted under the responsibility of communities or on the territory they relate to; and improve the local environment, create a happier and healthier place for citizens, and build a community that can better anticipate and adapt to natural disasters, economic shocks and climate change

ISO 37101 focuses on communities as a stepping stone towards the sustainability of society as a whole. Communities are composed of a variety of entities and people living, working and interacting with each other. Therefore, involving interested parties in a cooperative dialogue for more sustainable solutions is a key point when implementing the standard.

Bernard Gindroz, Chair of ISO/TC 268, Sustainable cities and communities, said: "The purpose of the standard is all about helping the community to put in place a sustainable development plan with all the concerned actors. The point is to get as many people as possible around the table debating on how to develop a sustainable development strategy for a community."

ISO 37101, like other management system standards, is based on the continual improvement cycle Plan-Do-Check-Act. This means that users are required to regularly adjust their objectives and strategy to ensure they are constantly moving forward.

ISO 37101:2016 was developed by ISO technical committee ISO/TC 268, Sustainable cities and communities, whose secretariat is held by AFNOR, the ISO member for France. It is available from your national ISO member or through the ISO Store.

First International Standard for sustainable procurement nears publication

Procurement makes up a substantial budget of any organization, so wouldn't the world be a better place if it was done in a sustainable way? A new standard in development aims to help organizations do just that, and it has now reached one of the final stages in its development.

The purchasing decisions an organization makes have impacts far and wide, from the energy it consumes to the quality of life of the workers who manufactured the products it buys. And when we think that procurement in the public sector alone accounts for around 12 % of GDP and 29 % of government expenditure in OECD member countries, it is not something to be taken lightly.

Purchasing sustainably - known as sustainable procurement - should be the goal for any organization as it maximizes its positive social, environmental and economic impacts. This means making smart choices with all purchases, including everything from office supplies to energy providers, caterers and building materials.

A new standard in development, ISO 20400, Sustainable procurement - Guidance, will provide guidelines for organizations wanting to integrate sustainability into their procurement processes. It has just reached a second Draft International Standard (DIS) stage, meaning interested parties can once more submit feedback on the draft before final publication in 2017.

Sustainable procurement is a key aspect of social responsibility, thus ISO 20400 will complement ISO 26000, Guidance on social responsibility, by enabling organizations to contribute to sustainable development efforts by minimizing their impact on the environment, tackling human rights issues and contributing to society and the economy.

Jacques Schramm, Chair of ISO/PC 277, the committee developing the standard, said that the procurement function is a key driver of an organization's level of social responsibility, but up until now there have been few harmonized, international guidelines that can be applied universally, and in sufficient detail.

"For many organizations, sustainable procurement is already featured in their sustainability reports, yet there is a distinct lack of clear guidelines on how to implement and measure sustainable procurement practices," he said.

"Using ISO 20400 will therefore help organizations achieve their sustainability objectives, improve management of supplier relations, improve the sustainability efforts of their supply chain and give them a competitive edge."

Improve the bottom line with a new range of human resource management standards

If an organization's greatest asset is its people, it makes sense that putting people at the heart of its operations is a recipe for success. A new series of ISO standards aims to help not only improve the recruitment process, but improve businesses through better human resource processes.

In a fast-paced corporate world where the shareholder of an organization is king, it is easy to forget that it is the values, decisions and behaviour of its people that ultimately dictate how a business performs.

Studies show that a high-performing human resources (HR) department, with effective people management and recruitment, is linked to greater economic performance of the organization and plays a key role in instilling company values throughout the workforce.

ISO's new range of International Standards for human resources aims to help HR departments improve their performance and, ultimately, improve the performance of the organization in which they work.

ISO 30408, Human resource management - Guidelines on human governance, provides the guidelines to structure an effective human governance system that is able to respond more effectively to organizational and operational needs but also foster increased collaboration across all stakeholders, anticipate and manage human resource risks and develop a company culture that is aligned with its values.

ISO 30405, Human resource management - Guidelines on recruitment, provides guidance on effective recruitment processes and procedures, and can be used by anyone involved in recruiting staff, whether they be HR professionals or not.

ISO 30409, Human resource management - Workforce planning, helps organizations respond more effectively to their current and projected requirements for staff, while ISO 30400, Human resource management - Vocabulary, provides a common understanding of the fundamental terms used in human resource management standards.

The standards were developed by ISO technical committee ISO/TC 260, Human resource management, whose secretariat is held by ANSI, ISO's member for the USA. Committee Chair James Lewis said improving HR performance is not just about staffing, but about aligning the values of an organization throughout and taking all stakeholders into account.

"Organizations that put their people at the centre of their decisions tend to perform better as there is a clear company culture and staff are more content.

"The HR function has enormous potential to support the strategic goals of a company by developing talent, aligning organizational values and, ultimately, shaping culture and behaviour.

"These standards can help anyone involved in an HR function - whatever their background and company size - establish, maintain and continually improve effective recruitment and governance processes."

The ISO 30400 human resource management series of standards can be purchased from your local ISO member or

through the ISO Store.

Tourism for everyone with accessibility standards

As much as it is enjoyable, tourism also has its challenges. Think back to the last time you faced difficulties when travelling, whether you had to climb what seemed like millions of stairs to get anywhere or you struggled to ask for food or catch a taxi because of the language barrier. Maybe crossing a busy street was a scary experience, or you felt lost half the time. Now imagine how much harder it would be to travel with a disability.

According to the United Nations World Tourism Organization (UNWTO), as many as one billion people will find it harder to enjoy the rewards of tourism, such as the privilege of knowing other cultures, appreciating nature at its fullest and experiencing the thrill of embarking on a journey to explore new sights.

Today, 27 September, is World Tourism Day (WTD). This year's theme "Tourism for all - promoting universal accessibility" is dedicated to creating environments that can cater for the needs of all, giving everyone the right to access leisure and tourism services on an equal basis.

In his WTD 2016 official message, UNWTO Secretary-General Taleb Rifai reminds us that "accessibility for all should be at the centre of tourism policies and business strategies, not only as a human right, but also as a great market opportunity". ISO has many standards that can support this goal.

ISO standards developed by technical committeeISO/TC 228, Tourism and related services, set out guidelines and best practices that promote universal accessibility in tourism and enable travel industry service providers to reap the commercial benefits that flow from it. For example, ISO 13009, Tourism and related services - Requirements and recommendations for beach operation, raises the importance of making beaches accessible, with such amenities as toilets, showers or foot washes and a drinking water point adapted for people with specific needs. Access to the beach should also be facilitated by access ramps and boardwalks, with direct access to the water, if at all possible. Beaches that are more accessible are believed to attract more holidaymakers, including visitors with special needs and their families.

Meanwhile, ISO 14785, Tourist information offices - Tourist information and reception services - Requirements, provides a number of recommendations to make tourist information offices (TIOs) accessible to all. TIOs should consider aspects related to mobility (entrance, parking and barrier-free rooms) as well as hearing and sight access (large print or Braille copies) in their buildings and the information material they disseminate. They should also ensure there are signs in areas near the principal access that are clear, visible and concise and do not represent an obstacle for free circulation. What's more, tourist offices should provide information that accounts for the needs of people with disabilities, such as a list of the best accessible hotels, activities and adapted transport, so that they can travel safely and independently.

Apart from the standards of ISO/TC 228, a number of other ISO standards address accessibility issues and help put tourism within reach of visitors with special needs. ISO 17049, Accessible design - Application of braille on signage, equipment and appliances, for instance, enables blind and visually impaired people to have access to information through the standardized usage of braille in many different parts of the world. Meanwhile, ISO 23599, Assistive products for blind and vision-impaired persons - Tactile walking surface indicators, helps ensure that tactile walking surface indicators provide standardized information internationally, helping blind and partially sighted visitors to get around easily and safely.

World Tourism Day is an annual event organized by the United Nations World Tourism Organization (UNWTO), which participates in ISO committees developing standards for tourism. This year's official celebration will be held in Bangkok, Thailand, on 27 September 2016.

ISO publishes powerful new tool to combat bribery

A new business tool designed to fight bribery is now published. ISO 37001 is the first international anti-bribery management system standard designed to help organizations combat bribery risk in their own operations and throughout

their global value chains. It has the potential to reduce corporate risk and costs related to bribery by providing a manageable business framework for preventing, detecting and addressing bribery.

"Bribery is a significant business risk in many countries and sectors," says Neill Stansbury, Chair of ISO project committee ISO/PC 278 responsible for the new standard. "In many cases, it has been tolerated as a 'necessary' part of doing business. However, increasing awareness of the damage caused by bribery to countries, organizations and individuals has resulted in calls for effective action to be taken to prevent bribery."

Many organizations have already invested significant time and resources into developing internal systems and processes for preventing bribery. ISO 37001:2016, *Anti-bribery management systems - Requirements with guidance for use,* is designed to support and broaden those efforts, while providing transparency and clarity on the measures and controls that organizations should be putting in place and how to implement them most effectively and efficiently.

ISO 37001 will help prevent, detect and deal with bribery, whether such bribery is by or on behalf of an organization or its employees or business associates. Using a series of related measures and controls, including supporting guidance, the anti-bribery management system specifies requirements for an anti-bribery policy and procedures; top management leadership, commitment and responsibility; oversight by a compliance manager or function; anti-bribery training; risk assessments and due diligence on projects and business associates; financial, procurement, commercial and contractual controls; reporting, monitoring, investigation, and review; and corrective action and continual improvement.

Stansbury says that ISO 37001 has been developed to ensure flexible use by organizations of all sizes, wherever they may do business. "The bribery risk facing an organization varies according to factors such as the size of the organization, the countries and sectors in which the organization operates, and the nature, scale and complexity of the organization's operations. Therefore, ISO 37001 specifies the implementation by the organization of reasonable and proportionate policies, procedures and controls."

Organizations may choose to be certified to ISO 37001 by accredited third parties, to confirm that their anti-bribery management system meets the standard's criteria. Although certification (or compliance) to ISO 37001 cannot provide assurance that no bribery has occurred or will take place in relation to an organization, the standard can help establish that the organization has implemented all appropriate measures designed to prevent bribery.

ISO 37001 builds on guidance from various organizations, such as the International Chamber of Commerce, the Organisation for Economic Cooperation and Development, Transparency International and various governments, representing a global consensus on anti-bribery good practices. It was developed by ISO project committee ISO/PC 278, Anti-bribery management systems, whose secretariat is held by BSI, the ISO member for the United Kingdom.

(From ISO website, www.iso.org)

During the period under review, the Bureau continued to offer certification services under its Standards Mark, Tested Product and Batch Certification schemes, including the Pre-shipment Verification of Conformity to Standards (PVoC).

1. STANDARDS MARK LICENCES ISSUED

S/N	CLIENT	PRODUCT (S)	LICENCE No.	CATERGORY
1	TANZANITE SPRINGS LIMITED	BOTTLED DRINKING WATER (FLAMINGO)	1717	SME
2	MUUNGANO GROUP	FRUIT TOMATO WINE	1718	SME
3	PEE PEE	OPEN MOUTH WOVEN POLYSACK (SUGAR BAGS, PICS)	1719	NORMAL
4	SADOLIN PAINTS (T) LTD	VINYL SILK EMULSION PAINT (SADOLIN)	1720	NORMAL
5	AVID ASSETS LTD	PEANUT BUTTER (JOJO)	1721	SME
6	MED FOOS	CHILLIES & CAPSUMS (SPANISH PAPRIKA)	1722	SME
7	SITA STEEL ROLLING LIMITED	MILD PIPE STEEL	1723	NORMAL
8	NAFAKA NZIMA BAKERY	BREAD	1724	SME
9	MED FOODS	CLOVES	1725	SME
10	CT INTERNATIONAL CO.LTD	WALL PAINT	1726	NORMAL
11	TEMNAR CO LTD	SUNFLOWER SEED OIL (TEMNAR)	1727	SME
12	EURO CABLES LTD	PVC INSULATED FLAT TWIN CABLES	1728	NORMAL
13	EURO CABLES LTD	PVC INSULATED SINGLE CORE CABLES	1729	NORMAL
14	MGULANI VOCATION TRAINING CENTRE (MGVTC)	HAND DISH WASHING LIQUID	1730	SME
15	MINI BAKERIES (TANZANIA) LTD	BREAD	1731	NORMAL
16	KAPA OIL REFINERIES LTD	LAUNDRY SOAP (JAMAA)	1732	NORMAL
17	RADIANT INDUSTRIES LTD	GLYCERINE (TULIP)	1733	NORMAL
18	KIBO NATURAL WATER	BOTTLED DRINKING WATER (KIBO NATURAL WATER)	1734	NORMAL
19	TEMNAR COMPANY LIMITED	SESAME SEED OIL (TEMNAR)	1735	SME
20	MOSHONO BAKERY	BREAD (MAISHA LOAF)	1736	SME
21	SAYONA DRINKS LTD	READY TO DRINK NON CARBONATED NON ALCOHOLIC BEVERAGE	1737	NORMAL
22	TANZAMAJI LTD	BOTTLED DRINKING WATER	1738	NORMAL
23	NGS INVESTMENT CO. LTD	EDIBLE SUNFLOWER SEED OIL (MAJAHIDA)	1739	NORMAL

24	GLOBAL LEADER ENTERPRISES (T) LTD	PRE PAINTED INDUSTRIAL TROUGH (IT) STEEL SHEETS	1740	NORMAL
25	HEROCEAN GROUP - MBEYA	PRE PAINTED INDUSTRIAL TROUGH (IT) STEEL SHEETS, PRE COATED CORRUGATEDBIRON SHEET	1741	NORMAL
26	NACHUAN WIRE & CABLE CO. LTD,	PVC INSULATED SINGLE CORE CABLE,	1742	NORMAL
27	NACHUAN WIRE & CABLE CO. LTD,	PVC INSULATED FLAT TWIN CABLE	1743	NORMAL
28	KIGOMA TAN SOAP	LAUNDRY SOAP (KIGOMA)	1744	SME
29	TOPLO ENTERPRISES LTD	SYNTHETIC ORGANIC LIQUD DETERGENT	1745	SME
30	KONECTT WIRES & CABLES LTD	PVC INSULATED SINGLE CORE CABLE,	1746	NORMAL
31	KONECTT WIRES & CABLES LTD	PVC INSULATED FLAT TWIN CABLE	1747	NORMAL
32	NCG CHEMICAL INDUSTRIES LTD	SODIUM HYPOCHROLITE	1748	NORMAL
33	NCG CHEMICAL INDUSTRIES LTD	DISINFECTANT	1749	NORMAL
34	COCA COLA KWANZA LTD-MBEYA	DRINKING WATER	1750	NORMAL
35	QUEENS COOKING OIL	RAW SUNFLOWER SEED OIL	1751	NORMAL
36	RALSON(INDIA) CO. LTD	PNEUMATIC BICYCLE TYRES	1752	NORMAL
37	RALSON(INDIA) CO. LTD	THREE BICYCLE TUBES	1753	NORMAL
38	RALSON(INDIA) CO. LTD	SCOOTER TYRES, THREE WHEELED TYRES, MOTORCYCLE TYRES	1754	NORMAL
39	BONI M.MABUS	DISFENCTANT	1755	SME
40	U-FRESH FOOD LIMITED-MWANZA PLANT	READY TO DRINK BEVERAGE	1756	NORMAL
41	QONQUER INVESTMENT CO LTD	TOILET PAPER	1757	NORMAL
42	HENGAN SANITARY & BABY PROD. LTD	ADULT DIAPERS	1758	NORMAL
43	DARSH INDUSTRIES LTD	PEANUT BUTTER	1759	NORMAL
44	LALA FURNITURE	SPRING MATRESS	1760	NORMAL
45	SK PATEL MINERAL WATER LIMITED	BOTTLED DRINKING WATER	1761	NORMAL
46	ZIZOU SOFTWATER NDANDA LTD	BOTTLED DRINKING WATER	1762	NORMAL
47	KIJENGE ANIMAL PRODUCTS LTD	BROILER FINISHER MASH	1763	NORMAL
48	FRESHO INVESTMENT CO. LTD	WOVEN POLYPROPYLENE SACKS	1764	NORMAL
49	TANGA PHARMACEUTICAL & PLASTICS LTD	GLYCERINE(ALOEVERA, FRESHEVER, FAIR & BEAUTY)	1765	NORMAL
50	TANGA PHARMACEUTICAL & PLASTICS LTD	HAIR CREAM, HAIR CONDITIONER, HAIR GEL, HAIR LOTION	1767	NORMAL
51	TANGA PHARMACEUTICAL & PLASTICS LTD	BODY SPLASH & COLOGNE	1768	NORMAL
52	TANGA PHARMACEUTICAL & PLASTICS LTD	HAIR SHAMPOO	1769	NORMAL

53	TANGA PHARMACEUTICAL & PLASTICS LTD	HAIR OIL	1770	NORMAL
54	TANGA PHARMACEUTICAL & PLASTICS LTD	SKIN OIL/BABY OIL	1771	NORMAL
55	TANGA PHARMACEUTICAL & PLASTICS LTD	NAIL POLISH REMOVER	1772	NORMAL
56	TANGA PHARMACEUTICAL & PLASTICS LTD	HAIR RELAXER	1773	SME
57	BONI M. MABUS	SHAMPOO	1774	SME
58	HERITAGE SPIRIT AND BEVERAGES	PORTABLE SPIRIT	1775	SME
59	MANOW PREMIUM PRODUCTS CO. LTD	BOTTLED DRINKING WATER	1776	NORMAL
60	TANGA PHARMACEUTICAL & PLASTICS LTD	HAND & BODY CREAM, GOLDY CREAM, HAIR AND BEAUTY CREAM, BODY LUXE CREAM, BODY CREAM (FAIR AND BEAUTY), BODY CREAM, BODY LOTION	1777	NORMAL
61	SEE SWEET ROYALE CONFECTIONARY LTD	BREAD	1778	NORMAL
62	C&S ELECTRIC LIMITED	ISOLATOR & CHANGE OVER SWITCH	1779	NORMAL
63	AMERICAN SUPERMARKET LTD	BROWN & WHITE BREAD	1782	NORMAL
64	HACHAJE FOOD PRODUCTS	DRIED ROSELLA	1783	SME
65	KIBO SPIRIT (T) LTD	POTABLE SPIRIT	1784	NORMAL
66	MASWA FAMILY GROUP	WRITING CHALK	1785	SME
67	GUPTA POWER INFRASTRUCTURE ODISHA,INDIA	POLYVINYL CHLORIDE INSULATED CABLES - SHEATHED	1786	NORMAL
68	GUPTA POWER INFRASTRUCTURE ODISHA,INDIA	POLYVINYL CHLORIDE INSULATED CABLES - SHEATHED	1787	NORMAL
69	GUPTA POWER INFRASTRUCTURE ODISHA,INDIA	NONE SHEATHED CABLES FOR FIXED WIRING	1788	NORMAL
70	GUPTA POWER INFRASTRUCTURE ODISHA,INDIA	INSULATED CABLES FOR ELECTRICITY	1789	NORMAL
71	GUPTA POWER INFRASTRUCTURE ODISHA,INDIA	ALUMINIUM CONDUCTOR GALVANIZED STEEL REINFORCED	1790	NORMAL
72	NIDA TEXTILE MILLS LTD	BED SHEET (60X90), BED SHEET (80X90)	1791	NORMAL
73	NIDA TEXTILE MILLS LTD	KITENGE WAX	1792	NORMAL
74	COLOURFUL INDUSTRY LTD	SWEEPING BROOMS	1793	NORMAL
75	SUNKIST BAKERY LTD	BISCUITS	1794	NORMAL
76	ST. MARIAGORETH ORGANIZATION	SYNTHETIC ORGANIC LIQUID DETERGENT	1795	SME
77	ST. MARIAGORETH ORGANIZATION	LAUNDRY SOAP SPECIFICATION	1796	SME
78	ST. MARIAGORETH ORGANIZATION	TOILET SOAP	1797	SME
79	ST. MARIAGORETH ORGANIZATION	SHAMPOO	1798	SME
80	ST. MARIAGORETH ORGANIZATION	DISFECTANT	1799	SME
81	S.H AFRIQ TANZANIA LTD	ARTIFICIAL HAIR	1800	NORMAL
82	WAKULIMA TEA COMPANY WATCO - MWAKALELI FACTORY	BLACK TEA (BPI, PD, PFI & DI)	1801	NORMAL
83	JIA FU LIMITED	PRE-PAINTED STEEL SHEETS (IT4 & IT5)	1802	NORMAL

84	JUXIN BUILDING MATERIAL CO. LTD	MULT EMULSION PAINTS-WATER BASED FOR INTERIOR AND EXTERIOR USE	1803	NORMAL
85	MASTER MIND TOBACCO (T) LTD	CIGARETTES	1804	NORMAL
86	KICHURI INVESTMENT COMPANY LIMITED	POTABLE SPIRIT	1805	NORMAL
87	LEMODEJA COMPANY	SYNTHETIC ORGANIC LIQUID DETERGENTS FOR HOUSE HOLD USE	1806	SME
88	CHEF ASILI COMPANY LTD	BREAD	1807	SME
89	KIKUNDI CHA KINA MAMA DEMROS	CASHEW NUTS	1808	SME
90	IKANGA TEA COMPANY LTD	BLACK TEA (BF1, PF1, PD, DI, FNGS, BMF)	1809	NORMAL
91	CHIVANJEE TEA FACTORY	BLACK TEA(PF1,PD,D1)	1810	NORMAL
92	MBINGA INDUSTRIAL SUPPLIES LTD	DRINKING WATER	1811	NORMAL
93	QUANSHENG INTERNATIONAL TRADING LTD	COLOURED ROOFING (IT4)	1812	NORMAL
94	GENERAL PETROLEUM LTD	AUTOMATIC TRANSMISSION FLUID	1813	NORMAL
95	KAZYMATE COMPANY LTD	DISINFECTANT	1814	SME
96	KAZYMATE COMPANY LTD	INSTANT HAND SANITIZER	1815	SME
97	KAZYMATE COMPANY LTD	SHAMPOO-SYNTHETIC/DETERGENT BASED	1816	SME
98	GIGI'S BAKERY	WHITE BREAD-SPECIFICATION	1817	SME
99	NIDA TEXTILE MILLS LTD	COTTON KHANGA	1818	NORMAL
100	ALAF LIMITED-MWANZA BRANCH	PREPAINTED STEEL SHEETS	1819	NORMAL
101	MASTER CABLES (T) LTD	PVC INSULATED SINGLE CORE CABLE	1820	NORMAL
102	SUNFLAG(T) LTD	MASAI SHUKA	1821	NORMAL
103	SHOPPERS SUPERMARKET	BREAD	1822	NORMAL

*Key

Normal: Means a manufacturer who paid for their own certification fees

SME: Means the certification fees is paid by the Government

The Assistant Director of Business and Market Sensitization in the Ministry of Industry, Trade and Investment, Mr. Christopher Nassari grants a standards mark licence to one of the manufacturers during a ceremony held at TBS headquarters.

2 TESTED PRODUCT CERTIFICATES ISSUED

S/N	CLIENT	PRODUCT (S)	TPC No.	CATEGORY
1	BEST IMPORTS ZANZIBAR LTD	CHICKEN QUARTERS	258	NORMAL
2	DARSH INDUSTRIES LTD	TOMATO JUICE	259	NORMAL
3	RALSON (INDIA) LTD	PNEUMATIC TYRE,PNEUMATIC TUBES, TK TUBES	260	NORMAL
4	RALSON (INDIA) LTD	AGRICULTURE TYRES	261	NORMAL
5	BONI M. MABUSI	HAND WASH SOAP	262	SME
6	MATRIX INTERNATIONAL LTD	TRAVEL BAGS	263	NORMAL
7	C&S ELECTRIC LIMITED	MINIATURE CIRCUIT BREAKER	264	NORMAL
8	C&S ELECTRIC LIMITED	RESIDUAL CIRCUIT BREAKER	265	NORMAL
9	GUPTA POWER INFRASTRUCTURE	ALUMINIUM ROD	266	NORMAL
10	GUPTA POWER INFRASTRUCTURE	BUNCHED CABLES	267	NORMAL
11	GUPTA POWER INFRASTRUCTURE	ARMOURED CABLE	268	NORMAL
12	GUPTA POWER INFRASTRUCTURE	BUNDLED CABLE	269	NORMAL
13	TANZANIA PORTLAND CEMENT CO LTD	MANSORY CEMENT	270	NORMAL
14	HENGCHANG ENTERPRISES LTD	FLEXIBLE CARRIER BAGS	271	NORMAL
15	SWALA BEVERAGES LIMITED	SPARKLING MANGO	272	NORMAL
16	AVESTURK LIMITED	NON WOVEN CLEANING WIPES	273	NORMAL
17	KAZYMATE COMPANY LTD	LIQUID HAND WASH	274	SME
18	SUNFLAG(T) LTD	FISHNET	275	NORMAL

*Key
Normal: Means a manufacturer who paid for their own certification fees
SME: Means the certification fees is paid by the Government

3 LICENCES EXTENDED

S/N	NAME OF THE MANUFACTURER	PRODUCT (S)	LICENSE No.	CATEGORY
1	CHANG JIANG INVESTMENT LTD MIKINDANI, MTWARA	PORTLAND CEMENT (BINANI CEMENT)	1580	NORMAL
2	BAKHRESA FOOD PRODUCT LTD MWANDEGE PLANT	CARBONATED SOFT DRINK (AZAM PINEAPPLE)	1097	NORMAL
3	NYATI SPIRITZ LIMITED DAR ES SALAAM	POTABLE SPIRIT (DON NYATI TROPICA FUSION)	1662	NORMAL
4	GHUANGZHOU SANYA MOTORCYCLE Co. LTD C/O KILIMO BORA LTD, DAR ES SALAAM	TWO WHEELED MOTORCYCLE (SANYA BRAND)	1034	NORMAL
5	MIKOANI EDIBLE OIL & DETERGENTS LTD DAR ES SALAAM	LAUNDRY SOAP (SUPER STEP KING LIMAU CHAMPION)	1303	NORMAL
6	TANZANIA BREWERIES LTD MWANZA	BEER (NDOVU RED MALT)	0146	NORMAL
7	ANJARI SODA FACTORY LTD	CARBONATED SOFT DRINKS (LEMON, APPLE & ROZAH)	0697	NORMAL
8	KWANZA BOTTLERS LTD	CARBONATED SOFT DRINKS (FANTA FRUIT BLAST)	0123	NORMAL

9	TANPACK TISSUE LTD	TOILET PAPER (VALVEX)	0398	NORMAL
10	BONITE BOTTLERS LTD	CARBONATED SOFT DRINKS (FANTA FRUIT BLAST)	0161	NORMAL
11	MINERAL OIL CORPORATION LTD	DIESEL OIL SAE 40 API CF (MEEZAN)	1138	NORMAL
*Key Normal: Means a manufacturer who paid for their own certification fees SME: Means the certification fees is paid by the Government				

4. BATCH CERTIFICATES ISSUED

Batch Certification Scheme for Imports is part of implementation of the Standards (Batch Certification of Imports) Regulations for products covered under compulsory standards. Under this scheme, the Bureau is also implementing Pre-shipment Verification of Conformity to Standards (PVoC) through which products are tested and verified in countries of origin before shipment to Tanzania. During the July - December 2016 period, 588 batch certificates were issued while 9,858 certificates of conformity were issued to various consignments. Likewise, 17,021 vehicle inspection certificates were issued for imported used vehicles under PVoC and Destination Inspection (DI).

UNEP brings together regulators in promoting standards

David Mtei

The United Nations Environmental Programme (UNEP) has spearheaded a mini-project with focus to standards as tools for sustainable consumption in which standards stakeholders in the country are being engaged so that the developed standards become credible and implementable documents.

The project consists of three activities, the first being conducting standardization and quality assurance stakeholders' roundtable meetings. The purpose of this activity is to strengthen networking and collaboration among different regulatory bodies enforcing standards compliance at all levels in the country.

Other activities are preparation of awareness raising packages in order to create awareness to change people's mindset to substandard products but also promote and support environmental quality/certification marks with service provider's business partners including environmental education.

Being the coordinator of the project, Tanzania Bureau of Standards (TBS) has already conducted three roundtable meetings in Dar es Salaam, Mtwara and Tanga regions. The already conducted roundtable meetings in the three regions brought together various regulatory bodies and standards stakeholders from both private and public sectors. The roundtable discussion meetings were themed *'Strengthening compliance of standards requirements through effective engaging stakeholders'*.

The series of meetings started in Dar es Salaam from 28 - 29 July 2016, where it was opened by Mr. Odilo Majengo, the Director of Trade Promotion from the Ministry of Industry, Trade and Investment. Mr. Majengo said that the country is suffering from substandard and counterfeit products with serious adverse effects on customers and economy, thus there is a need for all stakeholders to work together for defensive purposes.

According to him, the move to discuss and agree on common strategies provides the necessary operational environment without any contradiction or overlap while protecting the society from consequences of substandard and counterfeit products and the environment at large.

Opening the meeting in Mtwara, Ms Halima Dendego, Mtwara Regional Commissioner applauded organizers of the meeting for conducting the meeting that brought together stakeholders on standards compliance with the aim of making sure that they are engaged and participate effectively in the implementation of requirements of standards.

Ms Dendego noted that any reform achieves if it effectively involves stakeholders from early stages while urging participants of the meeting to make valuable contributions in order to make deliberations and reach common agreements to address the challenges and secure the future of the consuming public and the environment in Tanzania.

On his part Mr Martin Shigela, the Tanga Regional Commissioner, while opening the meeting held in his region from 30 - 31 August, 2016, thumbed up organizers of the meeting for opting for Tanga to be one among the regions to host the stakeholders' roundtable discussion meetings.

He urged participants to share knowledge, experiences and own the deliberations of the meeting so that they can implement them in their respective organizations with the aim of reducing the overlapping challenges among regulators in the country. The RC further applauded TBS for opening an office in Tanga, urging other regulators to do the same since Tanga is among the regions with a lot of entry points and a growing number of manufacturers.

He further noted that standards stakeholders are obliged to create awareness to the general public in order to transform the society on quality issues. He asserted that the public has been using substandard and counterfeit products since the level of awareness is still low to most consumers.

Some of the common agreements reached by participants of the roundtable discussion meetings in the three regions include establishment of a forum that will bring together all regulators, information sharing among regulators, formulation of national policies for standardization issues i.e. National Quality Policy and Food Safety Policy.

Participants also agreed that institutions should include requirements of standards in tender specifications and recognize the existing resources in each institution and use them to meet legitimate objectives.

Non calibration of pressure gauges can lead to road carnage

Joseph James
Senior Metrologist

Road traffic accidents have become one of the serious threats to Tanzanians in recent times. This is a result of the tremendous negative effects of accidents on human lives, properties, environment and the economy at large. The Government is in turn experiencing an economic loss as a result of spending on resources for compensations and hospital expenses to cater for these road traffic accidents.

One of the root causes of these accidents is associated with performance of vehicle tyres. Research shows that road traffic accidents due to tyre bursting contribute 56% of vehicle factors. It is further revealed that non calibration of pressure gauges for tyre inflators used by Tanzania service stations and tyre inflation contribute to the occurrence of road traffic accidents by tyre bursting.

Road traffic accidents have been on an increasing trend in the last decade or so worldwide. This has led the researchers to think of this problem and find possible causes and precautionary measures to prevent crashes from happening. Following the current trends of road traffic accidents, it is estimated that by the year 2020 the road traffic accident deaths will increase by 83% in low-income and middle-income countries (if no major action is taken), and to decrease by 27% in high-income countries [5, 7].

The problem of deaths and injuries as a result of road traffic accidents is acknowledged to be a global phenomenon and traffic safety regulations have been a major concern since the start of automobile age, almost one hundred years ago [8]. It is approximated that 1.24 million people die worldwide annually on the roads, almost equal to the number of deaths caused by Human Immunodeficiency Virus (HIV)/ Acquired Immunodeficiency Syndrome (AIDS), tuberculosis and malaria combined [4]. In addition, road traffic crashes are estimated to cause 20 to 50 million people non-fatal injuries every year.

Death and disability due to road traffic injuries affect all age groups but the most affected are those in the young and productive years of their life. It is estimated that road traffic injuries will move up in the ranking of leading causes of death from tenth in 2004 to fifth in 2030 [4]. Economically disadvantaged families are hardest hit by both direct medical costs and indirect costs such as lost wages that result from these injuries. At the national level, road traffic injuries result in considerable financial costs, particularly to developing economies [9].

Road traffic accidents in Tanzania are still a growing concern as the number of fatal and serious injury crashes is substantially increasing. In addition to loss of lives and personal sufferings, road traffic accidents are a burden to the nation and local community due to the funeral costs, expenditures for medical treatment and care, and costs of repairing or replacing damaged vehicles. It is evident that road traffic accidents consume a significant amount of the national resources [4] and it is estimated that road traffic accidents cost low and middle-income countries between 1-2% of their gross national product (GNP), estimated at over USD 100 billion a year.

From time to time, there is an overwhelming outcry about road traffic accidents in the country and the Government is often brought under pressure to do something about this problem which is seen as a threat to human life [8, 10]. The enormity of wastage of national resources in road traffic accidents provides the most compelling single reason for seeking every possible means of reducing them.

Defective motor vehicle accounts for % of all road accidents and it is the fifth contributing factor to road traffic accidents in Tanzania. The aspects of vehicles that increase the likelihood of accidents when travelling are vehicle factors which include unroadworthy vehicles, won-out tyres, wrong air pressure, overloading of vehicles, faulty brakes and vehicle lights. In these factors, wrong inflation of tyres and overloading of vehicles contribute 56% over vehicle factors which is equivalent to 7.1% of overall road traffic accidents in Tanzania [11].

Tyres are the only contact between the vehicle and the road and as a result the performance of the tyres affects the overall performance of the vehicle [1]. Therefore it calls for optimum performance of the tyres and one of the ways to achieve this performance is through proper inflation of the tyres.

Inflation pressure is an extremely important factor affecting safety, driving performance, mileage; wear pattern and fuel consumption [2]. In fact, the single greatest cause of tyre damage is improper inflation whereupon tyres could lose pressure over time, resulting in early and irregular wear, loss of driving control and eventually fatal accidents [1-3].

Tyres cannot deliver their best performance without correct air pressure no matter what brand of a tyre is in use. Both under-and over-inflation can negatively affect tyre performance level with the former causing excessive build-up of heat that may result in sudden tyre destruction having proved to be the chief single cause of burst mainly

at overload. If you over inflate your tyres, you might cause some safety hazards [6]. You'll definitely wear out the tyres more quickly. A tyre that is over inflated shows more wear along the centre width of the tyre than along its edges. When your tyres develop uneven tread wear, it shortens the overall life expectancy of your tyre.

Factors contributing to inflation of tyres

Speed ratings and load index of tyre

Speed ratings and load indices indicate the speed category at which the tyre can carry a load corresponding to its load index under specified service conditions. The load index is the numerical code associated with the maximum load a tyre can carry at a particular speed. Although a tyre can be speed rated, this does not endorse the operation of any vehicle in an unsafe or unlawful manner. Furthermore tyre speed ratings do not imply that a vehicle can be safely driven at the maximum speed for which the tyre is rated, particularly under adverse road (road surface) and weather conditions or if the vehicle has unusual characteristics.

The implication of speed ratings and load index of tyres are much related to the inflation of the tyres. The proper inflation level on your tyres also affects how much load your car can carry.

Every vehicle comes with a tyre-load rating that tells you the maximum weight that your tyres can bear. However the tyre-load rating assumes properly inflated tyres. If you over inflate your tyres and overload the weight, you're creating the perfect recipe for a tyre to blow out. Exceeding the load index thus overloading, can result in under inflation of the tyres. Figure 1 below shows tread wear as a function of load.

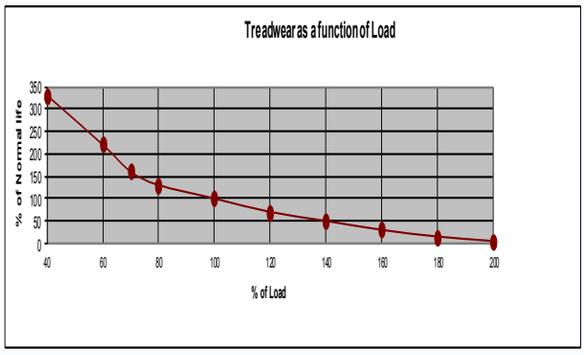

Figure 1: Tread wear versus load

Travelling at or over the maximum speed stipulated by ratings can cause excessive heat on tyres if under inflated, resulting in poor performance. Table 1 depicts the speed symbols and speed category and some load indices respectively.

Speed Symbol	Speed Category (km/h)	Load Index	Load (kg)
N	140	70	335
Q	160	75	387
S	180	78	425
U	200	84	500

Table 1: Speed symbols and load indices

The proper inflation level on your tyres also affects how much load your car can carry. Every vehicle and camper trailer/ caravan comes with a tyre-load rating that tells you the maximum weight that your tyres can bear. However the tyre-load rating assumes properly inflated tyres. If you over inflate your tyres and overload the weight, you are creating the perfect recipe for a tyre to blow out.

Regulations

Regulations play significant roles in ensuring adherence to road and transport safety measures. For instance, it is common in many countries that it is illegal to have a vehicle (not exceeding 3500 kg gross weight) on the road if the grooves of the tread pattern of the tyre wheels do not have tread depth of at least 1.6 mm across the entire tread pattern. This regulation is a preventative action, as a tyre with low level of tread will slide easily, suffer from extended braking distances and will be more susceptible to rupturing. In wet conditions the vehicle will aquaplane making braking and handling almost impossible. In Tanzania the regulations in effect do not include tyre inflation statuses and this could or more objectively prove(s) hazardous for the road users.

Calibration

Factors such as mechanical stress through shock, vibration as well as high temperatures have an influence on the accuracy and reliability of pressure measuring instruments. If such measuring instruments have been in use for one to two years the question justifiably arises as to their reliability. Have the characteristics of the instrument changed? Are the given readings the same as the measured values? Does the measurement deviation of the instrument still lie within the specified error limits? Only regular calibration can ensure certainty and reliability in this respect.

Temperature

Understanding how temperature affects tires and their pressure is important. Tire pressure measures the amount of air in your tires at a given temperature. Changes in the ambient air temperature will affect your tyre pressure. For every 5-degree Celsius fluctuation in temperature, your tyres gain or lose one PSI of pressure. Changes in the temperature from heat generated by the tyre caused by friction between your tyres and the road will increase tyre pressure. As the temperature of your tyres rise, so will the pressure levels. This increase can cause overinflated tyres to blow or underinflated tyres to appear acceptable. Check the air pressure of your tyres as the seasons change. Cold weather will reduce the air pressure, while warm weather will increase the air pressure. It is therefore very important to check tyre pressure when the seasons change.

Conclusion

Calibrating a tyre pressure gauge is an important aspect in car maintenance. Inaccurate readings can lead to all sorts of problems such as a tyre burst. It is important to calibrate a tyre pressure gauge to ensure that the correct air pressure is in your tyres at all times. The failure to attend to tyre safety is a vital factor in thousands of road accidents every year.

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Consumers are responsible for product, service quality

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"CONSUMER" is a concept which varies significantly in different contexts of application. It may be defined as an individual who buys a product or a service for personal use, not for resale. It is someone who purchases products or services, making decision on a product/service. A person, or an individual or group of people who can make decision whether or not to purchase an item, the final users of products and/or services generated within a social system. The academic definition of the concept may go beyond this meaning depending on the different school of thought.

Consumers face various problems on account of competition in the market, misleading advertisements, availability of substandard products and services, counterfeit products inadequate information on labels of the products, just to mention a few. Understanding their responsibility on quality and safety issues is paramount in safeguarding their health and safety.

There are several schools of thought concerning responsibility of consumers on quality of products and services. Some consider understanding quality of products and services is the responsibility of the mandated institutions for quality and safety control, in this regards, the Tanzania Bureau of Standards (TBS) and other relevant authorities. Other schools of thought consider that it is the responsibility of consumers to get right of what they pay. These type of schools of thought justify that when someone is aware, you cannot control them on what they have planned to buy. This means, decision is within their control.

Ideally, every consumer has in his/her mind the idea of getting quality products and services at achievable price. However, there are some consumers who prefer low prices at the expense of quality, which is a wrong approach. Essentially, consumer needs a product and service that meets the stated requirements and expectations. In this regard, the quality of products and services is a natural requirement for every consumer. The question is who is responsible to make sure that what consumer gets is within the quality expected and prescribed in the relevant document called specification or standard?

Fortunately, most consumers are sensitive to price at the expense of safety and quality. But what do you consider when planning for a shopping or getting to a supermarket or any kind of shop? If the item you are planning to buy is food, say milk, possibly the first question will be on prices of different brands of milk, while other parameters like expiry date and safety labels will come later.

Consider someone going to buy a tyre for his/her expensive vehicle, bought through a bank loan or SACCOS, the first question to consider is the tyre brand, or whether they are new, i.e. unused, regardless of whether the tyres have been in store for quite some time. Visit a supermarket or shop and witness the type of questions a buyer is asking a shopkeeper and consider more examples.

The question is, do we need a mandated institution to compel someone buying a packaged food item to read the label for important information such as expiry date? Obviously it is the responsibility of the consumer to consider those details before deciding to buy. When every consumer becomes conscious enough to read labels and look for quality marks before buying, substandard or poorly labelled and unmarked products will be rejected. When such rejections are accumulated by different consumers, importers or sellers of such substandard products will be forced to abstain from importing the products or in case of local products the producer will be forced to go for certification.

An owner of a vehicle, for example, has the right to know the type of engine oil his/her vehicle requires as per the vehicle's manual. Today, even the imported used vehicles have manuals describing how to service and the type of engine oils and related products that should be applied. However, because of unawareness on the information provided in the manual, the vehicle owner may use water as a substitute to coolant. But vehicles are made to run on coolant and water cannot be a substitute of coolant. This is where the responsibility of consumers is required.

The consumer should get what he/she intends to buy and get the real value of his/her money. Short of that, he/she has a responsibility to report to the institution or authority responsible for control.

In developed countries there are well-developed, strong consumer associations, which have responsibilities to organize for consumers' rights on quality issues. This results to strong recall mechanism through established stringent legislation.

In general, consumers have the right to get quality products and services, the right to choose quality products and services, the right to get adequate information about quality and safety, the right to environmental and health protection and the right to get appropriate consumer education. Likewise, consumers have a responsibility to read labels on products before deciding to pay for them. They have an obligation to buy certified products for their health, safety and environmental protection.

On the other hand, TBS has the role and responsibility to protect consumers through setting of national standards, laying down procedures on how to meet quality, educating the consumers on quality matters and certification of products. What is required is for both parties - the standards body and the consumers to play their respective roles. This way substandard products will be eradicated from the market.

Just say no to substandard products.

The impact of uncalibrated BP gauges in Tanzania health industry

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Worldwide, 7.1 million deaths (12.8% of the total) and 64.3 million disability adjusted life years (4.4% of the total) were due to sub-optimal blood pressure (BP) in 2000, and two thirds of the disease burden attributable to hypertension already occurs in the developing world [1]. It was estimated that 333 million adults had hypertension in economically developed countries and 639 million in less economically developing countries [2]. In Tanzania, the mortality rate from non-communicable disease at the age of 15-59 years was markedly higher than in the United Kingdom, and a substantial prevalence of high BP was found in the population [3].

In Dar es Salaam, medical care for hypertension is given mainly through specialized outpatient clinics in government

hospitals and in a few large public health centres - hence not in all public health centres - as well as in a few private hospitals and clinics. In 2005, several anti-hypertensive medications could be found at fairly similar prices in government and selected private pharmacies. The minimal cost for a one-year treatment was, for example, US$1.5 for bendrofluazide (2.5 mg/day), $15 for atenolol (50 mg/day), $60 for amlodipine (5 mg/day) and $120 for captopril (50 mg/day) [4].

A study by Pascal Bovet et al. (2008) reviewed that among the 9,254 participants screened in the initial examination in Dar es Salaam city, high BP (defined as systolic/diastolic BP ≥ 160/95 mmHg in the study) was found in 582 individuals, equivalent to 6.3%.

Various factors contribute to the relatively high prevalence of chronically non-communicable diseases including blood pressure. Medical experts attribute this increase to unhealthy lifestyle, lack of regular physical activity and consumption of diets rich in highly saturated fats, sugars and salt. However, whereas the results of medical research cannot be disputed, the issue is whether all those diagnosed to have high blood pressure or low blood pressure do actually have those conditions.

A study by Chiolero (2006) which compared the blood pressure (BP) readings with an automated arm cuff oscillometric device (AutoBP) to readings with a mercury sphygmomanometer (HgBP), reviewed that the systolic/diastolic BP was higher by 4.4/4.7 mmHg with HgBP than AutoBP. The prevalence of high blood pressure was 42% with HgBP and 36% with AutoBP (relative difference of 14%). Therefore the small systematic bias in blood pressure readings between two different devices had large impact on hypertension prevalence estimates [9].

Another study by Chiolero (1999) assessed the prevalence of high blood pressure in the population of Dar es Salaam, Tanzania using a validated automated device (AutoBP). They found a lower prevalence of high blood pressure than another population-based survey that had used mercury sphygmomanometers (HgBP) [9].

This study shows that if non calibrated/non verified sphygmomanometer is used for blood pressure measurement, some people can be diagnosed of potential hypertension illness by mistake. Later on, unnecessary treatment is applied and unnecessary drugs are used. It is a pity both for the patients and the national economy. On the other side, some potential hypertension patients cannot be diagnosed due to inaccurate blood pressure measurement.

Non-verified/validated sphygmomano-meters used in testing the patients can contribute to alterration of patients' treatment. Medical doctors rely on the clinical results; therefore if the result is incorrect, it might result in the doctor under-dosing or over-dosing the patient. Thus errors caused by uncalibrated medical instruments/equipment like sphygmomanometers can cause medical decision making to alter the patient's treatment as compared with absolute thresholds.

Empirical evidence from various studies suggest that the calibration of sphygmomanometers has a significant impact on detection and delivery of treatment of hypertension. A study by Turner and colleagues showed that uncalibrated sphygmomanometer error causes 20% and 28% of all undetected adult systolic and diastolic hypertension, respectively and 15% and 31% of all falsely detected adult systolic and diastolic hypertension. In some groups, under-detection is worse; for example, sphygmomanometer error causes 27% of all missed systolic hypertension in 35-44 year old females. In some groups, over-detection is worse; for example after three visits, sphygmomanometer error causes 63% and 50% of falsely detected systolic and diastolic hypertension in 18-24 year old females, respectively [10].

Turner and colleagues showed that detection of hypertension is very sensitive to systematic error in blood pressure measurements. For example, a clinician who assesses BP in 100 new adult patients, might diagnose 25 with systolic hypertension contributing to high risk of cardiovascular disease, and start those patients on antihypertensive treatment. If the clinician's sphygmomanometer systematically under-reads by 5 mm Hg, however, only 17 of the 25 hypertensive patients would be identified and eight hypertensive patients may be missed [7].

Figure 1 shows that a consistent 5 mmHg error can more than double or half the number of patients diagnosed with diastolic hypertension.

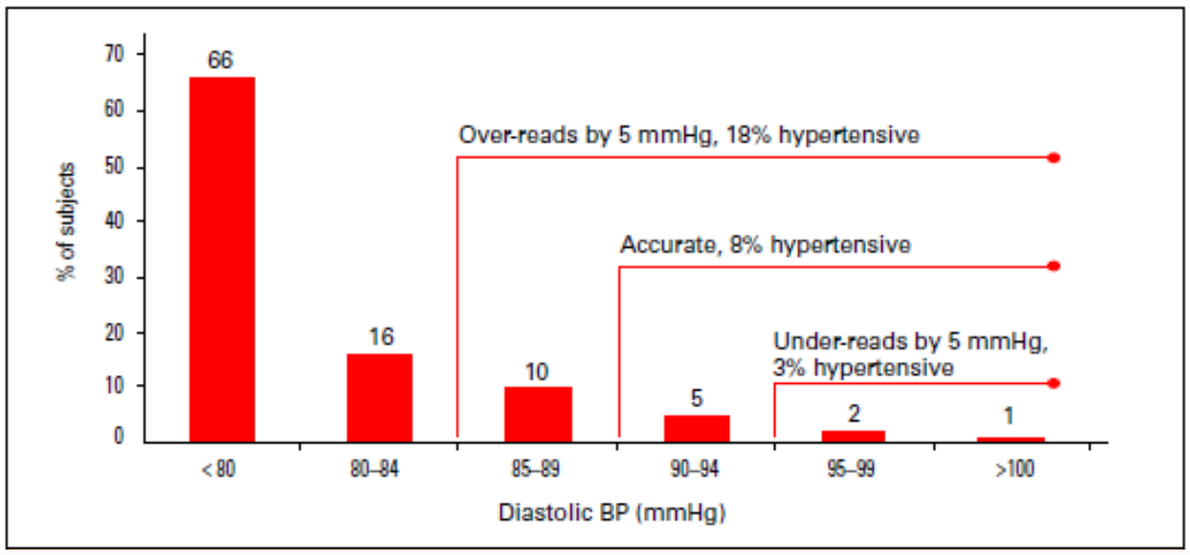
This demonstrates how systematic errors can affect the detection of hypertension. A clinician whose sphygmomanometer is accurate would find that 8% of the population has DBP >90 mmHg. If the sphygmomanometer consistently over-reads by 5 mmHg then patients whose DBP is 85 mmHg would appear to have a DBP of 90 mmHg, so the clinician would find that 18% of the population has DBP >90 mmHg. If the sphygmomanometer under-reads by 5 mmHg then patients whose DBP is 95 mmHg would appear to have a DBP of 90 mmHg, so the clinician would find that only 3% of the population has DBP>90 mmHg [8].

Metrological quality control of sphygmomanometer measurement in health industry in Tanzania is lagging behind the quality control of other measurements that are important to society like in industry and trade. Uncalibrated sphygmomanometers are a preventable cause of clinically

significant over and under-detection of hypertension.

To curb this challenge, the government needs to have regulations in place for all medical equipment to be regularly calibrated by accredited laboratories before use. Moreover, awareness and education on the importance of calibration/verification of medical equipment need to be put in place to deter the ignorance on assuming that new equipment provides accurate results. All medical personnel in the country should be provided with enough knowledge about calibration in general.

Figure 1 - Distribution of diastolic BP in the Canadian population in 1986-1990[8]



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