

Viwang

E-Newsletter



ISSUE NO: 031 APRIL - JUNE 2024

TBS, the Home of Standards



The Director of Trade Development of the Ministry of Industry and Trade, Mr Sempeho Manongi (fourth left, seated) poses with members of the ARSO Technical Committee on Health Services during a meeting held in Dar es Salaam. Also present are the Secretary General of the African Organization for Standardization, ARSO, Dr. Hermogene Nsengimana (third right, seated) and the TBS Director General, Dr. Athuman Ngenya (fourth left, seated).

ARSO Committee advised to observe standardisation guidelines



The Director of Trade Development of the Ministry of Industry and Trade, Mr Sempeho Manongi addresses members of the ARSO Technical Committee on Health Services during a meeting held in Dar es Salaam.

By Neema Mtemvu

African Organisation for Standardisation (ARSO) Technical Committee for Health Services has been urged to observe all the guidelines on preparing standards that will boost African economies.

This was said by the Trade Development Director of the Ministry of Industry and Trade, Mr Sempeho Manongi when opening the meeting

of the ARSO Technical Committee on Health Services which was hosted by Tanzania through the Tanzania Bureau of Standards (TBS).

“The committee members should take an active part in the discussions so as to improve health services standards to ensure that people have access to quality health services in the continent,” he said.

He said consumers of health products and services are the main producers and service providers of health services and therefore have a huge contribution to the African economies.

“Harmonisation of the African standards will spur businesses among countries without barriers and thus penetrating huge global markets,” he said. On his part, ARSO Secretary General Dr

Hermogene Nsengimana said the meeting was of paramount importance for setting and improving health sector standards in the continent.

He thanked experts from various African countries for taking part in the meeting

with the ultimate goal of improving health services standards in the continent.

“We have an obligation to make huge changes in the life of the people through standards reflected in the quality health services,” he said adding that the continent faces many challenges related to issues of quality, safety and availability of health services.

Dr Nsengimana said experts have the primary objective to ensure that strong standards systems are put in place as a way to address the challenges facing the delivery of health services.

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

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The Trade Development Director of the Ministry of Industry and Trade, Mr. Sempheho Manongi (centre), seated in a group photo with the ARSO Technical Committee members on Health Services during technical committee meeting held in Dar es Salaam.

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Address

Tanzania Bureau of Standards
 Ubungu Area,
 Junction Morogoro/
 Sam Nujoma Roads,
 P.O.Box 9524, Dar es Salaam
 TANZANIA.

Contacts:

Tel +255 2224 50298
 + 255 2224 50206
 + 255 2224 50949
 Telefax: + 255 2224 50959
 Email: info@tbs.go.tz
 Hotline: 0800 110827
 Website: www.tbs.go.tz

TBS destroys 4.5 tonnes of substandard products in Eastern Zone

By Mussa Luhombero

Tanzania Bureau of Standards (TBS) in the Eastern Zone has destroyed substandard products which were penetrated into the market via illegal means.

The products were destroyed recently after being seized from various warehouses, hotels and shops in Dar es Salaam, Coast and Morogoro regions.

Majority of the products destroyed were food products and other expired products which if left were being sold to the public. Speaking during the exercise at Pugu area in Dar es Salaam,

TBS Eastern Zone Acting Manager Mr Francis Mapunda said the products were seized during an operation conducted by the Bureau.

He said that in that food group, there is baby milk that is not registered in the country and is imported into the country

through unofficial means whose quality and safety for consumers is not known.

According to Mr Mapunda, the cargo destroyed weighs 4.5 tonnes and is worth more than 91m/-.

"Most of the businessmen have been selling expired products and this has mostly been done by unscrupulous business people," he said.

The side effects of substandards goods in the market were that they affect the economy and put the lives of the general public at risk.

Mr Mapunda called on traders to check their products regularly to be satisfied with their quality and to avoid selling cosmetic products with toxic ingredients.



African countries need to embrace standardization

The African Organization for Standardization (ARSO) Technical Committee 74 on Health Services held its 20th meeting in Dar es Salaam from 8th to 11th April, 2024.

The meeting, which was organized and hosted by the Tanzania Bureau of Standards (TBS), was held at the Giraffe Beach Hotel in Dar es Salaam. It was attended by 32 experts from 14 countries under the chairmanship of Dr. Ahmed Adel Elsayed Abdelgawad from Egypt.

The fourteen member countries which were represented in the meeting are Egypt, Sudan, Cameroun, Uganda, Botswana, Togo, Nigeria, Rwanda, Ghana, Kenya, Tanzania, Zimbabwe, Niger and Malawi. The representatives of ARSO Central Secretariat were also present, led by the ARSO Secretary General, Dr. Hermogène Nsengimana.

The draft African standards on health services deliberated on during the meeting include draft standards on application of risk management for IT networks incorporating medical devices; data elements and structures for the unique identification and exchange of units of measurement; information security management in health; computer-assisted electrocardiography; principles and guidelines for the measurement of conformance in the implementation of terminological systems; knowledge management of health information standards; and overview of national eHealth initiatives.

Other documents deliberated on include draft standards on medicinal products; health applications on mobile/smart devices; guidance on health information

privacy education; security requirements for archiving of electronic health records; good principles and practices for a clinical data warehouse; identification of medicinal products; and cloud computing considerations for the security and privacy of health information systems.

Others are healthcare personnel safety; guidelines for hospital emergency preparedness planning; guidelines for effective communication between patients, carers and families; guidelines for recognizing and responding to acute patient health deterioration; and guidelines for the planning, application, measurement and review of cleanliness services in healthcare organizations.

Speaking during the opening of the meeting, the Director of Trade Development of the Ministry of Industry and Trade, Mr. Sempeho Manongi urged the delegates to observe all the guidelines for development of standards so as to come up with standards that will help boost African economies. He further urged the committee members to take an active part in the discussions so as to produce standards that will improve the accessibility of quality health services to the people all over the continent.

He said harmonization of standards at the continental level will spur businesses among countries by eliminating barriers, thus enabling African products and services to penetrate into global markets.

Healthcare standards are crucial for several reasons. They ensure consistency in health care regardless of where the patients are treated, which is crucial for maintaining trust in the healthcare system. Standards also reduce the likelihood of medical errors, infections, and other adverse events, thereby protecting patient health and well-being.

Other benefits include provision of a benchmark

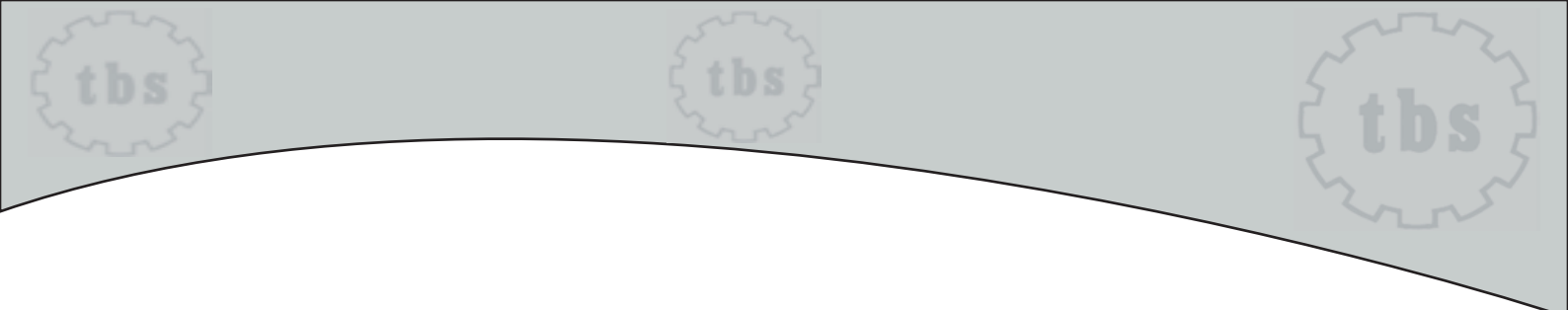
for measuring performance and outcomes; helping healthcare providers identify areas for improvement and implement best practices; streamlining healthcare processes thus reducing unnecessary variation and waste, which leads to more efficient use of resources and better patient outcomes; and setting clear expectations for care by holding healthcare providers accountable for their performance, ensuring that they meet professional and ethical obligations.

Other benefits of standards for healthcare services include strengthening regulatory compliance; increasing patient trust; facilitating communication and coordination; improving efficiency; reducing errors; and ensuring that all patients receive equitable, high-quality healthcare services.

Overall, healthcare service standards are fundamental in ensuring that the healthcare system delivers high-quality, safe, and effective care to all patients, fostering a more reliable and equitable healthcare environment.

Like any other regional standards, African standards are meant to play a significant role in various sectors, including addressing continental needs and conditions they are tailored to; enhancing African industry competitiveness; supporting economic integration; improving quality and safety; facilitating regulatory compliance; promoting environmental protection; strengthen regional identity and cooperation; enhancing consumer confidence; simplifying market entry for regional businesses; facilitating technology transfer and innovation; and promoting social and economic equity.

In a nutshell, African standards are crucial for aligning standards with African conditions, needs, and priorities, promoting economic integration, ensuring quality and safety, and fostering innovation and cooperation among African countries.



We commend the government of Tanzania through Tanzania Bureau of Standards for its consistent participation in regional and international standardization and specifically hosting the ARSO Technical Committee 74. This highlights the country's commitment in regional integration which will eventually be beneficial to the people.

Standards improve trade and service provision by removing technical barriers, thus enabling more and more players to participate. Ultimately, this results in free flow of businesses and services to the benefit of the people in all integrated parties.

In our quest for a prosperous and united continent, it is imperative that we recognize the vital role of standardization in achieving our collective goals. Standardization is the foundation upon which we can build a more integrated, competitive, and resilient Africa. Therefore, we call upon all African countries to actively engage in and prioritize the development, adoption, and implementation of standards. Together, let us embrace the power of standardization to drive Africa's development, foster innovation, and improve the quality of life for all our people. By uniting in this effort, we can build a more prosperous, sustainable and integrated Africa.

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

TBS destroys seven tonnes of unfit products in Mwanza



Destruction of substandard products in Mwanza

By Deborah Haule

Tanzania Bureau of Standards (TBS) through their Lake Zone Office in Mwanza has destroyed over seven tonnes of substandard products.

TBS conducted operations in the Lake Zone regions namely Shinyanga, Kagera, Mwanza, Mara, Simiyu and Geita and managed to seize substandard products weighing 7 tones. TBS Senior Quality Assurance Officer Ms Nuru Mwasulama, said that the impromptu operations were carried

in warehouses, wholesale and retail shops, at the borders and in the ports.

“The objective of carrying the operations in the Lake Zone regions is to remove from the market low quality and hazardous products and ultimately protect consumers’ health,” she said.

She said after completing the operations in the said regions, the seized products were collected and destroyed so as

to send a message to other unscrupulous traders that the Bureau will not tolerate them for the sake of Citizens’ health and environment. The operations uncovered that some business people were selling expired food and cosmetic items, unregistered and banned products.

She said that during the operations it was observed that most of business people were dealing in smuggled goods and failure to inspect expiry dates.



TBS: Apply correct measurements to protect public health

By Mussa Luhombero

Tanzania Bureau of Standards (TBS) has called on the need for applying correct measurements in various sectors of the economy to protect health of consumers and boost economic development.

The Chairman of the TBS Board of Directors Prof Othman Chande Othman said recently during the World Metrology Day held nationally in Mbeya Region.

“There is need for users of measurements in various sectors to upskill their knowledge with latest technology to ensure that they provide correct results,” he said.

He said users should develop deep and correct understanding

of the measurements equipment as way to address climate change challenges, growth of technology and economic development.

He said correct measurements are fundamental in boosting productivity and efficiency in business. “I call upon manufacturers, quality control authorities, hospitals, business people and the public to make correct use of measurements in order to enhance our economic environment,” he said.

He said TBS has the mandate to safeguard national measurement and thus it is their obligation to make and maintain correct measurements in

various sectors in the country.

On his part, Acting Director of Testing and Metrology Services Mr Ridhiwan Matange said the commemoration of the World Metrology Day reminds the significance of correct measurements in day to day life.

He said TBS through its metrology laboratories has the mandate to safeguard measurements standards nationally and traceability of measurements as well as representing the country in calibration services globally.

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

TBS exploits service week to inform people on standards, quality issues



TBS Human Resource Officer, Ms. Faidha Nyenzi, educates entrepreneurs during the Public Service Week in Dodoma.

By Neema Mtemvu




Tanzania Bureau of Standards (TBS) has utilised this year's Public Service Week celebrations to educate the general public on standards and quality assurance issues.

Ms Viola Masako, TBS Director of Human Resources and Administration unveiled recently when addressing journalists at the Public Service Week celebrations held at Chinangali

grounds on the outskirts of the capital city.

Ms Masako said that TBS has participated in providing education on issues of standards and quality assurance to stakeholders and public, including educating them on the various responsibilities that TBS is carrying out.

"In this year's Public Service Week celebrations,



people who visited the TBS Pavilion were able to understand quality assurance activities conducted by the Bureau,” said Ms Masako.

She said that manufacturers and SMEs have been informed that they can reach the office through TBS zone offices, which are in seven regions including the Eastern Zone in Dar es Salaam, the Northern Zone in Arusha, the Southern Zone

in Mtwara, the Western Zone in Kigoma, the South Highlands Zone in Mbeya, the Central Zone in Dodoma and the Lake Zone in Mwanza.

She also said TBS has been providing its services through various electronic systems in serving and solving people’s challenges.

Entrepreneurs advised to enhance products quality

By Mussa Luhombero

Entrepreneurs in the country have been advised to enhance the quality of their goods as a way to sustain market competition locally and internationally.

Tanzania Bureau of Standards (TBS) Officer in the TBS Southern Highlands Zonal Office Mr Ernest Simon made the remarks, while speaking during the Mbeya Entrepreneurs Expo 2024.

“The government recognises the role played by entrepreneurs in the growth of the country’s economy and this is why it is putting more efforts to ensure that quality standards are observed for penetrating wide market,” he said.

He said the government through TBS has been using various programmes and platforms to educate entrepreneurs in different parts of the country on standards regulations.

He said TBS used the Mbeya trade fair to provide education to entrepreneurs on things required to be done in order to produce goods that meet the requirements of national standards.

He said they also used the trade fair to inform entrepreneurs on the need to acquire quality mark of standards provided by TBS as an important prerequisite for easy access to wide domestic and regional markets.

He said the Standards Act Cap. 130 gives TBS the mandate of protecting the quality and safety of all domestic and imported products in the country.

“If TBS and stakeholders particularly traders cooperate, we shall boost our country’s economy since our products will easily penetrate the regional and global markets,” he emphasised adding that the Government through TBS will ensure the necessary guidelines relating to the quality and safety of products are given in time to ensure products that did not meet the required standard are removed from the market.

The Government has been putting more effort to build a strong economy which is sustainable and it is from this backdrop that TBS is continuing to provide education to producers and consumers on the need to abide by quality standards.

Traders urged to meet quality standards



TBS Quality Assurance Officer, Mr. Beatus Mfyomi, educates entrepreneurs on standards during the 11th Trade and Tourism Exhibitions in Tanga.

By Staff Reporter

Business people have been urged to ensure that their goods meet the required quality standards to protect consumers' health and penetrate wide markets.

Tanzania Bureau of Standards (TBS) Public Relations and Marketing Manager Ms

Gladness Kaseka said recently during the 11th Trade and Tourism Exhibitions in Tanga Region that failure to meet the quality standards leads to face legal actions including fine between 10m/- to 100m/-.

"Business people should ensure that they produce

goods that meet the required quality standards before entering the markets to avoid incurring penalties," she said.

She said TBS is conducting inspections of domestic and imported goods to check if they meet the country's quality standards before

entering into the market. and confidence to consumers.

By abiding by relevant standards, business people can reap immense benefits by producing goods that meet the required standards including building consumers' confidence and therefore fetching high market price.

Ms Kaseka said the information provided in packaged products particularly food products are of paramount importance because they give details on the safety

“Consumers are encouraged to read carefully the products information including ingredients contained and whether they are certified to avoid getting health problems resulting from using low quality products,” She said.

In principle, products marked with the TBS Standards Mark of Quality makes people purchase with confidence. On the other hand, the Standards Mark of Quality protects the

manufacturers from competing with inferior products and enables them to prove to the market that their products satisfy all the requirements specified in the respective standards.

The government has been putting more efforts to build a strong economy which is sustainable and it is from this backdrop that TBS continues to provide education to producers and consumers on the need to abide by quality standards.

***Quality begins on
the inside... and
then works its
way out***

TBS destroys 3.6 tonnes of low-quality products in Kigoma

By Neema Mtemvu

Tanzania Bureau of Standards (TBS) has impounded and destroyed 3.6 tonnes of prohibited and low-quality products in the country's western regions from July last year to May this year.

TBS Quality Assurance Officer in the Western Zone, Mr Elisha Meshack said recently that the products valued 34m/- were seized through inspections carried on various areas aimed at removing prohibited and low-quality products from the market.

"Some of the products seized included the banned cosmetics with toxic ingredients and second-hand undergarments which are prohibited in the country," he said.

Other products included low quality and expired electric wires and house painting colours seized in Kigoma Ujiji Municipality, Kasulu, Kibondo and Kakonko districts.

Mr Meshack said the second hand undergarments were banned in the country because they

have been the major cause for skin diseases like fungus and bacterial infections in the body.

On cosmetics, he said they seized them because they are the major cause of reproductive problems in women and men, skin diseases, children, cause of various cancer and digestive problems.

He said the cosmetics banned in the country contained toxic ingredients like hydroquinone, butylmethyl propional, steroids, zinc pyrothione and mercury.

He said the low quality electric wires have been the major cause for fire incidents in the houses which lead to injuries, death and heavy losses. He urged the public to cultivate the culture of checking and reading information provided in each product whether it is still good for human consumption.

He also urged manufacturers, distributors and sellers of various products to ensure that the products sold in the market meet the respective standards requirements.



Destruction of substandard products in Kigoma

Tonnes of substandard products destroyed in Southern Highlands

By Mussa Luhombero

Tanzania Bureau of Standards (TBS) in the Southern Highlands Zone has destroyed 7.2 tonnes of substandard goods worth 43m/-.

Among the destroyed products are cosmetics containing toxic substances that are banned in the country, expired alcoholic beverages, juices, soda, energy drinks, cooking oil, biscuits, milk, tomato and chilli sauce, margarine and other products.

Mr Abel Mwakasonda, TBS Southern Highlands Zone Manager told journalists in Mbeya that the products were seized in the period from July, 2023 to June 2024 following inspections carried out in Mbeya, Songwe, Njombe, and Iringa regions.

He said that the impromptu operations were carried in warehouses, wholesale and retail shops, at the borders and other areas.

“The objective of carrying out the operations is to remove from the market low quality and hazardous products and ultimately protect consumers’ health as well as the environment,” he said.

He mentioned that the cosmetic products that were destroyed include those that have been banned in the Tanzanian market because they contain toxic substances such as mercury, lead, and Hydroquinone.

He said that banned products and cosmetics when used by consumers cause various health effects.

According to Mr Mwakasonda, among the health effects caused by these products are intestinal

diseases and cancer where cosmetics like hydroquinone which is a skin-bleaching agent causes various other effects in the human body.

He tasked producers, distributors, and sellers of various products to make sure that they introduce products that have proven quality, otherwise be prepared to face stern measures.

According to the standards law, it is prohibited for producers, distributors, and sellers to introduce into the Tanzanian market products whose quality has not been verified by TBS.

Mr Mwakasonga said the inspection of products in the market is done by the Standards Act Cap. 130.

Mwakasonda urged the public to use products certified by TBS while avoiding banned products such as cosmetics with toxic ingredients.

He insisted that people should read the information on the packaging of the products they want to buy to find out if they have not expired and if TBS has approved them.

TBS milestone reached in enhancing quality standards compliance



TBS Marketing Officer, Mr. Mussa Lubombero, educates entrepreneurs during the 60th Tanzania Union Trade Fair in Dar es Salaam.

By Rhoda Mayugu

Tanzania Bureau of Standards (TBS) has marked the 60th Union anniversary with significant strides in enhancing compliance with the country's national standards in the production of goods and services.

TBS Marketing Officer, Mr. Mussa Lubombero said in Dar es Salaam recently that the six decades of the Tanganyika-Zanzibar Union has witnessed remarkable achievements in ensuring local producers meet national standards requirements.

"Most producers of goods and services are complying with the country's quality standards which are fundamental for consumers' health, safety and key in penetrating local and global markets," he said.

Mr. Lubombero was speaking during the trade exhibitions to commemorate the 60th Union anniversary of the Tanzania Union in Dar es Salaam.

He said TBS has continued to provide education to various groups of entrepreneurs on the need to meet the relevant standards.

"Compliance with standards requirements is an important prerequisite for manufacturers and entrepreneurs in accessing and expanding market outreach domestically and internationally," He noted.

He said TBS used the 60th Tanzania Union Trade Fair among other activities to provide education

to various groups including producers, small and medium entrepreneurs as well as importers on various quality standards and why they should comply to grab immense market opportunities.

He said after meeting and complying with all the required TBS procedures, entrepreneurs acquire the quality mark of standards that will make their products more competitive in domestic and global markets.

He said for importers, the education provided by TBS is of paramount importance so as to import only

those products that meet the country's standards.

Mr Luhombero urged the public to buy and use goods that meet standards requirements as a way to protect their health and support the country's efforts to eliminate low quality products from the market.

On his part, Mr Hamza Kamba, cosmetic dealer appreciated the education provided by TBS as has opened his mind and understood the registration procedures needed to import cosmetics products.

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

Milk producers urged to certify their products with TBS



TBS Quality Assurance Officer Mr. Donald Mkonyi, educates entrepreneurs during the National Milk Week in Mwanza.

By Neema Mtemvu

Producers of milk and its products in the country have been advised to confirm the quality of their products with Tanzania Bureau of Standards (TBS), a move that will enable them to be reliable and withstand competition in the market.

TBS Public Relations Officer Ms Neema Mtemvu made the advice recently when speaking at the National Milk Week in Mwanza, themed: "Drink Safe Milk for Better Health and Sustainable Economy," which coincided with the climax of the World Milk Day.

Ms Mtemvu said that TBS participated in the celebrations to educate milk producers so that they can certify their products with TBS.

She explained that members of the East African Community have agreed once the products have been certified by the respective national standards body, they do not have to be tested again in the other member country.

Ms Mtemvu said the service to verify the quality of products for entrepreneurs is provided free of charge by TBS, as every year the Government allocates funds for the purpose.

"We have been providing education to all producers so that they can get the Standards Mark of Quality," Mtemvu said.

Women, youth entrepreneurs urged to produce quality goods



TBS Quality Assurance Officer, Ms. Vaileth Kisanga, educates entrepreneurs during the Women and Youth Exhibitions held in Dar es Salaam.

By Deborah Haule

Small scale women and youth entrepreneurs have been advised to produce quality goods as a stepping stone to graduate to large scale business.

This was said by the Quality Assurance Officer at Tanzania Bureau of Standards (TBS) Ms Vaileth Kisanga during the five-day Women and Youth Exhibitions that ended in Dar es Salaam recently.

“There is no shortcut. For women and youth entrepreneurs to grow to large scale business, they must produce quality goods that can sustain market competi-

tions locally, regionally and globally,” She said.

She said through TBS, women and youth entrepreneurs can certify their businesses and obtain a Quality Mark which is key in penetrating local and global markets.

“If TBS and stakeholders particularly traders cooperate, we shall boost our country’s economy since our products will easily penetrate the regional and global markets,” she said. Women and youth entrepreneurs form the largest group of people engaging in small businesses in the country. Thus, empowering them technologi-

cally is fundamental in expanding their businesses and contributing to the country's development.

The Government through TBS will ensure the

necessary guidelines relating to the quality and safety of the products are given in time to stakeholders to ensure products that do not meet standards requirements are removed from the market.

‘Observe professionalism to boost cross-border trade’



Members of the TBS Board of Directors converse during their familiarization tour at the Namanga border

By Neema Mtemvu

Tanzania Bureau of Standards (TBS) has been urged to work hard while observing professionalism so as to facilitate and boost cross-border trade in the East African region.

The TBS Board of Directors Chairman Prof Othman Chande Othman made the plea during the visits of the board members in the TBS border office of Namanga and Kilimanjaro International Airport (KIA) as well as Holili and Tarakea border posts in Kilimanjaro region.

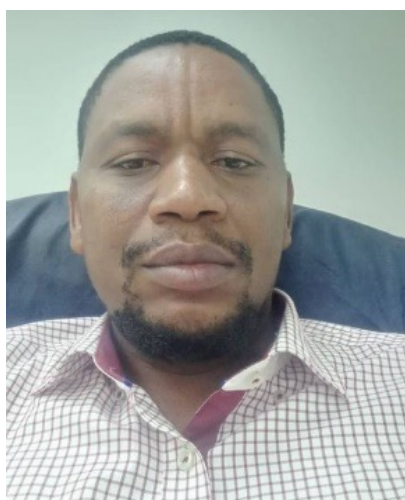
“I commend TBS for the job well done at the borders posts but urge to work hard and observe professionalism to boost and ease

movement of goods at the borders,” he said.

He said one of the fundamental objectives of the Sixth Phase Government under President Dr Samia Suluhu Hassan is to facilitate smooth business flow, thus the TBS employees are obliged to work hard and professionally so that this objective is accomplished.

“Our visits to the TBS cross border offices in the Northern regions is aimed at inspecting and meeting TBS officials and encourage them on the need to boost cross border trade which is vital for the region's economic development,” he said.

Standardization of energy-efficient products for sustainable energy



Masumbuko Noha

Mining has long been a vital industry, supporting economic development and providing essential materials for various sectors. However, the environmental impact and social consequences associated with traditional mining practices have raised concerns over the years. In response to these challenges, sustainable mining has emerged as a critical approach to ensure resource extraction is carried out responsibly, minimizing adverse effects on the environment and local communities.

Sustainable mining refers to the extraction of minerals in a manner that takes into account environmental, social and economic considerations.

It aims to strike a balance between meeting the growing global demand for mineral resources and conserving both natural resources and the well-being of communities affected by mining operations

Importance of sustainable mining

There are various reasons why sustainable mining is important, the first one being environmental stewardship. This requires mining companies to employ technologies and practices that reduce pollution, protect biodiversity, and promote land restoration, such as using drones for environmental risk assessment.

Reducing emissions and energy consumption is another justification for sustainable mining. Incorporating renewable energy sources and energy-efficient technologies can significantly decrease the carbon footprint of mining operations, including transitioning to electric vehicles.

Social responsibility is another factor why mining operations should embrace

sustainable mining practices. Social responsibility refers to the ethical framework that suggests individuals, organizations, and businesses have an obligation to act for the benefit of society at large. This concept emphasizes that entities should make decisions and take actions that enhance societal well-being and contribute positively to communities and the environment. Mining companies should engage in transparent communication, respect indigenous rights, provide job opportunities, and support skills development programmes for local communities to foster mutually beneficial relationships.

Sustainable mining also has a contribution in water management. Effective water management involves minimizing water use, recycling wastewater, and ensuring sufficient supply for local communities. Thus switching to sustainable mining approach results in optimization of water resources in a sustainable manner to meet the needs of people, industries, and the environment.



Figure 1: Core components of sustainable mining practices

(Source: Sustainable Development Practices and the Minerals Industry, Jessica Elzea Kogel, Geo-Intellus; 2301 Laurel Lane; Augusta, GA, 30904, USA)

John Strongman, a Mining Advisor at the World Bank Group, stated that for mining to be sustainable, it

must be financially viable, environmentally sound, socially responsible, implemented with sound governance, and bring

lasting benefits, especially for local communities.

Measures to promote sustainable mining

Promoting sustainable mining involves implementing various measures to minimize environmental impact, ensure social responsibility, and achieve economic viability. Here are some key measures to promote sustainable mining:

a) **Robust Regulatory Frameworks:** Governments should establish and enforce strict regulations that prior-

itize environmental protection, safety, and community engagement, with regular updates to ensure effectiveness.

b) **Encouraging Responsible Mining Practices:** Governments should use incentives, subsidies, or penalties to promote environmentally friendly technologies, waste minimization, effective mine closure plans, and reclamation efforts.

c) **Enhancing Transparency and Accountability:** Min-

ing companies should disclose information on their operations, including environmental impact assessments, financial contributions, and community engagement initiatives, to allow for public scrutiny. d) **Promoting Local Participation and Benefit-Sharing:** Governments should involve local communities in decision-making processes, ensure their concerns are addressed, and provide benefits through employment opportunities, skills development, in-

infrastructure development, and revenue-sharing mechanisms.

e) **Strengthening Environmental Protection Measures:** Strict enforcement of waste management practices, water conservation, and biodiversity conservation is essential to minimize the negative impact on ecosystems and the environment's long-term health.

f) **Supporting Research and Innovation:** Investment in research and development can lead to the implementation of new technologies and

practices that reduce the environmental footprint, enhance resource efficiency, and improve overall sustainability.

g) **Responsible Supply Chain Management:** Encouraging responsible sourcing practices and collaboration between industries and civil society organizations can ensure ethical mineral sourcing without contributing to conflict or human rights abuses.

h) **Capacity Building and Education:** Governments should invest in capacity-build-

ing programmes and technical training to equip miners, regulators, and stakeholders with essential skills and knowledge for implementing sustainable mining practices effectively.

i) **Foster International Cooperation:** Collaboration with other countries, international organizations, and industry associations can facilitate the sharing of best practices and the development of global standards and guidelines for responsible mining.

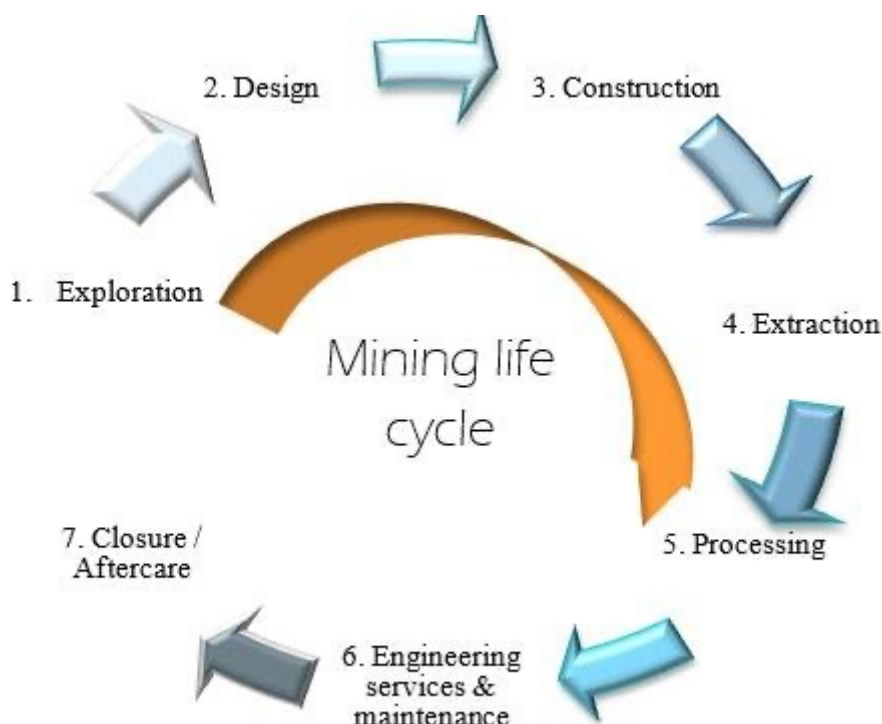


Figure 2: The mining life cycle, illustrating the key stages in the mining process

(Source: Development of a guidance document on best practices in the extractive waste management plans)

By implementing these measures, countries can promote sustainable mining practices that benefit both the environment and local communities while ensuring the long-term

viability of the mining industry. Examples of prominent companies actively engaging in sustainable mining practices within the green mining industry in-

clude BHP Billiton, Anglo American PLC, Rio Tinto Group, VALE S.A., Glencore PLC, Tata Steel Limited, Jiangxi Copper Corporation Limited, Dundee Precious Metals, and Liebherr.



Figure 3: The five key pillars of sustainable mining practices: Resource Efficiency, Environment, Community, Economics, and Safety

(Source: Sustainable Development Practices and the Minerals Industry, Jessica Elzea Kogel, Geo-Intellus; 2301 Laurel Lane; Augusta, GA, 30904, USA)

Taking everything into account, to achieving sustainable mining practices requires collaboration between governments, mining companies, and stakeholders. By reducing emissions, managing waste properly, and engag-

ing with local communities, the industry can minimize its negative impact on the environment and contribute to economic and social development. This can be achieved through effective regulations, transparency, and

responsible actions, leading to resource extraction that is environmentally sound, socially responsible, and economically viable in the long term.

Elimination of lead poisoning through paint standards in Tanzania



Miraji Kambangwa



Paints (Picture by IPEN)

Lead is a chemical element that has the symbol Pb (from Latin plumbum) and atomic number 82. Lead is most importantly a toxic heavy metal element in the environment. Due to its properties like softness, malleability, ductility, poor conductivity and cor-

rosion resistance, it becomes difficult to give up its use. Owing to its non-biodegradable nature and continuous use, its concentration accumulates in the environment with increasing hazards that can affect people of any age.

Lead poisoning occurs when lead builds up in the body, often over months or years. Even small amounts of lead can cause serious health problems.

Human exposure to lead and its compounds occurs mostly in lead-related occupations with various sources like paints (pigments), lead-based painting, leaded gasoline, industrial processes such as smelting of lead and its combustion, pottery, boat building, lead-containing pipes, battery recycling, grids, arms industry, printing of books, etc.

Lead in paints

Lead was used before 1970 as a primary pig-

ment in house paints, industrial paints, and automotive paints to speed up drying, increase durability, maintain a fresh appearance, and resist moisture that causes corrosion. It was also present in other additives.

Lead-containing ingredients are not normally capable of evaporating from the paint film. They remain quite safely locked in place as long as the paint film is not disturbed. Once disturbed by dry sanding and/or scraping, however, the dust and debris created will be lead-contaminated. The fine particles created by the sanding process, make the lead more easily ingested by mouth and nose. Most lead poisoning in children results from eating chips of deteriorating lead-based paint.



A child peels a painted wall (Picture by Portland Development Commission)

Possible pathway of lead poisoning

Poisoning due to lead occurs mainly by ingestion of lead-based paint and its dust, including accidental ingestion of contaminated soil. Young children are especially at risk when exposed to lead-contaminated environment.

Lead is thought to be quickly absorbed in the bloodstream. It is believed to have adverse effects on certain organs and systems like the central nervous system, the cardiovascular system, the kidneys, and the immune system (Bergeson, 2008).



Children may be poisoned from eating chips of deteriorating lead-based paint when exposed to risky environments (Picture LWV)

Lead paint is a major route for lead exposure, especially in children. Estimated reduced cognitive potentials due to preventive childhood exposure translate to 134.7 billion US dollars of economic loss to Africa (WHO Regional Office for Africa, 2010).

In surrounding areas, some manufacturers use yellow lead chromate, which contains lead, in manufacturing yellow paints, which is the colour used in most places where children play (playgrounds) and for school vans.



School van painted in yellow (Picture by HabariLeo)

Occupational exposure

Occupational exposure is a major source of lead poisoning in adults. Occupations like painting, welding and manufacturing of battery recycling present a risk for lead exposure (Sanborn et. al., 2002). Parents who are exposed to lead at workplaces generally bring lead dust to their homes with clothes or on their skin, thus increasing the chances of exposure in their children (Watts, 2009). Children living near such places are also at risk of elevated blood lead levels.

Effect of lead poisoning in the human body

According to the World Health Organization (WHO), lead has no essential role in the human body, and lead poisoning accounts for about 0.6 percent of the global burden of dis-

ease (WHO, 2010). Evidence of reduced intelligence caused by childhood exposure to lead has led WHO to list "lead-caused mental retardation" as a recognized disease.

In children, high levels of exposure to lead can severely damage the brain and the central nervous system causing coma, convulsions and even death. Children who survive severe lead poisoning may be left with permanent intellectual disability and behavioral disorders.

At lower levels of exposure that cause no obvious symptoms, lead is now known to produce a spectrum of injury across multiple body systems. In particular, lead can affect children's brain development, resulting in reduced intelligence quotient (IQ). Lead exposure also causes anaemia, hypertension, renal impairment,

immunotoxicity, and toxicity to the reproductive organs. The neurological and behavioral effects of lead are believed to be irreversible.

In adults, lead also causes long-term harm, including increases in the risk of ischaemic heart disease and stroke, while in pregnant women,

high exposure to lead may cause miscarriage. Chronic lead exposure was found to reduce fertility in males (Sokol & Berman, 1991). Moreover, blood disorders and damage to the nervous system have a high occurrence in lead toxicity.



Summarized effect of lead poisoning in the human body (Picture by LEEP)

Elimination of lead poisoning

The World Health Organization (WHO) recommends every country to implement an acceptable level of Total Lead in Paints NOT containing a concentration greater than 0.009 percent (90 milligrams per kilogram), also to prevent and eliminate lead poisoning with well-enforced laws.

Tanzania enforces the national mandatory (compulsory) standards for all paints which limits the amount of Total Lead in all standards of all types

of paints (i.e. House paints and auto-refinishing paints) to be less than 90 mg/kg of the Total Lead Content such as TZS 722/EAS 851, Specification for matt emulsion paints for interior and exterior use, TZS 723/EAS 849, Silk (sheen) emulsion paint for interior use — Specification, TZS 722/EAS 851, Specification for matt emulsion paints for interior and exterior use, TZS 699/EAS 936, Gloss solvent borne paint for interior and exterior use — Specification, TZS 726/EAS 937, Semi-gloss (egg-shell) solvent borne paint for interior and exterior use — Specification, TZS 1900-1/

EAS 853-1, Auto-refinishing paint — Specification — Part 1: Synthetic resin based, TZS 1900-2/EAS 853-2, Auto-refinishing paint — Specifi-

Conclusion

Due to the requirements for Total Lead Content specified in paints standards, manufacturers of the paints are encouraged to use lead-free ingredients in their paint manufacturing, which will result in complying with the standards requirements for Total Lead Content.

Also, paint consumers are advised to buy certified paints with no added lead from paint manufacturers, whereas retailers are urged to fully disclose the product's content.

Conclusively, experts and stakeholders in the standards formulation process in Tanzania are encouraged to work together as a team to ensure the Total Lead Content in paints is less than 90 mg/kg as required. This will eventually lead

cation — Part 2: Nitrocellulose resin based, TZS 1903-1/EAS 856-1, 2-Pack acrylic resin-based auto-refinishing paint — Specification, etc.

to the elimination of substandard paints with lead content that is above the specified levels.

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***It is quality rather
than quantity that
matters***



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