

Journal

RWANDA

STANDARDS

ISSUE 17 JUNE 2019 | NOT FOR SALE

FOCUS ON METROLOGY SERVICES

OFFERED BY RWANDA
STANDARDS BOARD

WHAT IS METROLOGY?

ZIRIKANA AKAMARO

K'IBIPIMO N'INGERO MU
BUZIMA BWACU BWA
BURI MUNSI



INSIDE

FOREWORD	7
RSB METROLOGY SERVICES ENSURING ACCURACY, TRACEABILITY, PRECISION, RELIABILITY, SAFETY AND FAIR TRADE	8 – 10
WHAT IS METROLOGY?	12 – 17
ZIRIKANA AKAMARO K'IBIPIMO MU BUZIMA BWACU BWA BURI MUNSI	18 – 23
NATIONAL METROLOGY DIVISION DEEPENING METROLOGY SERVICES IN RWANDA	21 - 23
EXISTING NATIONAL METROLOGY STANDARDS	24 – 25
CALIBRATION AND VERIFICATION STICKER	26
RSB METROLOGY LABORATORIES	27 – 39
ACCREDITED RSB METROLOGY LABORATORIES PROMOTING MADE IN RWANDA PRODUCTS ON THE EXPORT MARKET	34 – 35
RSB YATANGIYE GUTANGA SERIVISI Z'IGERERANYABIPIMO KURI MUBAZI Z'AMATAGISI	41 – 43
RSB YIYEMEJE GUKURIKIRANA UBUZIRANENGE BW'IMIKORERE YA MUBAZI KURI SITASIYO ZICURUZA IBIKOMOKA KURI PETEROLI	44 – 45
UKO GUKORESHA IBIPIMO BYIZEWE BYAZAMUYE KOBIL RWANDA KU ISOKO BY'IBIKOMOKA KURI PETEROLI	46 – 48
ADHERENCE TO RSB CALIBRATION AND VERIFICATION TIMELINES ENHANCING RUGALI MEAT FACTORY LOCAL AND EXPORT MARKET SHARE	49
GUHA AGACIRO GUKORESHA NEZA IBIPIMO N'INGERO BYAFASHIJE SOSOMA INDUSTRIES KUGERA K'UBUZIRANENGE BUHAMYE NO GUSIGASIRA ICYIZERE CY'ABAGUZI	50 – 51
SULFO RWANDA INDUSTRIES IKOMEJE GUSHYIRA IMBERE KUGEZA KU BANYARWANDA IBICURUZA BYUJUJE UBUZIRANENGE N'IBIPIMO BIKWIYE	52 – 53
ABACURUZA GAZE BAYOBOTSE UBUGENZUZI BW'IBIPIMO NGO BATANGE SERIVISE NZIZA	54 – 55
AMEKI COLOR ENSURES FAIR TRADE THROUGH PROPER AND REGULAR CALIBRATION OF MEASURING SCALES AND EQUIPMENT	56 – 57
BUSHENGE HOSPITAL: IMPROVING SERVICE DELIVERY THROUGH REGULAR CALIBRATION OF EQUIPMENT	52 – 54
WE ARE NOW SAFE CONSUMING MADE IN RWANDA PRODUCTS CONSUMERS SPEAK OUT	58 – 59
CIMERWA POSITIONED TO CAPTURE REGIONAL MARKET	60 – 61
INES RUHENGERI HELPING PRIVATE SECTOR TO BOLSTER QUALITY ASSURANCE	62 – 64
ACCURATE MEASUREMENTS HELP SHAGASHA TEA FACTORY BOOST EXPORTS POTENTIAL	65 – 66

Published by **INSIGHT** Media Ltd. Tel: +250 784 807 755 / 0736 807 755
Email: insightmagrw@gmail.com



35



57



28



27



61









43



32



RSB CERTIFICATION MARKS

 <p>RSB STANDARDISATION MARK</p>	 <p>Made in Rwanda logo</p>	 <p>RSB ISO-9001 REGISTERED</p>
 <p>BY RSB</p>	 <p>BY RSB</p>	 <p>RSB ISO-14001 REGISTERED</p>

FOREWORD



Metrology comprises of Scientific Metrology; this deals with the organization and development of measurement standards and with their maintenance; Industrial Metrology which helps to ensure the adequate functioning of measurement instruments used in industry, in production and testing processes for ensuring quality of life for citizens and for academic research through calibration services.

Another area of metrology is Legal Metrology; this originates from the need to ensure fair trade, specifically in the area of weights and measures. Legal metrology is primarily concerned with measuring instruments and packaged goods quantity controls which are legally controlled, and the main objective of legal metrology is to assure citizens of correct measurement results when used in official and commercial transactions.

Metrological activities, calibration, testing and verification are valuable inputs to ensure the quality of many industrial processes and the quality of life related activities. They help to establish and demonstrate traceability, ensure readings from the instrument are consistent with other measurements, determine the accuracy of the instrument readings and to establish the reliability of the instrument i.e. that it can be trusted.

We continued to increase the capacity of her metrology laboratories; three metrology laboratories i.e. Mass laboratory, Balance laboratory and Temperature laboratory have been internationally accredited by Germany Accreditation agency (DAkkS), one of the world's leading accreditation bodies. This paves way to international recognition not only of our measurements but also the products from our industries. Our exported tea, coffee, food products, textiles and so forth will be more competent on international market as the measurements applied to them are accepted worldwide. It therefore facilitates access of Rwandan goods and services to external markets.

We are thankful to the valuable cordial working relationship and support from various Government agencies, manufacturers, health institutions, the academia and Rwanda Consumers Association (ADECOR) to mention but a few in ensuring that metrology takes root as a basis for fair trade in Rwanda.

Welcome to yet another edition of the Rwanda Standards Journal focusing on Metrology services offered by Rwanda Standards Board.

Metrology is a science of measurements, the accuracy, traceability, precision and reliability in different sectors in trade, health, transportation and other different services. It facilitates fair trade, innovation, regulation and protection of consumers.

It is essential in the protection of consumers by ensuring the use of accurate measuring instruments; reduction of disputes and transaction costs; having metrological control reduces any unfair trade practices. It also ensures that trade measuring instruments are fit for their intended purpose and meet international standards.

Rwanda as member of the East African Community (EAC) has responsibility to comply with all treaties and acts of the Community, including the famous EAC Standardization, Quality Assurance, Metrology and Testing (SQMT) Act of 2006. Metrology forms one of the blocks of this regional Quality Infrastructure; and harmonization of metrology initiatives and laws among the member state is done through the EAC Metrology Sub-Committee. This is part and parcel of efforts to promote regional cooperation.

Measurements are internationally traceable units and working with counterpart institutions in the region and beyond enables the international recognition of measurement capabilities, capacity building and benchmarking through laboratory intercomparisons.

Enjoy reading....

Raymond MURENZI

Director General

RSB METROLOGY SERVICES ENSURING ACCURACY, TRACEABILITY, PRECISION, RELIABILITY, SAFETY AND FAIR TRADE.



Rwanda Standards Board has over the years continued to increase the capacity of her metrology laboratories; three metrology laboratories i.e. mass laboratory, balance laboratory and temperature laboratory have been internationally accredited by Germany Accreditation agency (DAKKS), one of the world's leading accreditation bodies. In an interview with the Director General RSB, he takes us through the role of metrology to national development. Below are the excerpts.

Q/ WHAT IS METROLOGY?

A/ Metrology is a science of measurements, when we talk about the science of measurements we are talking about accuracy; we are talking about traceability, precision and reliability in different sectors in trade, health, transportation and other different services.



Since metrology is the science of measurement, it is expected to enforce, validate and verify predefined standards for traceability, accuracy, reliability, and precision.

Measurements are essential to human activity namely production control, measurement of environmental quality, health and safety assessment, conformity assessment of products, consumer protection and fair trade assurance.

Q/ WHAT METROLOGY SERVICES DOES RSB OFFER?

A/ We are offering different services but to be more specific we do maintenance of traceability chain of national standards by insuring their calibration to international standards, calibration of RSB customers' Standards, verification of regulated equipment, Metrological control on measuring instruments and pre-packaged commodities,

Control of manufacture, import, repair and sale of measuring instruments among others.

It is important that we have metrology services so that we can ensure fair trade between manufacturers or service providers and consumers.

Q/ HOW DO YOU INTERPRET THE RELEVANCE OF YOUR METROLOGY SERVICES ON FIELD INTERVENTIONS?

A/ As I earlier mentioned, Metrology is essential in the protection of consumers by ensuring the use of accurate measuring instruments; Reduction of disputes and transaction costs; having metrological control reduce any unfair trade practices.

It also ensures that trade measuring instruments are fit for their intended purpose and meet international standards. Example of verification of fuel dispensers, trade balances, to mention but a few.



Q/ WHAT DOES ACCREDITATION OF METROLOGY LABORATORIES MEAN TO RWANDA'S BUSINESS ENVIRONMENT AND PUBLIC HEALTH?

A/ Accreditation of temperature, mass and balance laboratories paved the way to international recognition not only of our measurements but the products from our industries as well. The exported tea, coffee, food products, textiles and so forth will be more competent on international market as the measurements applied to them are accepted worldwide.

It therefore facilitates access of Rwandan goods and services to external markets; Internationally recognition of products and services made in Rwanda; It would lead to improved regulatory framework and consequently better public health, consumer and environmental protection and ultimately economic growth, poverty reduction and better quality of life;

Where measurements are in support of health, for example in the processes of prevention, diagnosis and treatment of disease, the interest lies in the role of metrological decisions and conformity assessment.

**"A FALSE BALANCE IS AN ABOMINATION TO THE LORD, BUT A JUST WEIGHT IS HIS DELIGHT".
PROVERBS 11:1**

Q/ DO YOU SEE ANY CONTRIBUTION OF METROLOGY QUALITY INFRASTRUCTURES IN THE DEVELOPMENT OF DOMESTIC INDUSTRY AND TRADE IN GENERAL?

A/ Yes, metrology quality infrastructures are supportive to Rwanda's industrial sector needs to have internationally recognition.

More so, it provides the required independent and reliable evidence of product and service compliance.

Q/ HOW ARE YOU IMPROVING TRACEABILITY OF METROLOGY SERVICES?

A/ We are now introducing the track and trace system, we are affixing calibration and verification stickers on every product or equipment within our scope.

Q/ WHAT IS YOUR MESSAGE TO CONSUMERS IN REGARD TO PLAYING THEIR ROLE IN LEGAL METROLOGY AND FAIR TRADE?

A/ My message is simple; consumers should understand the Legal units of measurement, their physical representation and accepted measuring instruments in Rwanda in order to do not be cheated, they should have an idea of technical regulations of measuring instruments covering metrological, technical and administrative requirements; and most importantly the should communicate to RSB any misunderstanding, complaint to trade or misuse of legal measurements in general.

WHAT IS METROLOGY?

METROLOGY TO FACILITATE FAIR
TRADE, INNOVATION, REGULATION AND
PROTECTION OF CONSUMERS



Metrology comes from Greek word “Metron” - meaning “measure” and “logy” meaning the study.

Metrology is the scientific study of measurement and its application.

Measurement is present in almost every field of human activity even before the first civilizations of mankind appeared. Although we feel ourselves to be a long way from the starting point, both in distance and in time, people have placed great emphasis on correct measurements ever since. The International Organization of Legal Metrology (OIML), Intra-Africa Metrology (AFRIMETS) and the CARICOM Regional Organization for Standards and Quality (CROSQ) in their *Introduction of Metrology as an element of Quality Infrastructure (2016)*

stresses that during thousands of years, different societies in different parts of the world developed different measurement techniques and different measurement units. After some time, with the development of the connections and cooperation among these societies, it was recognized that these facts were, especially in trade, obstacles in the development of their relations and of their own wellbeing. In trying to overcome this situation, the Metric System was introduced by the French in 1799 in Paris. It was the forerunner of today's International System of Units-the SI System.

In the middle of nineteenth century the need for a universal metric system became apparent, particularly during the first industrial revolution. In 1875, a Diplomatic Conference on the Meter took place in Paris, where 17 governments signed

the diplomatic treaty “the Meter Convention”. The signatories decided to create and finance a permanent scientific institute the “Bureau International des Poids et Mesures (BIPM)”. The Meter Convention was modified in 1921.

In order to establish the degree of equivalence of national measurement standards and recognize measurement and calibration certificates issued by participating National Metrology Institutes (NMIs), the CIPM (Comite Internationale des Poids et Mesure) Mutual Recognition Arrangement was signed in 1999 and revised on some technical points in 2003. It is an agreement between NMIs. Only one NMI per country can sign the CIPM MRA, but other institutes that hold recognized national standards in that country may also be designated and participate in the CIPM MRA through the signatory NMI. Such institutes are generally referred to as designated institutes (DIs).

Besides Scientific and Industrial metrology, Legal metrology is the third category of metrology. Legal metrology originated from the need to ensure fair trade, specifically in the area of weights and measures. Legal metrology is primarily concerned with measuring instruments which are themselves legally controlled, and the main objective of legal metrology is to assure citizens of correct measurement results when used in official and commercial transactions.

The sound Metrology infrastructure is comprised of:

1. SCIENTIFIC METROLOGY

Scientific Metrology deals with the organization and development of measurement standards and with their maintenance (highest level).

2. INDUSTRIAL METROLOGY

Industrial Metrology helps to ensure the adequate functioning of measurement instruments used in

industry, in production and testing processes, for ensuring quality of life for citizens and for academic research through calibration services. However, calibration should not be confused with adjustment of a measuring system, often mistakenly called “self-calibration”, or with verification of calibration.

3. LEGAL METROLOGY

Legal Metrology originated from the need to ensure fair trade, specifically in the area of weights and measures. Legal metrology is primarily concerned with measuring instruments and packaged goods quantity controls which are legally controlled, and the main objective of legal metrology is to assure citizens of correct measurement results when used in official and commercial transactions.

METROLOGY IN RWANDA

Rwanda's compliance with East African Community Act

Rwanda as member of the East African Community (EAC) has responsibility to comply with all treaties and acts of the Community, including the famous EAC Standardization, Quality Assurance, Metrology and Testing (SQMT) Act of 2006. Metrology forms one of the Blocks of this regional Quality Infrastructure; and harmonization of metrology initiatives and laws among the member states done through the EAC Metrology Sub-Committee is part and parcel of efforts to promote regional cooperation. Measurements are internationally traceable units and working with counterpart institutions in the region and beyond enables the international recognition of measurement capabilities, capacity building and benchmarking through comparisons.

In line with EAC SQMT ACT, the Rwanda Quality Policy was developed and enacted in 2010 and reviewed in 2018 to strengthen National Quality Infrastructure institutions, to remove overlaps, have clear definition of responsibilities and to create

Verification of measuring instruments

According to ISO 8402-Quality management and quality assurance vocabulary standard, verification means confirmation by examination and provision of objective evidence that specified requirements have been fulfilled. The term “verified” is used to designate the corresponding status.



- In connection with the management of measuring equipment, verification provides a means for checking that the deviations between values indicated by a measuring instrument and corresponding known values of a measured quantity are consistently smaller than the maximum allowable error defined in a standard, regulation or specification peculiar to the management of the measuring equipment.
- The result of verification leads to a decision either to restore to service, or to perform adjustments, or to repair, or to downgrade, or to declare obsolete. In all cases it is required that a written trace of the verification performed be kept on the measuring instrument's individual record.

TRACEABILITY

In Metrology, traceability is defined as the property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty.

From this definition,

1. A 'reference' can be a definition of a measurement unit through its practical realization, or a measurement procedure including the measurement unit for a non-ordinal quantity, or a measurement standard
2. Metrological traceability requires an established calibration hierarchy.
3. Specification of the reference must include the time at which this reference was used in establishing the calibration hierarchy, along with any other relevant metrological information about the reference, such as when the first calibration in the calibration hierarchy was performed.
4. For measurements with more than one input quantity in the measurement model, each of the input quantity values should itself be metrologically traceable and the calibration hierarchy involved may form a branched structure or a network. The effort involved in establishing metrological traceability for each input quantity value should be commensurate with its relative contribution to the measurement result.
5. Metrological traceability of a measurement result does not ensure that the measurement uncertainty is adequate for a given purpose or that there is an absence of mistakes.
6. A comparison between two measurement standards may be viewed as a calibration if the comparison is used to check and, if

necessary, correct the quantity value and measurement uncertainty attributed to one of the measurement standards.

7. Elements for confirming metrological traceability to are considered to be an unbroken metrological traceability chain to an international measurement standard or a national measurement standard, a documented measurement uncertainty, a documented measurement procedure, accredited technical competence, metrological traceability to the SI, and calibration intervals.
8. The abbreviated term “traceability” is sometimes used to mean ‘metrological traceability’ as well as other concepts, such as ‘sample traceability’ or ‘document traceability’ or ‘instrument traceability’ or ‘material traceability’, where the history (“trace”) of an item is meant.

Impact of Metrology in our daily lives

Measurement provides a standard for everyday things and processes. From weight, temperature, length, even time is a measurement and it does play a very important role in our lives. The money or currency we use is also a measurement. And think of the rumble that can be caused if it was not there or if exchanges would not be possible to convert it into other communities' currencies. We would have been living in the age old barter system days and all these technological advances would have not been made. Thanks to these measurements present with us, the world is the same as we see it today.

“The money or currency we use is also a measurement!”

Without measurements, the world would be the place of complete chaos:

- There would be no fixed boundaries of people's homes and farmlands. Just imagine the degree of chaos without any legal records of people's lands. Anyone would claim any piece of land they want.
- Business of elastics would increase drastically as there would be no fixed size of pants for any individual.
- There wouldn't be any trade as there would be no means to fix the price.
- Length of cricket pitch would be different in every match.
- Tailors wouldn't have existed.
- Mechanics wouldn't be that efficient in their work as then they wouldn't have all those spanners of different size for different nuts and bolts.
- Concepts like boiling point, freezing point, specific heat, humidity etc wouldn't have existed- big blow to scientists.
- Geometry wouldn't have existed- big blow to mathematicians.
- Engineers wouldn't have much role to play in the world.
- All those calorie conscious people would have really tough time as they wouldn't be able to keep track of their calorie intake.

Metrology services impact economic and social aspects through improving the quality of health, enabling industrial development, fair trade transactions, technological innovations, improving the quality of service, ensuring road safety and environmental protection, to name but a few.

ZIRIKANA AKAMARO K'IBIPIMO MU BUZIMA BWACU BWA BURI MUNSI



ntagereranywa k'ibipimo n'uruhare bugira mu kubungabunga ubuzima, koroshya ubucuruzi n'ubuhahirane no gushimangira ubuziranenge bw'ibintu bitandukanye niko katumye hashyirwaho ishami rishinzwe ibipimo mu kigo cy'igihugu Gitsura ubuziranenge.

Gupima no kugera ni kimwe mu biranga ubuzima bw'ikiremwa muntu kuva isi ibayeho. Umuryango rusange w'abantu wagiye urangwa no kubaho imiryango runaka yishyira hamwe ikarema amatsinda y'abantu agenda agabanywa n'imbibi z'aho batuye, indimi, n'ibindi. Aba nabo rero bakifashisha ibipimo muri byose. Ugiye kugabanya abana isambu agatera intambwe hanyuma bikaba bizwi ko uruhare rwa kanaka rungana n'intambwe izi n'izi kuri izi n'izi. Hatitawe ku kuba uburebure bw'intambwe y'umuntu kanaka butareshya n'ubw'iya kanaka, ubu buryo bwagiye bufasha abantu kubana, gusangira no gusabana mu byo bahuriyeho.

BY'UMWIHARIKO MU MURYANGO NYARWANDA HAGIYE HAKORESHA UBU BURYO TUVUZE HARUGURU MU KUGURIRANA IMIRIMA, GUHA ABANA ISAMBU NK'UMURAGE, N'IBINDI. MU GUTURANA NO GUSABANA, ABANYARWANDA BAGIRAGA IBIKORESHO BASHINGIRAHU IBIPIMO BYABO BITYO BAKABA BAZI KO AKABINDI CYANGWA AGACUMA K'INGANO RUNAKA KABA GAHAGIYE KUGIRA NGO UMUNTU AKORERWE CYANGWA AKORESHE UMUHANGO RUNAKA, HAKABA N' AHO BAKORESHA IBIBINDI BININI MU GUTURANA NO GUCYUZA UBUKWE NTA KINEGU.

Mu buzima bwacu bwa buri munsi, tubizi cyangwa tutabizi dukoresha ibipimo. Imirimo ishingiyeho ubuzima bwa muntu yishingikiriza ku bipimo kugira ngo abashe kunyurwa, gukora ibyo agomba gukora, yirinde impanuka, aberwe, abashe gukora ubushakashatsi kandi ahange anavumbure ibishya, akore ingendo za hafi n'iza kure, ateze imbere ikoranabuhanga, inganda zibashe gukora ndetse zongere kandi zisigasire ubwiza bw'ibyo zikora, n'ibindi. Akamaro



Kugeza magingo aya, mu bucuruzi bw'imbere mu gihugu cyacu haracyagaragara ikoresha ry'ingero zitandukanye zishingirwaho kugera no kugurisha ibicuruzwa bitandukanye by'umwihariko ubucuruzi bw'imyaka aho usanga bitewe n'akarere runaka abacuruzi n'abaguzi bahahirana bakoresheje ingemeru, isahani yitwa nyamaha (ikoresha mu bice by'uburengerazuba bw'amajyefo y'igihugu), mironko, n'ibindi bipimisho bitandukanye. Muri ibi bikorwa, abahahirana bagerageza kugendera ku byakorwaga mu mibereho isanzwe ariko bakagira imbogamizi yo kutamenya neza ingano nyakuri y'ibigurishwa kandi byishyurirwa n'umuguzi; bityo bikaba byatera igihombo umucuruzi, umuguzi cyangwa se bose icyarimwe.

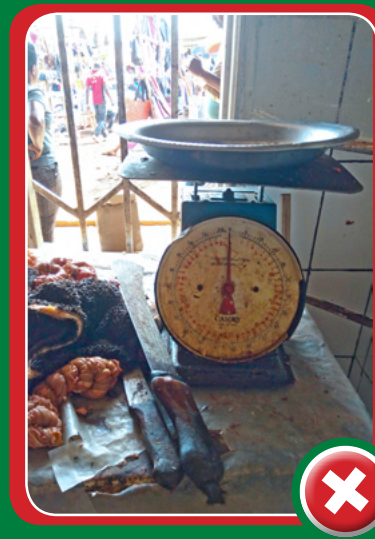
Ibi si umwihariko wo mu Rwanda gusa, ahubwo hirya no hino ku isi byamwe bikorwa kugeza ubwo hashyizweho ibipimo n'ingero byemeranyijweho ku rwego mpuzamahanga. Amateka y'ibipimo byemeranyijweho ku rwego mpuzamahanga ahera mu mwaka wa 1875, ubwo mu muji wa Paris

ibihugu bitandukanye byasinyaga amasezerano mpuzamahanga yitiriwe Metero "Meter Convention" yashyizeho ibipimo ngero bitandukanye byumvikanweho ku rwego mpuzamahanga, bikoresha mu ngeri zitandukanye z'ubuzima kandi ibyo bipimo bikaba binakoresha kugeza magingo aya. Ibyo bipimo birimo "Metero (m)" nk'igipimo fatizo cy'uburebure, "Kilogramama (kg)" nk'igipimo fatizo cy'uburemere, "Litiro (l)" nk'igipimo fatizo cy'ibisukika, ndetse n'ibindi mu ngeri zitandukanye.

Ibipimo ni ingenzi cyane kandi tubikenera mu bikorwa byacu bya buri kanya tubikoresha twe ubwacu cyangwa bikoresha n'abaduha serivisi dukenera. Mu gushimangira akamaro k'ibipimo no gufasha mu kuzuzura iyubahirizwa ryabyo, ikigo cy'igihugu Gitsura ubuziranenge cyubatse ubushobozi mu ngeri zitandukanye z'ibipimo, hashyirwaho laboratwari zipima kandi zikaganzura ibipimo bikoresha mu bucuruzi, mu buzima, ubwubatsi, ubukerarugendo, n'ibindi.

RSB ikomeza gukora ubukangurambaga ku bipimo, gushishikariza abaturage ikoresha ry'ibipimo byizewe no kuzuzura uko ibikoresha bipima biba byagenzuwe bikoresha. Mu bukangurambaga hasurwa ibikorwa by'ubucuruzi bitandukanye mu ngeri zose kandi abacuruzi mu masoko atandukanye bakaganirizwa uko bakoresha neza ibikoresha bipima birimo iminzani. Imwe mu mbogamizi zagiye zikunda kugarukwaho mu birebana n'ibipimo ni ikoresha ry'iminzani itujuje ubuziranenge. RSB ikomeje ubukangurambaga ishishikariza abacuruzi gukoresha iminzani yujuje ubuziranenge bityo bakirinda ibihombo batezwa n'iminzani idatanga ibipimo byizewe. Ubukangurambaga kandi bwibanda ku guhwitirira abaguzi kuzirikana uburenganzira bwabo bahabwa ibyujuje ibipimo.

Si mu bucuruzi busanzwe gusa ibipimo byifashishwamo ahubwo binagaragara nk'inkingi ikomeye y'ukuzuzura ubuziranenge bw'ibitunganirirazwa mu nganda, kuva hakirwa ibyibanze bitunganywa mu rugandada, mu mitunganyirizwe, gufunyika no kugeza byoherezwa ku masoko mpuzamahanga.



Ibipimo ni ishingiro ry'ubuzima bwacu. Kuva ku gusuzumwa k'uburwayi kugeza ku kwandikirwa imiti no kumenya ingano y'imiti umurwayi afata hose hifashishwa ibipimo. icyiciro cy'ingenzi muri ubu bukangurambaga cyibanda ku igenzurwa n'ubujyanama ku mikoreshereze myiza y'ibikoresho byo kwa muganga byifashishwa mu buvuzi. Ubusanzwe, ikigo cy'Igihugu Gitsura ubuziranenge gikorana na Minisiteri y'Ubuzima n'Ikigo cy'Igihugu cy'Ubuzima (RBC) mu gushimangira ko ibikoresho byifashishwa mu buvuzi bitanga ibipimo byizewe bityo hakirindwa ingaruka zaterwa n'ukwibeshya mu isuzuma no kwandikira umurwayi imiti akenera. Hishimirwa intambwe imaze guterwa muri uru rwego kuko hasurwa amavuriro, ibitaro n'ibigo nderabuzima bitandukanye haganirwa ku bikoresho byifashishwa ndetse n'igenzura bikorerwa buri mwaka kugira ngo hemezwe ko bitanga ibipimo byizewe.

Igihugu cyacu kigaragaza umuvuduko ushimishije mu iterambere, by'umwihariko urwego rw'ubukerarugendo; niyo mpamvu ikindi cyiciro cy'ingenzi mu buzima ndetse n'iterambere ry'igihugu cyitabwaho muri ubu bukangurambaga ni urwego rw'amahoteri n'amaresitora. Itegurwa ry'ibiribwa

mu mahoteli n'amaresitora, ibipimo by'ubushyuhu cyangwa ubukonje ibyatunganyijwe cyangwa ibidatunganyijwe bibikwaho ni ingenzi cyane mu kugena ubuziranenge bwabyo. Ni muri urwo rwego hagenzurwa ibikoresho bipima byifashishwa n' amahoteli atandukanye hirya no hino mu gihugu maze ababikoresha bagakangurirwa guhora bita bakanagenzura ibipimo babikaho cyangwa batunganirizaho ibiribwa kugira ngo bitangirika.

Akamaro k'ibipimo mu buzima bwacu bwa buri muni ni ntagereranywa. Haba mu bikorwa mbonezamubano no mu bukangurambaga bukorwa, ni umwanya wo gushimangira ko ibipimo bikwiye gukoreshwa neza; ibikoresho bipima byaba ibikoreshwa mu bucuruzi buciriritse, mu nganda, amavuriro ndetse n'ahandi bikagenzurwa kandi bigasubizwa ku bipimo byizewe igihe byagaragaje kudohoka ku bipimo. By'umwihariko, abacuruzi bakomeje gushishikarizwa gukoresha iminzani yujuje ubuziranenge ndetse abaguzi bahamagarirwa kureba neza ko ibipimo bikoreshwa byizewe kugira ngo ikiguzi cy'ibicuruzwa bishyuriye gihuze agaciro n'ingano n'ubwiza bw'ibicuruzwa bagura.

NATIONAL METROLOGY DIVISION DEEPENING METROLOGY SERVICES IN RWANDA



Philibert Zimulinda, RSB National Metrology Division Manager

We caught up with the RSB National Metrology Division to understand the role of RSB in entrenching metrology in Rwanda and below are the experts.

Q/ WHAT IS THE SCOPE OF RSB METROLOGY LABORATORIES?

A/ The National Metrology Division has two scopes; Industrial Metrology and Legal Metrology.

Industrial Metrology has 14 laboratories in different measurement fields and Legal Metrology has six verification laboratories.



Industrial Metrology covers calibration services in manufacturing industries, hospitality and tourism, construction, environmental protection, quality testing laboratories, health sector and mining sector.

Legal metrology covers verification services in trade transaction, road safety, health sector, and legal regulatory enforcement. Technical regulations enforcement involves forensic laboratories, measuring instrument and testing equipment.

Q/ WHAT DOES CALIBRATION MEAN TO A SERVICE SEEKER OR CONSUMER?

A/ Calibration can be interpreted in technical and lay man's understanding.

In a layman's perspective, calibration helps industries/clients to be sure that his / her measurement instrument is working properly and can give the desired output.

Technically, calibration refers to the comparison of measurement result of working standard of industries to the Nation Reference Standard, to check if it is working well in comparison to the national reference standards.

Calibration is a purely voluntary service, it doesn't set permissible error. It compares the reference standard and a client equipment.

In case of an error we advise the client to adjust his/her equipment to set standard.

Q/ WHAT ABOUT VERIFICATION OF INSTRUMENTS?

A/ Verification is an activity under legal metrology, it is an estimate as regulated under legal metrology.

Technically, verification means the exercise of checking if the measuring instrument is under permissible error. Verification of instruments under legal metrology is a legal requirement / mandatory. The National Metrology Division sets time-frames to check if its still under permissible error.

People using measuring equipment must ensure that instruments used in trade transactions are still working within the set range.

Verification under legal metrology is not voluntary, it is mandatory, legally binding.

It includes instruments like fuel dispensers, breath analyzers, bulk meters, thermometers, measurement scales, bulk meters, medical thermometers. Government has the responsibility to make sure they work properly. They are instruments that directly affect human livelihood.

Q/ HOW DO YOU ENSURE YOUR CLIENTS ARE FAITHFUL OR DO NOT TAMPER WITH THE SERVICES YOU OFFER TO THEM?

A/ After verification of equipment, we seal them with a physical seal to protect them from being tampered with. At the next verification exercise/ date, we check if the seal is still intact.

In case we find the seal tampered with, we have Consumer Protection Laws that we use to penalise those that we find to have tampered with the seal. Further more, there are draft laws and regulation currently under review to be used in case of breach of the seals.

Q/ EXPLAIN TO OUR READERS THE TERM DOSIMETRY

A/ Dosimetry is a technology related to ionizing radiations, (calculation and assesment of radiation dose absorbed by human body). It is from ionizing radiation and uranium resources. It is used in Medical, Agriculture and Education and Research.

Dosimetry has been established to ensure that radiations especially in cancer treatment is safe to the patient, technician and doctors.

For now, our scope at RSB is limited to quality control and quality assurance of radiology machines. They include X-Rays, dental machines, CT scans, mammographs in the health sector to ensure the doses injected to patients are up to standard.

We ensure the dosage injected by the machine is the actual set dose. We also carry out ironizing radiation safety surveys, this is mostly in X-Rays and CT Scan rooms to ensure safety of the patients, operators. We distribute dosimeters to check exposure of operators to radiations in hospitals. In future we intend to extend our scope to cover security check points and equipments like metal detectors and mining equipment.

EXISTING NATIONAL METROLOGY STANDARDS

S/N	REFERENCE NUMBER	STANDARD TITLE
1	RS OIML R 46-1/-2: 2012	Active electrical energy meters. Part 1: Metrological and technical requirements/Part 2: Metrological controls and performance tests
2	RS OIML R 46-3: 2013	Active electrical energy meters. Part 3: Test report format
3	RS OIML R 49-1: 2013	Water meters for cold potable water and hot water. Part 1: Metrological and technical requirements
4	RS OIML R 49-2: 2013	Water meters for cold potable water and hot water. Part 2: Test methods
5	RS OIML R 79: 2015	Labeling requirements for prepackages
6	RS OIML R 111-2: 2004	Weights of classes E1, E2, F1, F2, M1, M1-2, M2, M2-3 and M3 — Part 2: Test Report Format



7	RS OIML R 117-1: 2007	Dynamic measuring systems for liquids other than water — Part 1: Metrological and technical requirements
8	RS OIML R 117-2: 2014	Dynamic measuring systems for liquids other than water — Part 2: Metrological controls and performance tests
9	RS OIML R 117-3: 2014	Dynamic measuring systems for liquids other than water — Part 3: Test report format
10	RS OIML R 16-1: 2002	Non-invasive mechanical sphygmomanometers
11	RS OIML R 16-2: 2002	Non-invasive automated sphygmomanometers
12	RS OIML R 7: 1979	Clinical thermometers, mercury-in-glass with maximum device
13	RS OIML R 21: 2007	Taximeter: Metrological and Technical requirements, Test procedure and Test report format
14	RS OIML R 49-3: 2013	Water meter for cold part 3
15	RS OIML R 59-1: 2016	Moisture meters for Cereals part 1
16	RS OIML R 59-2: 2016	Moisture meters for Cereals part 2
17	RS OIML R 59-3: 2016	Moisture meters for Cereals part 2
18	RS OIML R 76-1: 2006	Non automatic weighing instruments Part 1
19	RS OIML R 87-1: 2016	Quantity of Product in prepackages
20	RS OIML R 99-1-2 2008	Instruments for measuring vehicle exhaust emissions
21	RS OIML R 111-1: 2004	Weights of classes E1, E2, F1, F2, M1, M1-2, M2, M2-3 and M3 — Part 2: Test Report Format

CALIBRATION AND VERIFICATION STICKER



Calibration and verification of measuring instruments is a function of the National Metrology Division, one of the five divisions that constitute Rwanda Standards Board. The National Metrology Division is composed of:

Mechanical Metrology Unit

Calibration is critical in the manufacturing industry in order to maintain the equipment's performance and accuracy. It is also important for quality assurance. Products must be designed based on exact and right measurements – this is where calibration proves to be helpful. Mechanical metrology helps to maintain and disseminate national measurement standards for following areas: Mass, Volume and flow, Pressure, temperature acoustic and Vibration Dimensions.

Electrical Metrology Unit

Electrical metrology helps to realize, maintain and disseminate the national measurement standards for the following areas: AC/DC, low frequency, time & frequency and electrical energy.

Chemical Metrology unit

Offers services under the three areas of Industrial metrology, i.e. calibration of pH meter, alcohol meter, density meter, refractometer, conductivity meter and TDS meter

Legal Metrology Unit

Offers services of verification of trade masses, verification of non-automatic weighing instruments, including weighbridges, verification of fuel dispensers, verification of bulk meters, verification of energy meters, verification of water meters, verification of medical measuring equipment (including Dosimeters), prepacked products control, verification of Liquid Petroleum Gas (LPG) cylinders, verification of taximeters (soon), licensing maintenance/ repairs operators and licensing manufacturers of measuring instruments.

RSB METROLOGY LABORATORIES

1. THE MASS LABORATORY



The Mass laboratory offers services of calibration of standards masses and masses from industries.

It is one of the RSB accredited laboratories by Dutch Accreditation council (RVA), one of the world's leading accreditation bodies.

The laboratory offers weight calibration services and uses a wide range of classes such as E2, F1 and F2. This implies international weights are taken and compared with RSB's own weights to set standards.

The weights differ in accuracy, E2 is more accurate than F1 and the same is with F2.

The test weights derived from the calibrated items are compared to specified measurement standards. The process will determine the accuracy of measurements.

The laboratory then maintains weight standards and disseminates them to the Public

The Mass laboratory offers services of calibration of standards masses and masses from industries.

2. BALANCE LABORATORY



The Balance laboratory is one of the National metrology Department's accredited laboratories by DAkkS, a Germany accrediting company together with the Mass and temperature laboratories.

The Balance laboratory conducts calibration of all types of balances and weighbridges. If the scales are misaligned, the weighing weights results will also be inaccurate and calibration will also increase the durability (longevity) of the equipment.

Foregoing balance calibration would result into losses for business and the consumer, inferior product quality, process and audit issues, unscheduled downtime, product recalling especially for manufacturers.

The laboratory uses approved test weights with a wide range of calibration weights that cover the scope of the laboratory. Services from the balance calibration cover sectors of industries, businesses that use scales and balances, mining sector, research laboratories, agro processors.

There is need for regular calibration of equipment measuring balancing since several factors such as Environmental changes can lead to undetected shift which can undermine accuracy of the equipment.

3. TEMPERATURE LABORATORY



The Temperature laboratory conducts calibration of thermometers, laboratory ovens, incubators, cold rooms, Autoclaves, fridges and freezers, coolers, furnaces and truck refrigerators.

It is of much importance to maintain temperature controlled conditions mainly in the manufacturing and health sector.

Several products are manufactured at specific temperatures as well as storage.

Also most of the products such as pharmaceuticals, food need to be kept at certain temperatures in order to maintain its quality. The laboratory does much of calibrating thermometers. Thermometers have different types; those that we receive are accredited at the international level. There are digital thermometers which are accredited at the international level and the usual liquid thermometers.

Again, a refrigerator with poor standards can delude you to believe its temperatures are correct or not and have side effects, so calibration would be the only option.



The laboratory offers services in which we make a comparison of the tested apparatus with our own standards. For example, the refrigerator has a limit of temperature it must not exceed and that is what we measure.

"When an apparatus does not fit with the set standards then we send them back to point of purchase," she said.

In calibrating Temperatures, temperature sensors are the elements used.

The clients for the laboratory include; industries, pharmaceuticals, hospitals, people dealing in food processing, tea factories among others and in transport calibrating truck refrigerators.

The Temperature laboratory conducts calibration of thermometers, laboratory ovens, incubators, cold rooms, Autoclaves, fridges and freezers, coolers, furnaces and truck refrigerators.

4. AC/DC LABORATORY



Conducts calibration of Ammeters, Voltmeters, Multi-meters, Ohmmeters, Inductance meters, Capacitance meters, Voltage Sources and pH meters.

The AC/DC Laboratory comes at a critical time when the country is facing rapid development mainly in the construction sector as well as expansion of the energy sector needed to support increasing industries; this therefore calls for standards in electric related appliances. The laboratory ensures that risks such as electric shocks that can be caused by substandard appliances are minimized.

calibrating meters helps to ensure that the client who is using the meter gets accurate amounts of units they have paid for, on other hand calibration also helps to minimize losses to the energy supplier who may give much units than demanded.

The laboratory's clientele includes energy producers, Rwanda Energy Group, private energy suppliers, industries and other private businesses engaged in selling of electric appliances.

The AC/DC Laboratory makes calibration of single phase mechanical and electronic electricity meters, three phase mechanical and electronic electricity meters and Polyphase electronic energy meters.

5. THE TIME AND FREQUENCY LABORATORY



Time and frequency laboratory conducts calibration of Measurement Amplifiers, Timers/ Stop watch, Signal Generators, Spectrum Analyzers, Communications monitors, Noise meters, Frequency meters, Time meters, Oscilloscopes.

The time and frequency laboratory offers services on Universal Coordinate Time so that their comparison with local time is standard. This is helpful in the aviation industry especially control towers.

The laboratory's clientele include; tea processors industries, beverages manufacturers, sports organizations, telecommunications companies

and laboratories with different scopes who have components of frequency etc.

In as far as frequency is concerned, there are spectrum meters, power sensors, frequency meters, signal generators and time sensors which include stock watches, time speeches equipment that we calibrate to have precision to avoid inconveniencing the customers.

Time and frequency laboratory conducts calibration of Measurement Amplifiers, Timers/ Stop watch, Signal Generators, Spectrum Analyzers, Communications monitors, Noise meters, Frequency meters, Time meters, Oscilloscopes.

6. PRESSURE LABORATORY



The Pressure laboratory conducts calibration of different types of industrial pressure gauges and blood pressure gauges.

Pressure is like a force, when you are processing the liquids you must control the force of the fluids that pass through the processors.

Normally most of the industries are food processing industries and tea industries that process organic food and others do have their pressure instruments calibrated in order to control any hazards that could come from the force of the liquid. To have that

control we have to measure the pressure of those gauges. You have to calibrate the pressure gauges.

Pressure laboratory services tea companies, construction, aviation and automobile companies and hospitals.

Calibrating pressure testing instruments is important in ensuring that customers get the accurate results for example when measuring or diagnosing the blood pressure of patients and the pressure apparatus is not measuring correctly, it may lead to the loss of lives.

7. VOLUME LABORATORY



The Volume laboratory conducts calibration of laboratory glassware (Pipettes, Graduated cylinders, Burettes, Density bottles, volumetric flasks, Piston-operated volumetric apparatus (Micropipettes, dispensers, piston burettes) and tanks as part of Legal metrology activities.

Volumes mean a lot business and that is why calibrating equipment used in measuring them is necessary. It brings about fair trade while for consumers it creates value for the cost they pay.

Volume calibration also solves of issues of dispute that would arise mainly in sensitive business that uses volumes such as petroleum sector where any error on the fuel dispenser meter would lead to dissatisfaction from the client.

But also small volume calibration especially of micro Pipettes used in Hospitals is very important as far as saving lives of people is concerned.

When these equipment are not calibrated they make lose precision and tests done in the laboratory may not be accurate which can lead to loss of lives. In the pharmaceutical laboratories having wrong volumes would lead to sub standards drugs which can have a negative impact on the lives of people.

Thus Volume Calibration sees that measurements are accurate and precise as well as possible. Calibrating for volumes makes sure that the containers of the liquid are accurate and can hold the volume specified on it. It also makes sure that valve flow is properly measured for speed, amount flowing, and temperature.

The volume Laboratory has two parts all classified in units; the big volume unit and the small unit.

The small volume unit calibrates instruments that measure small volumes such as glassware (Pipettes, Graduated cylinders, Burettes, Density bottles, volumetric flasks).

While the big volume unit calibrates instruments that measure big volumes such water tanks, dispensers.

The laboratory scope ranges from 1 micro litre to 1000 mil litre for small volume unit and from 1 litre to 5000 liters for big volume unit. The volume laboratory clients include health facilities, research laboratories, testing laboratories, laboratories for manufacturing companies that use small volumes.

While big volume unit's clients range from manufacturers of water tanks, industries, liquid dispensers, petroleum companies, water suppliers.

8. DIMENSIONS LABORATORY



The Dimension laboratory undertakes the following calibrations: Vernier Calipers, micrometer screw gauges, block gauges, tapes, meters, rulers, dipsticks and centrifuges.

The constant change people's needs, demand for locations, specifics of length, height, surfaces in the daily lives, requires accuracy in dimensions thus the need for dimensions calibration.

There is need to measure what we put on, to calculate the distance, to understand the roughness or smoothness of surfaces; dimensions are part and parcel of our daily lives.

Thus the demand for accurate measurements calls for quality assurance of the equipment used to measure dimensions.

Dimensions looks at mainly lengths and thickness, diameters, angles, and flatness and surfaces. Calibrating equipment used to measure all these provide accurate and precise measurements for customer satisfaction.

The dimensional instrument calibration capabilities of this laboratory are intended to reduce risk and inaccuracy in the equipment that are used in measuring dimension.

These risks for example in construction companies may result into loss of lives in case of shoddy work done in road construction or as a result of inaccurate dimensions.

The laboratory does calibration of manual equipment and digital tools, equipment in industries such as steel manufacturing, iron sheets, construction sector, brick making and health sector.

Accordingly, Dimensional calibration is done by making comparison between performance output of a tool or any other instrument used in measuring dimension with a measurement standard.



9. FLOW LABORATORY



The Flow laboratory offers service of calibration of flow meters and water meters.

Water meter calibration is very important, since it helps consumers to understand whether what is being charged for is what they are getting. In case of errors, the consumers may pay higher than what they have consumed.

Again, meters also help the water supplier like WASAC to determine quantities supplied and cost the charges, meters ensure that they don't make losses.

The laboratory has two water meter laboratories.

The first is the indoor part where calibration is done on Floor Meters using a water meter test bench which

has a capacity of a phenomenon diameter of 15 to 40 meters in breadth. This calibrates domestic water meter calibration at three stages including in the minimum, medium or transitional and maximum flow rate.

There are metric standards which go with different instruments including the pressure gauges, temperature sensors. RSB uses international standards in calibration of domestic water meters.

The clientele for the laboratory includes the national water supplier- WASAC and local traders that import water meters, and Industries which use high volumes of water.

The laboratory offers services for calibration of flow meters and water meters.

10. FORCE LABORATORY



The Force laboratory conducts calibration of compression Machines : 1kN – 3,000kN, CBR testing Machines (rings) 1 – 100kN, Marshall testing machine (rings) 1 – 100kN and tensile testing machines 1 – 100kN.

Force plays a major role in production; it has both magnitude and direction which makes it a vector quantity. In designing the product, there is need to ensure that specified forces remain consistent.

Force is also an important factor to determine the durability and longevity of the product and its safety and effectiveness. Calibration of equipment measuring force is very vital in our daily lives.

The booming construction, telecommunications and manufacturing sectors render the use of the force laboratory a must in order to minimize shoddy works, loss of lives and possible malfunctioning of the product. The hazards and risks within this sector

have reduced, thanks to the calibration services by the laboratory.

The Force laboratory offers services to electricity companies like REG Ltd and EUDCL; telecommunication companies, road construction companies. We calibrate their laboratory equipment.

The Force laboratory also conducts calibration of compression Machines : 1kN – 3,000kN, CBR testing Machines (rings) 1 – 100kN, Marshall testing machine (rings) 1 – 100kN and tensile testing machines 1 – 100kN.

Material testing machines can be categorized in different fields of use that includes construction machines, cement manufacturing machines, engineering laboratories that do material testing, concrete making industries, iron making industries.

11. ACOUSTIC AND VIBRATION LABORATORY



The Acoustic and Vibration Laboratory undertakes the realization and calibration and research project to improve the standards for measurement quantities of sound pressure level in air and rectilinear acceleration and Calibration of devices used in acoustical measurements.

It is important to measure sound pressure to protect the lives of people.

The Acoustic and Vibration Laboratory offers services in measuring the level of sound in churches, industries like steel manufacturing industries, Cement and Tea factories.

The laboratory calibrates equipment which include:

- Calibration of audiometer
- Calibration of vibration
- Calibration of devices used in vibration measurement Development and improvement of vibration lab.

Field Measurements:

- Sound distribution and reverberation time in auditoriums.
- Sound insulation in buildings and of building elements.
- Environmental noise.
- Vibration parameters.

12. DOSIMETRY LABORATORY



Dosimetry Laboratory offers calibration of dosimeters for ionising radiation measurements in addition to issuing calibration certificates for the following:

- Radiotherapy
- X-ray diagnostic
- Examination and x-ray
- Intervention
- Radiation protection

This is realized with the dissemination of standards for radiation measurements in the fields of radiation protection, radiation medicine (radiotherapy and diagnostic x-rays) and industrial applications.

It is essential in hospitals, security companies that use scanners and mining industries.



13. LEGAL METROLOGY



The purpose of legal metrology is to:

- Control the usage of measuring equipment in trade, law enforcement, health services and environmental protection through type approval, initial and periodic verifications and inspections;
- Control pre-packaging operations;
- Manage regional and international relationships in the area of legal metrology.

RSB National Metrology Division offers the following Legal metrology services:

- Verification of trade masses
- Verification of balances
- Verification of fuel dispensers
- Verification of bulk meters
- Verification of energy meters
- Verification of water meters
- Verification of medical equipment
- Pre-packed products control
- Licensing maintenance/repairs operators

ACCREDITED RSB METROLOGY LABORATORIES PROMOTING

MADE IN RWANDA PRODUCTS ON THE EXPORT MARKET.



Three metrology laboratories of the Rwanda Standards Board in 2017 received international standards accreditation from by Germany Accreditation agency (DAkKS), one of the world's leading accreditation bodies.

The metrology laboratories namely; mass, balance, and temperature calibration, were accredited in a bid to promote exports out of the country to Europe.

Funded out of cooperation between RSB's National Metrology Division and the Germany Metrology Institute (PTB), aimed at strengthening metrological services in Rwanda with the objective of supporting economic growth through accurate and efficient measurements system in industries, trade transaction and safety.

The Mass laboratory offers services of calibration of standards for industrial products, the Volume laboratory conducts calibration of laboratory

glassware (Pipettes, Graduated cylinders, Burettes, Density bottles, volumetric flasks), while the Temperature laboratory conducts calibration of thermometers, laboratory ovens, incubators, cold rooms, autoclaves, fridges and freezers, coolers, among others.

The laboratories are useful in measurements for industries as well as in health sector.

With the accreditation of these laboratories, it is an assurance to clients seeking metrology services that there is no difference between measurements carried out in Rwanda with those carried out elsewhere in the world. Therefore helping to enhance the Made-in-Rwanda policy as the country's exports are more trusted abroad especially Europe.

The accreditation also helps lower technical barriers to trade between Rwanda and other countries because in the advent of globalisation, domestic and export trade have become vital to the development of any country's economy and mostly Rwanda. There is a need to lower or to eliminate barriers to trade in order to facilitate trade among nations. The barriers can be in form of technical regulations and standards.

Therefore the accreditation of these laboratories is helping in lowering Technical Barriers to Trade by harmonising technical regulations, standards and conformity assessment procedures as laid down in the agreement on Technical Barriers of Trade of the World Trade Organization.

RSB YATANGIYE GUTANGA SERIVISI Z'IGERERANYABIPIMO KURI MUBAZI Z'AMATAGISI



Mubazi ya tagisi ni imashini ipima intera y'urugendo n'igihe cyakoreshejwe mu rugendo bigakoreshejwe mu kugena ikiguzi cy'urugendo kishyurwa n'umugenzi. Nk'uko igihugu cyacu gikomeje urugendo rw'iterambere mu nzego zitandukanye, urwego rwo gutwara abantu narwo rukomeje kugenda rugaragaramo impinduka zigamije kunoza serivisi itangwa kandi zigamije kurengera uburenganzira bw'utanga n'uhabwa

serivisi kugira ngo bose bungukire kandi bishimire serivisi itangwa.

Imwe mu ntambwe zimaze guterwa mu kunoza serivisi itangwa mu gutwara abantu ni ikoreshejwe rya mubazi zishyirwa ku binyabiziga hagamijwe gufasha utanga serivisi n'uyihabwa kugira ibifatika bashingiraho mu koroshya ukwishyurana. Mu gihe iri koranabuhanga ryashyirwaga mu modoka



nton'amapikipiki atwara abagenzi, ryishimiwe na bose ariko hakomeza kugaragazwa impungenge ku bihamya amafaranga umugenzi agomba kwishyura uwamuhaye serivisi. Ibi byakomeje kuganirwaho n'inzego zitandukanye zifite aho zihuriye na serivisi zo gutwara abantu n'ibintu zirimo Polisi y'Igihugu (RNP), Urwego rw'Igihugu rugenzura imirimo ifitiye igihugu akamaro (RURA), Minisiteri y'Ibikorwa remezo (MININFRA), Ikigo cy'Igihugu Gitsura Ubuziranenge (RSB), amashyirahamwe atwara abagenzi, n'abandi.

Nk'uko Raymond Murenzi, Umuyobozi Mukuru wa RSB abigarukaho, amabwiriza y'ubuziranenge yifashishwa mu gushyiraho imirongo ifasha kunoza imikorere hashingiwe ku rwego rwa serivisi itangwa cyangwa igicuruzwa runaka; bityo akagaragaza ibigomba kwitabwaho n'uko bikwiye gukorwa kugira ngo abantu bagere ku musaruro bifuza. Ni muri urwo rwego ikigo cy'Igihugu Gitsura ubuziranenge gifatanyije n'abafatanyabikorwa twavuze haruguru bashyizeho amabwiriza y'ubuziranenge afasha

inzego zipima, izishinzwe igenzura (regulators) ndetse n'abakora umurimo wo gutwara abagenzi mu matagisi kunoza umurimo wabo:

"Ikigo cy'Igihugu Gitsura Ubuziranenge, mu ishami ryacyo rishinzwe ibipimo (National Metrology Division), gifite inshingano zo kugenzura ibipimo n'ingero bikoreshwa mu bucuruzi (mu kugura no kugurisha), ibipimo bikoreshwa mu buvuzi, ibipimo bikoreshwa mu kugenzura umuvuduko w'ibinyabiziga n'umutekano wo mu muhanda ndetse n'ibipimo bikoreshwa mu zindi serivisi byifashishwa hafatwa ibyemezo mu ngeri zitandukanye kugira ngo hakoreshwe ibipimo byujuje amabwiriza mpuzamahanga y'ubuziranenge agenga ibipimo n'ingero (measures and weights) bigengwa n'amategeko (legal metrology)".

Hashingiwe ku mabwiriza N °007/TRANS/RT/RURA/2015 yo kuwa 01/06/2015 yashyizweho na RURA agenga ikorehwa rya Mubazi ku modoka zose zikora akazi ko gutwara abagenzi (PASSENGERS ROAD TRANSPORT REGULATIONS

N°007/TRANS/RT/RURA/2015 of 01/06/2015); ndetse no ku cyegeranyo ku ikusanyamakuru (Survey Report) ryakozwe na RSB mumwaka w' 2017, cyagaragaje ko nta kizere abagenzi bafitiye mubazi zikoreshwa mu modoka zitwara abagenzi kuko batazi neza niba imibare zigaragaza ari iyo kwizerwa koko ari nayo mpamvu bamwe mu bagenzi bahitagamokutazikoresha ahubwo bakiyumvikanira n'abatwara ikinyabiziga ku mafaranga y'urugendo bishyura, harebwe kandi ku ntambwe ikomeje guterwa mu iterambere ry'ubukerarugendo aho abasura ibyiza nyaburanga by'igihugu bakomeje kwiyongera umunsi ku wundi, RSB ku bufatanye n'abafatanyabikorwa batandukanye biyemeje gushakira umuti urambye iki kibazo hashyirwa mu bikorwa amabwiriza y'ubuziranenge agenga ikorehwa rya mubazi kubinyabiziga bitwara abagenzi (taxi meters) ndetse hanashyirwaho laboratwari ifasha mu kugenzura ubuziranenge bwa mubazi ndetse n'ubw'ibipimo itanga.

Aya mabwiriza y'ubuziranenge RS OIML R21:2007, Taxi meters: Metrological and technical requirements, test procedures and test report format ateganya ibigomba kuba byujujwe na mubazi ikorehwa mu modoka zitanga serivisi yo gutwara abagenzi, igenzura rya tekini, ipimwa rya mubazi hagenzurwa ko itanga ibipimo byizewe, ndetse n'imiterere n'ibigomba kugaragazwa muri raporo y'igenzura.

Mu kugenzura ubuziranenge bw'ibipimo bitangwa na mubazi, hakorwa umwitozo wo kureba intera ikinyabiziga cyakoze (itagomba kujya muni ya kilometer ebyiri (2) bityo iyo ntera ikagereranywa n'ibipimo bigaragazwa n'imashini yabugenewe (Fifth Wheel Device) iba yometse ku kinyabiziga gifite mubazi igenzurwa. Mu kugenzura kandi hanitabwa ku gihe (time) cyakoreshejwe mu rugendo, ikiguzi cy'igihe cyakoreshejwe niba umugenzi yahagaritse ikinyabiziga mu gihe runaka ku mpamvu ze bwite bityo muri rusange hagafatwa icyemezo niba mubazi ikora neza kandi itanga ibipimo byizewe.

RSB YIYEMEJE GUKURIKIRANA UBUZIRANENGE BW'IMIKORERE

YA MUBAZI KURI **SITASIYO** ZICURUZA
IBIKOMOKA KURI PETEROLI



Ni ku wa Mbere, Samuel Bikorimana, umumotari, ahagaze kuri sitasiyo icuruza ibikomoka kuri peteroli ya Kobil i Nyamata mu Karere ka Bugesera, mu ntara y'Iburasirazuba.

Uko umukozi utanga lisansi ayirekura, Bikorimana we aritegereza ikirango cy'igipimo (verification sticker) cyashyizweho n'ikigo cy'Igihugu Gishinzwe Ubuziranenge (RSB) hejuru ya mubazi ya ibikomoka kuri peteroli.

Bikorimana agira ati "Mbere yo gusaba ibikomoka kuri peteroli, mbanza kugenzura ko sitasiyo ifite igipimo, nkareba ikirango kugira ngo nizere imashini itanga ibikomoka kuri peteroli itanga ibipimo nyakuri bityo ko litiro imashini impa zihwanye n'izo nishyuriye."

Benshi mu baguzi ubu bamenye ko sitasiyo zicuruza ibikomoka kuri peteroli zigomba kugira mubazi ziriho icyemezo cy'uko zagenzuwe n'ishami rishinzwe ibipimo rya RSB kugira ngo bizere ko amavuta/ibikomoka kuri peteroli bahabwa ihwanye n'yo baba bishyuye.

Kuri Justus Manirafasha, gushyira imashini zipima kuri sitasiyo z'ibikomoka kuri peteroli birinda abaguzi kugwa mu bihombu.

Solange Uwase, Umuyobozi wa sitasiyo ya Kobil i Nyamata, avuga ko gukoresha ubu buryo bwo gupima bigabanya ibihombu sitasiyo ishobora kugira bikomoka ku guha abakiliya ingano y'ibikomoka kuri peteroli irenze iyo baguze, bukanakumira kwibwa

bw'abakiliya ntibahabwe ingano nkeye ugereranyije n'ibyo bishyuriye.

Uwase ati "Uku kugenzura mubazi zifashishwa mu gutanga amavuta kuri za sitasiyo ni ingenzi cyane. Hari igihe ubuyobozi n'abakozi ba sitasiyo bahinduka ariko ikirango cyo kigomba guhoraho kuko nicyo giha abaguzi icyizere. Uretse kiriya kirango cya RSB babonaho, hari n'akagozi iyo imashini imaze gushyirwa ku bipimo bikwiye RSB ihita izirikaho (seal) bityo mu igenzura basanze waragaciye uhita ubihanirwa. Iyo igenzura rigaragaje ko mubazi y'ibikomoka kuri peteroli itanga ingano nyinshi cyangwa nkeya ugereranyije n'ibipimo byagenwe, icyo gihe RSB idufasha kuyisubiza ku murongo kandi nta bihano bibaho kuko biba bigaragara ko ari icyuma cyavuye ku murongo bitewe n'akabazo ka tekini cyaba cyaragize.

Dukorana na RSB bya hafi ku buryo bene nk'ibyo bidakunze kubaho. Isuzuma ryabo barikora kabiri mu mwaka bityo urumva ko ubusanzwe nta kibazo."

Nk'undi mucuruzi wese, Uwase yongeyeho ati "Bifasha mu kumvikana n'abakiliya iyo barimo birebera uko igipimo gikora."

Eugene Bizimungu, Umuyobozi wa Sitasiyo y'ibikomoka kuri peteroli ya Kanzenze yavuze ko RSB igenzura ibipimo bya sitasiyo buri mezi atandatu mu rwego rwo gufasha sitasiyo kugumana ibipimo bikora neza.

Yagize ati "Hari igihe imashini itanga ibikomoka kuri peteroli iba itanga ingano nkeya cyangwa nyinshi, hanyuma aho ni ho RSB iza igakora akazi kayo."

Ikigo cy'Igihugu Gitsura Ubuziranenge (RSB) gikora ubugenzuzi bwa sitasiyo zicuruza ibikomoka kuri peteroli mu gihugu hose kugira ngo harebwe niba ibipimo byazo biboneye, ni ukuvuga bitari muni cyangwa hejuru y'ibipimo ngenderwaho.

Placide Kabalisa, Umukozi wa RSB ushinze kugenzura ibipimo bya sitasiyo zicuruza ibikomoka kuri peteroli yagize ati "Iyo dusanze imashini itanga ingano y'ibikomoka kuri peteroli idakwiraye, dufata icyemezo cyo kugabanya imibare y'igipimo tukayishyira hafi ya zeru mu gihe imashini yatanga ibikomoka kuri peteroli irengeje igipimo."

Yongeyeho ati "Buri sitasiyo ihabwa ikirango cyemeza ko yagenzuwe bikomezwa ko ikora neza."

Mu gihe imibare y'igipimo cy'imashini ikomeza ihindagurika bitewe n'imikorere mibi y'imashini, RSB ihita yohereza abatekinisiye bagakora isuzuma mu rwego rwo gukemura ibibazo biba byagaragajwe.

Kugira ngo habungabungwe cya gipimo cyemejwe kuri sitasiyo icuruza ibikomoka kuri peteroli, RSB ishira ikirango (seal) ahantu hadatuma hari ubasha guhindura imikorere ya mubazi adakuyeho icyo kirango, kandi mu gihe hari ibigomba gukosorwa kuri cya gipimo, sitasiyo imenyeshya RSB ikaba ari yo ikuraho cya kirango. Ku bashyiraho sitasiyo nshya zicuruza ibikomoka kuri peteroli, uruhushya rutangwa n'Urwego rw'Igihugu rushinzwe imirimo ifitiye igihugu akamaro (RURA) bagatangira gukora ari uko RSB yamaze kugenzura mubazi za sitasiyo kugira ngo hemezwe ko zitanga ibipimo bizira amakemwa.

UKO GUKOresha IBIPIMO BYIZEWE BYAZAMUYE KOBIL RWANDA KU ISOKO BY'IBIKOMOKA KURI PETEROLI



Kobil Rwanda ni ikigo gicuruza gaze n' ibikomoka kuri peteroli. Kuva iki kigo gitangiye gkorera mu Rwanda mu mwaka w'2004 cyatangiranye sitasiyo zicuruza ibikomoka kuri peteroli esheshatu. Hanyuma, Kobil Rwanda yakomeje kwagura ibikorwa byayo kugeza ubwo ibayekimwe mu bigo biri ku isonga mu bucuruzi bw'ibikomoka kuri peteroli mu Rwanda. Gukora neza kwatumye iyi kompani yaguka igera kuri sitasiyo 56 mu myaka ibiri gusa, inagura ikompanyi ya 'Delta Petroleum' ndetse nyuma iza kugura n'ikompanyi ya 'Shell'.

Mu gukomeza kwagura ibikorwa, Kobil Rwanda yaje no kongeraho ububiko bw'ibikomoka kuri peteroli buherereye mu murenge wa Gatsata mu Karere ka Gasabo. Ibi byaje kunganirwa n'uko iyi kompani yinjiye mu bucuruzi bwa gaze, ishyiraho ibigega bya gaze bikomeje gufasha gushyigikira gahunda y' igihugu yo guteza imbere ikoresha ry'ibicanwa bidahumanya ikirere by'umwihariko gukoresha ingufu za gaze. Kuri ubu iki kigo ni kimwe mu bacuruzi banini binjiza kandi bagakwirakwiza gaze ikoresha hirya no hino mu gihugu.

Iyi ntambwe ishimishije yatewe na Kobil Rwanda iyikesha ibanga ryo gushyira imbere ikoresha ry'ibipimo byizewe rifasha iki kigo gukomeza kugirirwa icyizere n'abaguzi ndetse n'abandi batandukanye giha serivisi. Intambwe ya Kobil Rwanda yashingiwe ku kubaka icyizere kirambye ikoresheje ibipimo biboneye bitanga icyizere ko ibyo ibihabwa abakiriya bijyanye n'ibyo baba bishyuriye. Ibirenze ibyo, mu gihe hari ubwo abantu bumvikana banenga cyangwa batakariza icyizere bamwe mu bacuruza ibikomoka kuri peteroli by'umwihariko gaze, Kobil itanga icyizere bitewe no gupima ibicuruzwa mu buryo buboneye.

Iyi kompani ikoresha ibikoresho bipima byabugenewe ku bigega by'ibikomoka kuri peteroli biri mu Gatsata mu rwego rwo kugira ngo hizerwe ko ibipimo bifatwa biboneye.

Jean Prisonston Safari, umukozi ushinze ibikorwa byo gufata neza no gusana ibikoresho muri Kobil Rwanda, yagize ati "Mu bubiko bwacu dukoresha ibipimo by'umubyimba kugirango tumenye litiro za peteroli zaguzwe n'izagurishijwe tukabasha kumenya niba zari zuzuye koko. Gusobanukirwa ibipimo n'ubumenyi bwo gupima bigira uruhare

rw'ingenzi mu kuramba no gutera imbere k'ubucuruzi bw'ibikomoka kuri peteroli ariko izi mubazi, iminzani, amasaha bikoreshwa nabyo bikenera gukorerwa igereranyabipimo ndetse ibigaragaweho gutanga ibipimo bitari byo bigakorerwa iregerabipimo kugira ngo bisubire ku murongo bikore neza".

Josette Mugwaneza, umuyobozi ushinze iyamamazabikorwa muri Kobil Rwanda, yagize ashimangira akamaro k'ibipimo kugira ngo ibikorwa na serivisi itangwa byizerwe: "Muri ubu bucuruzi, gupima ni ingenzi cyane ariko ibipimo birahinduka bitewe n'izindi mpamvu. Ikigo cy'Igihugu Gitsura Ubuziranenge (RSB) kiza kuzuzura no gukorera igereranyabipimo imashini zacu kabiri mu mwaka."

Nk'ikigo cyemewe n'igihugu no ku rwego mpuzamahanga, RSB igenzura ibikoresho bipima bya Kobil Rwanda bityo bigaha Kobil icyizere ko ibyo ikora bijyanye n'ibisabwa n'amabwiriza y'ubuziranenge yemewe ku rwego mpuzamahanga.

Yongeyeho ati "RSB itanga serivisi zo gutanga uburenganzira bwo gukora nyuma yo kuzuzura ibikoresho byose, noneho tukemererwa kugera ku bakiliya bacu twizewe ibyo tubaha."



ADHERENCE TO RSB CALIBRATION AND VERIFICATION TIMELINES

ENHANCING **RUGALI MEAT FACTORY** LOCAL AND EXPORT MARKET SHARE.



Ikompanyi icuruza ibikomoka kuri peteroli igereranisha ibipimo kugira ngo yizere ko itagura ibicuruzwa bidashyitse kandi iyo uko kudashyika kugaragajwe n'imashini zipima, hakorwa irindi suzuma kugirango icyo kibazo cy'ukudashyika gikemurwe.

Joette agaragaza kandi ko n'abakozi babo bahugurwa kugira ngo babe bafite ubumenyi ku bigomba kwitonderwa no gukurikiranirwa hafi: "Ariko navuga ko tudashobora guseta ibirenge mu gukoresha igenzura ry'imashini zipima buri gihe tubifashijwemo n'abakozi bacu bahuguwe na RSB igihe bikenewe. Iyo basanze hari ibitameze neza, tumenyeshya abakiliya bacu. Kutita ku bipimo uri mu bucuruzi bw'ibikomoka kuri peteroli kandi ucuruza ingano nyinshi nk'iyi Kobil Rwanda icuruza byatera igihombo ikigo, abakiriya ndetse n'igihugu. Turabizirikana cyane."

Kugira ngo Kobil irushaho gukorera mu mucyo muri serivisi iha abakiliya bayo, Mugwaneza avuga ko hashyirwa iminzani kuri buri kigega mu bitwarwa n'imodoka igafasha mu gufunga ikigega kigaragaje ibibazo bya teknikiki kugira ngo kidakoreshwa; kikazafungurwa ibipimo byamaze kongera gusubizwa ku murongo.

Kobil Rwanda kandi yashyize imbaraga mu bucuruzi bwa gazi zikenerwa mu ngo ndetse n'izikenerwa n'ibigo bitandukanye aho iyikwirakwiza hirya no hino mu muji wa Kigali no mu ntara zose z'igihugu. Kuri gaze, RSB igenzura ko ibiro bigaragazwa bihuye koko n'ibyo umuguzi yishyurira. Kuri iyi ngingo, Josette Umugwaneza yagize ati: "Twitwararika icyo ari cyo cyose cyatuma umuguzi adahabwa ibingana n'ibyo yishyuriye. Ndasaba abakiliya bacu kujya babanza gusoma ikirango cya 'K-gas' kiba kiri ku macupa ya gaze yacu mbere yo kuyigura bakareba niba ifite ikirango cyemeza ko yagenzuwe na RSB."

Yongeraho ati "Abakiliya bakwiye kwizera serivisi nziza tubagezaho kuko dukurikiza imikorere isabwa n'igihugu yo kwita ku bipimo byizewe hatezwa imbere ubucuruzi buzira amakemwa bityo rero tukabasha kubagurisha ku bipimo bya gaze bishyitse."

Kobil Rwanda yizeye ko imbaraga imaze iminsi ishyira mu gutanga serivisi nziza ku bakiliya bayo by'umwihariko aba gaze zigiyeye kuzungunirwa no guhuriza hamwe ibigo bibiri ari byo 'Kobil' na 'Rubi energy', isanzwe ifite uburamba mu bucuruzi bwa gaze ku rwego mpuzamahanga bityo ibikorwa bizarishaho kwaguka bigere kuri benshi bashoboka.

Established in 2016, Rugali Meat Factory has processing plants in Gako in Bugesera district, Rubavu district and the main plant in Kigali.

The company is certified with Hazard Analysis and Critical Control Point (HACCP), and Halaal. It runs two production lines. The processing plant in Gako is Halaal certified

The factory's cold chain which has several measuring equipments is calibrated by RSB to be sure that their precision is on the required standard:

"We are closely working with RSB and agencies in the Ministry of Agriculture to ensure all our equipment work properly. We observe standards and measurements across the whole value chain." Said Mr. Eugene Ruzindana, Managing Director Rugali Meat Factory.

Rugali Meat factory has enough capacity to meet both local and international market demands.

Kigali plant has the capacity to process 20tons per day, Rubavu 5 tons per day and Gako Abattoir has capacity to slaughter 100 cows a day.

The factory processes beef, chicken and pork among others.

With its improved capacity and well as quality assurance the company is exporting to Brazzaville and it is also eyeing Kinshasa, China, while holding with the Middle East, and by of next year Rugali meat products will be in Dubai markets and Qatar.

"We have the capacity to supply high end consumers due to our capacity and quality of our products," noted Mr. Ruzindana.

Locally, the processing plant currently supplies the country's former leading importers of meat products such as Hotels and Airlines and other clients.

GUHA AGACIRO GUKOresha NEZA IBIPIMO N'INGERO BYAFASHIJE SOSOMA INDUSTRIES

KUGERA K'UBUZIRANENGE BUHAMYE NO
GUSIGASIRA ICYZERE CY'ABAGUZI



Kuva uru ruganda rushingwa mu mwaka w' 1989 rwatangiye gutunganya imvange y'ifu yitwa SOSOMA igizwe n'amasaka, soya n'ibigori. Ifu ya mbere ya SOSOMA yatungaywaga n'umuryango utegamiye kuri Leta Duhamic-ADRI hagamijwe kurwanya imirire mibi mu bagenerwabikorwa bawo. Igitekerezo cyo kugira uruganda rwiheriye rwa SOSOMA Industries Ltd cyaje mu kwezi k'Ugushyirwa 2008. NK'uko bisobanurwa na Ngezahayo Diogene umukozi w'uruganda rwa SOSOMA Industries Ltd ushinze imirimo yo gutunganya ifu ndetse no kugenzura ubuziranenge bw'amoko y'ifu atandukanye akorerwa mu ruganda rwa SOSOMA Industries Ltd :

"Kuva mu mwaka wa 2009 nibwo DUHAMIC ADRI n'abafatanayabikorwa baje gusanga ko ifu ya SOSOMA yagendaga ikundwa kandi inagira umumaro abayikoresha; bityo basanga idakwiriyeye gukomeza gukorwa n'ikigo kidaharanira inyungu kuko bayikoraga kugira ngo bageze ku bafatanayabikorwa babo bari bafite ikibazo cy'imirire itameze neza gusa. Batekereje ku kwagura ibikorwa maze hagashyirwaho uruganda rwiheriye ruzafasha abaturarwanda kubona ifu nziza y'imvange kandi ikungahaye ku ntungamubiri ikanafasha kurwanya imirire mibi. Ni muri urwo rwego hatangijwe SOSOMA Industries Ltd, uruganda rwiheriye rutunganya ifu y'imvange y'ibinyampeke".

Uruganda rwa SOSOMA Industries Ltd rutunganya umusaruro w'ibikomoka ku mpeke nka soya, amasaka n'ibigori, rwujuje imyaka 30 rugira uruhare mu gutuma Abanyarwanda bagira ubuzima bwiza rubagezaho ifu z'amoko atandukanye rutunganya mu musaruro w'ibinyampeke.



Umumaro w'ifu itunganywa na SOSOMA Industries wokurwanya imirire mibi hashingiwe k'itungamubiri ziri mu ifu ya SOSOMA, uko batunganya amoko atandukanye y'ifu ndetse n'imashini zifashishwa byose bifatanyaga gusobanura neza agaciro ibipimo bifite mu gufasha SOSOMA Industries Ltd gusohozza inshingano zayo:

"NTA BIPIMO, UMUNTU YAVUGA KO IBIKORWA BYA SOSOMA BITASHOBOKA. ICYA MBERE NI UKO DUTUNGANYA IFU Y'IMVANGE Y'IBINYAMPEKE. KUVA KU KWAKIRA IBINYAMPEKE BITARATUNGANYWA, KUBIVANGA MBERE YO KUBITUNGANYA HOSE TWISHINGIKIRIZA KU BIPIMO KUGIRA NGO TUMENYE NGO BITEWE N'UBWOKO UBU N'UBU BW'IFU TUGIYE GUTUNGANYA TURAVANGA IBIGORI INGANO IYI N'IYI TUBIVANGE N'AMASAKA INGANO IYI N'IYI BITYO DUSHYIREMO NA SOYA INGANO IYI N'IYI KUGIRA NGO MU IFU YATUNGANYIWE HAZABASHE KUBONEKAMO INGANO Y'INTUNGAMUBIRI IYI N'IYI. MURI IBYO BYOSE TWIFASHISHA IBIPIMO.

Byongeye kandi, imirimo yose y'uruganda aho iva ikagera ishingira ku bipimo, ibipimo by'ubushyamba nkenerwa, ibipimo by'ubuhehere, ingano z'amazi, umuriro, n'ibindi. Imashini zikoresheye zikenera kuba zikorera ku bipimo runaka kugira ngo ibyo zikora bibashe gutungana neza. Aho naho hagaragaza

akamaro k'ibipimo. Dufite ndetse na laboratwari y'uruganda dusuzumiramo ibyo twakoze mbere y'uko tubijyana gupimisha muri laboratwari z'ikigo cy'igihugu Gitsura Ubuziranenge kugira ngo tubashe kugereranya ibisubizo bya laboratwari yacu n'ibyo duhawe bityo tube twizeye koko ko ibyo dukora byujuje ubuziranenge. Ikindi kandi mu gufunyika ibyo ducuruza twifashisha ibipimo kandi iminzani dukoresha igomba kuba itanga ibipimo byizewe kugira ngo haba twe nk'uruganda tudacuruza duhomba cyangwa ngo duhombwe umuguzi tumuha ibiro bituzuye."

SOSOMA Industries Ltd ikangurira abafite inganda gukoresha ibikoresho bipima bitanga ibipimo byizewe kuko iyo ibikoresho byavuye ku bipimo bigira ingaruka k'uruganda n'umuguzi. Ngezahayo agira ati: "hari ibintu bijya biba umuntu akavuga ko acuruza ikilo kimwe kandi acuruza amagarama cyangwa akarenzaho ikilo atabigambiriye, hari ubwo ibipimo bitakaza umurongo byose twagiye dufatanyaga na RSB kugira ngo bijye ku murongo".

Guha agaciro ibipimo n'ingero ndetse no kwihatira kubahiriza amabwiriza y'ubuziranenge byafashije SOSOMA Industries kugera ku buziranenge bwizewe aho kuri ubu ibicuruzwa byayo byahawe ikirango cy'ubuziranenge cya S-Mark ndetse uru ruganda rugenda ruhabwa ibirango by'ubuziranenge byisumbuyeho bihamya imikorere myiza ku batunganya ibiribwa harimo ikirango cy'ubuziranenge ku gukumira ibyakwangiza ibiribwa (Hazard Analysis and Critical Control Points-HACCP) n'icya ISO 22000 gihamya imikorere igamije kubungabunga umutekano n'ubuziranenge ku batunganya ibiribwa. SOSOMA Industries isobanura ko uko bagenda bakora buri mwaka RSB isura iminzani n'ibindi bikoresho bipima bifashisha hakarebwa niba bigitanga ibipimo byemewe ku rwego mpuzamahanga.

SOSOMA Industries Ltd itunganya ubwoko bw'ifu bukurikira: Sosoma1, Sosoma2, Fortified sosoma2 (yongerwamo intungamubiri), umutsima mwiza w'ibigori, ifu ikaranze ya soya n'ifu y'amasaka y'umutuku n'umweru.

SULFO RWANDA INDUSTRIES IKOMEJE GUSHYIRA IMBERE KUGEZA

KU BANYARWANDA IBICURUZA BYUJUJE UBUZIRANENGE
N'IBIPIMO BIKWIYE



SULFO Rwanda Industries, uruganda rutunganya ibicuruzwa bitandukanye mu Rwanda, ihamya ko ku isonga z'inzozi zayo hakomeje kuba kugeza ku Banyarwanda ibicuruzwa byujuje ubuziranenge kandi byatunganyijwe ndetse bikanapfanyikwa hifashishijwe ibipimo bikwiye nk'intwari ifasha uru ruganda gukomeza gupiganwa ku masoko no kuguma mu mitima y'abakunda ibicuruzwa byarwo.

Uru ruganda rwashinzwe mu mwaka w' 1962 na Mr. Tajdin H. Jaffer rumaze igihe rwibanda ku kubungabunga ibipimo mu nzira yose inyurwamo n'ibicuruzwa mu gihe bitunganywa ndetse no

gukoresha neza iminzani ku buryo bufasha kubungabunga ubwiza n'ireme ry'ibicuruzwa ndetse no kwitwararika ku ngano y'ingero ibicuruzwa runaka bigomba kuba byujuje mu rwego rwo guha abaguzi ibicuruzwa biha agacuro amafaranga yabo.

Felecien Maniragaba, umukozi wa SULFO Rwanda Industries ushinze ishamba rikora isabune n'amazi agaruka ku kamari k'ibipimo n'ingero mu bikorwa bya SULFO Rwanda Industries: "Ubusanzwe iyo dukora tuba twiteze kugera ku bipimo ngenderwaho byo mu gihugu no ku rwego mpuzamahanga, bityo mu byo duteganya tukazirikana ko abakiriya bacu bazahabwa ibicuruzwa byujuje bya bipimo."

Maniragaba akomeza agaragaza ko muri SULFO byabaye umuco kuva mu gihe kirekire gishize gufata ibipimo bitandukanye biba bitangwa n'imashini z'uruganda mu gihe ruba rukora bityo bakaba bizeye ko uruganda rubasha kwirinda ibihombo byavuka mu gihe cyo gukora ibyo rushyira ku isoko. Nyamara ariko SULFO Rwanda Industries yemeza ko gufata gusa imibare bahabwa n'imashini zabo ndetse n'ibindi bikoresho bipima kwaba ari ukwibeshya cyane mu gihe batifashishije serivisi z'ikigo cy'Igihugu Gitsura Ubuziranenge (RSB) kuko ari cyo kiba kibitse ibipimo n'ingero by'igihugu byizewe. Ni muri urwo rwego buri mwaka begera RSB bagahabwa serivisi z'igereranyabipimo (calibration) kugira ngo bahinyuze niba ibipimo bitangwa n'ibikoresho byabo bipima bhujye n'ibisabwa ku rwego mpuzamahanga kandi bikwiye kwizerwa n'uruganda kugira ngo bizere ko nta ngaruka byatera ubuziranenge bw'ibicuruzwa uruganda rushyira ku isoko.



SULFO Rwanda Industries Ltd, buri nyuma y'amezi atandatu, isuzumisha iminzani ipima nk'uko biteganywa n'amabwiriza ya RSB agenga ibikoresho bitanga ibipimo bitangwa n'ibikoresho bipima mu bucuruzi kugira ngo hizerwe ko iminzani itatakaje ubushobozi bwo gutanga ibipimo byizewe bitewe no kumara igihe runaka ikoreshwa cyangwa ikaba yakwangirika ikava ku murongo. Iyipimo n'ingero kandi byifashishwa mu gihe hapfunyikwa ibicuruzwa mbere yo kugemurwa ku masoko; bityo rero byitabwaho cyane.

MANIRAGABA AGIRA ATI "IBIKORWA BYO MU NGANDA BISHINGIRA KU BIPIMO. MU RUGANDA UDAPIMA NTIWEMERWE NO GUKORA KUKO WABA UTAZI IBYO UGIYE GUKORA! TUGOMBA RERO GUPIMA KUKO TUTABIKOZE TWAGURISHA BYINSHI CYANGWA BIKE. DUFITE LABORATWARI HANO ITANDUKANYIRIZWAMO IBYO DUKOresha TUKABA ARI NAYO DUPIMIRAMO UBUZIRANENGE BW'IBYO TWOHEREZA KU MASOKO. TUNIFASHISHA KANDI LABORATWARI ZA RSB KUKO ZIFITE UBUSHOBOZI BWISUMBUYE. IMASHINI ZO MURI LABORATWARI YACU ZIKORERWA IGERERANYABIPIMO, NDETSE N'IBINDI BIKOresho BYOSE BIPIMA. KUGIRA NGO HIZERWE IBIPIMO MU MASHAMIYOSE AKORA IBICURUZWA, SULFO IFATA IBIPIMO BURI SAHA NONEHO BIKAGERERANYWA BURI KWEZI KUGIRA NGO HAREBWE NIBA UBUZIRANENGE BUDAHINDAGURIKA MU BIKORWA".

Maniragaba ahamya ko iyi mikorere ibafasha mu kugenzura amakosa yashobora kwangiza ubuziranenge n'ubwiza bw'ibicuruzwa. SULFO ifite amashami menshi arimo irikora ibikoresho by'isuku (detergents), irikora ibyifashishwa mu gufata neza uruhu, irikora amavuta yo kwisiga, irikora amazi yo kunywa, irikora amavuta yo gusiga mu musatsi, irikora amavuta y'amazi avangwa n'andi azwi nka 'glycerine', irikora puderi ya 'talcum', irikora amasabuni yo mu bwoko butandukanye harimo amato n'amasabuni maremare (bar soap).

SULFO Rwanda Industries igaragaza ko ubuziranenge imaze kubugira umuco ndetse ko ari ibanga rishingirwaho iterambere ry'inganda ku isi hose. Ni muri urwo rwego ibicuruzwa by'uru ruganda byose byahawe icyemezo cy'ubuziranenge ndetse n'uruganda ruhabwa ibyemezo by'ubuziranenge bitandukanye bigaragaza ko imikorere yarwo yubahiriza amabwiriza mpuzamahanga y'ubuziranenge mu mikorere no gubunhabunga ubuzima bw'abakozi mu kazi ndetse n'arebana n'ubuziranenge mu kubungabunga ibidukikije.

ABACURUZA GAZE BAYOBOTSE UBUGENZUZI BW'IBIPIMO NGO BATANGE SERIVISE NZIZA



Uko umuco wo gukoresha ibicanwa bidahumanya ibidukikije by'umwihariko gaze ukomeza kugenda ukwira hirya no hino mu gihugu, gukoresha ibipimo neza mu gutanga serivisi inoze no kurinda abaguzi na byo bigomba

kwitabwaho; ikirenze kuri ibyo ni uko gukoresha iminzani yangezuwe na byo bizamura imikorere inyuze mu mucyo bikanateza imbere imikorere yo guhiganwa mu cyiciro cy'abacuruzwa gaze kigenda cyaguka.

"TUGURA AMACUPA YA GAZE HANZE Y'IGIHUGU KANDI NTA BIRANGO TWARDIKAHO; RSB NI YO IFITE INSHINGANO ZO GUSHYIRA AMAZINA Y'IBICURUZWA CYANGWA Y'IKOMPANYI KU MACUPA"

Nk'uburyo bumwe bwo gutanga serivisi nziza kandi zinogeye abakiliya, Kigali Gas Limited yashyize mu bikorwa byayo bya buri munsu uburyo bwo gupima ingano ya gaze igurishwa. Intego ni ugushimangira ikoresha ry'iminzani yujuje ubuziranenge kuko ari yo yonyine ibasha gutanga ibipimo byizewe.

Isosiyete y'ubucuruzi ya gazi iyoboye izindi mu gukwirakwiza gaze ku badandaza yatangiye gukora muri 2012 ubwo ikoresha rya gazi ryari rikenewe cyane, ubu ikoresha iminzani mu gupima gazi igurisha abakiliya bayo.

Binyuze mu gupima ni bwo buryo umucuruzi abasha kwizera ko icyo agurisha umukiliya ari cyo yamusabye, nk'uko Eric Kabango, Umuyobozi wungurije wa Kigali Gas Ltd abisobanura.

Kabango yagize ati "Tumaze igihe dukoresha umunzani kandi tugapima uburemere bwa buri cupa rya Gaze kugira ngo abakiliya bizere ibicuruzwa byacu. Ubusanzwe icupa rya gaze ryinjira mu gihugu ryanditseho uburemere bwaryo bwite mbere y'uko rishyirwamo gaze".

Iyi kompani kandi isuzumisha ubuziranenge bw'amacupa ya Gaze aturuka hanze y'igihugu kugira ngo atabangamira ibipimo ngenderwaho kandi buri cupa rigashyikirizwa Ikigo cy'Igihugu Gishinzwe Ubuziranenge (RSB) kugira ngo risuzumwe niba

ryujuje ibisabwa n'amabwiriza y'ubuziranenge ku macupa apfunyikwamo gaze ndetse hanemezwe ko ibiro bwite by'icupa byinaditswe ari byo koko; ubu bukaba ari ubundi buryo bwo kwita ku bipimo biboneye.

Kabango yagize ati "Tugura amacupa ya gaze hanze y'igihugu kandi nta birango twandikaho; RSB ni yo ifite inshingano zo gushyira amazina y'ibicuruzwa cyangwa y'ikompanyi ku macupa."

Nk'abarangura gaze hanze y'u Rwanda, Kigali Gas Ltd isanga gupima uburemere ari ingenzi kuko imenya uburemere bwa gaze baranguye kugira ngo bizere ko gazi basabye ari yo bagejewe.

Kabango yongeyeho ati "Gazi ni igicuzwa cyorohereye, hari byinshi bishobora kuyibaho mu nzira, iyi ni yo mpamvu tugomba kugenzura iyatugezeho."

Nyamara bitewe n'abaguzi benshi, Kabango avuga ko imyishyamba mu minzani usanga yarashaje, igaturika cyangwa igatakaza imbaraga bikagira ingaruka ku bipimo, aho usanga umucuruzi cyangwa umukiliya abihombeyemo.

Yagize ati "Ni muri urwo rwego tuyajana iminzani yacu ngo igenzurwe na RSB, ubwo ni bwo tuba tubasha kwizera ko umunzani wujuje ibipimo ngenderwaho."

Ku ngaruka zishobora guterwa no kudakoresha igenzura ry'iminzani, Kabango yagize ati "RSB idufasha kugereranya ibipimo iminzani yacu itanga n'ibipimo ngenderwaho by'igihugu; kandi ni ingenzi cyane kuko iyo utagenzuye iminzani bishobora gutera abakiliya kwivovota bakaba banagucikaho."

Kabango yongeyeho ko abakiliya banyurwa iyo babonye ikirango cy'ubugenzuzi cya RSB ku minzani, akongeraho ko kwita ku bipimo mu bucuruzi bwa gazi ari ingenzi kuko umuguzi aba adafite uburyo bwo kongera kuyipimira ndetse amwe mu macupa ntabe anabasha kugaragaza ingano ya gaze irimo.

AMEKI COLOR ENSURES FAIR TRADE

THROUGH PROPER AND REGULAR CALIBRATION OF MEASURING SCALES AND EQUIPMENT.



Measurements are a vital aspect in paint manufacturing. They play a critical role through the whole value chain as Jean Paul Kayitare, the Ameki Color Product and Technical Control Manager explains that, the quality of the paint and its color is as a result of mixing up right quantities.

"You must measure every element that makes up the color and must be exact because any imbalance leads to a different color."

In order to have the best paint, measurements must be respected. This is what guides paint production at Ameki Color and explains why the Ameki Color paints are highly sought after both on the local and international market.

"Without exact measurements of each element used in paint manufacturing, then we will not produce the best quality paints," Kayitare adds.

Furthermore, measurements guide in the process of pricing. Prices are determined by the amount of materials used to produce a certain type of paint or specific color.

Ameki Color uses measuring scales in the measurement process to determine the right quantities during production but also measure the final product to ensure that the customer gets exactly the quality they are buying.

"The measurements must be taken to ensure fair trade," Kayitare explains.

In order to ensure that our weighing equipment do not lose precision with repeated use, with the help of Rwanda Standards Board (RSB) metrology services we often carry out periodic calibration of our equipment.

Calibration of our equipment ensures that as manufacturers we are not cheated through over delivering and likewise not cheat our clients through under delivering. Hence, ensuring fair trade between Ameki Color and her clients.

The calibration services offered by RSB address this challenge. RSB ensures that measurements and measuring scales give the right quantities as indicated and meet internationally recognized weight standards.

"The calibration services offered to us by RSB is important and appreciated. It has helped us create trust and confidence within our clients. It helps us ensure our clients are buying the right quantities hence get value for money". Kayitare concludes.

BUSHENGE HOSPITAL: IMPROVING SERVICE DELIVERY

THROUGH REGULAR CALIBRATION
OF EQUIPMENT



Medical equipments like other equipments are prone to wear and tear affecting accuracy. As a result they may give inaccurate medical results which can cause catastrophic errors leading to loss of lives.

Equipment used in hospitals most especially in laboratories need to be calibrated regularly to ensure effective performance and accuracy. Bushenge Provincial Hospital in Western Province ensures regular calibration of its equipments.

"Saving lives is our primary responsibility, in order for us to effectively deliver on this primary obligation,

medical results from tests carried out on patients must be accurate" said Venuste Musafiri the Quality Assurance Manager at Bushenge Hospital.

Hospital equipments being calibrated by Rwanda Standards Board include Blood Refrigerator, Incubators and equipments in the Biochemistry laboratory. This is to ensure that all medical equipment are in full working order. They are calibrated to a known standard so as to ensure that the reading/result/functionality of the equipment are accurate at the point of delivery to a patient.



BLOOD REFRIGERATOR CALIBRATION

Calibration of the fridge ensures that it is kept at the right temperature from time to time. Blood is kept at the recommended temperature similar to that in the human body.

"If say we give a patient blood that was stored under incorrect temperatures, then they could have health repercussions," he said

BIOCHEMISTRY LABORATORY

In the Biochemistry laboratory, fridges are calibrated by Rwanda Standards Board-RSB to ensure that they are kept at right temperatures. Another apparatus that is calibrated in the biochemistry laboratory are pipettes which are used to collect samples for components that are needed for testing.

Calibration of these apparatuses ensures that the right quantities that are needed for a particular component to be tested are collected.

"We calibrate the apparatus to also make the exact weights of the specimen or blood we are testing," he explains.

INCUBATORS

Incubators are calibrated to ensure they are maintained at the recommended temperatures, [normally 37 degrees Celsius] Incubators normally use the temperatures similar to those of a normal person.

In order to ensure quality service delivery, Bushenge Hospital ensures that all necessary equipment are regularly calibrated by RSB.



CIMERWA

CIMERWA POSITIONED TO CAPTURE REGIONAL MARKET



With the new face lift at the Country's leading cement producer, CIMERWA has positioned itself to serve the growing local demand for cement as well as export to the region.

Recently, CIMERWA set up a new white dry plant shifting from the wet process Kiln which proved more expensive with less production as per demand. With the new plant CIMERWA has increased the

production capacity to 1500 tons per day from 240 tons per day.

Thus this positions CIMERWA not only as a local leader but also competes favorably in the region owing to the high quality cement produced. CIMERWA currently exports cement to the Democratic Republic of Congo.

"We have capacity to satisfy the local market and also export to neighboring countries. Our cement is much sought after both locally and on the export market owing to its high quality", said Eric Gisore, Product Manager CIMERWA.

To further harness this competitive advantage, CIMERWA has strengthened the quality assurance system through its cement production value chain in order to minimize any errors that would comprise quality.

CIMERWA has invested in putting in place modern and accurate measurement innovations; from raw materials being procured to the production and up to the final product going to the market.

The plant has installed two weigh bridges which weigh the raw materials entering the factory and also final products going to the market. Inside the factory there are several measurements carried out; a weighing system at each feeder to the processing equipment to make sure that right qualities are mixed.

"We are very grateful to the support we get from RSB, our weigh bridges and weighing scales are calibrated periodically. Cement production is a very dynamic process, there is need to ensure that measurements are accurate. That is why we periodically calibrate our weigh-bridges and other weighing equipment". Gisore adds.

We often cross check our measuring equipment to ensure accuracy and maintain the quality of our products.

Gisore further explains that lack of right measurements may result into a halt in the whole production chain. If weigh-feeders lose precision and feed into the equipment inaccurate quantities, it may cause filling up of one of the processing equipment.

CIMERWA has a number of certifications like ISO 9001 certified, Rwanda Standard Mark (S- Mark) and the East African Standards body hence ensuring quality of her cement across the whole value chain.

"We normally carry out quality awareness to our staff once every year, train them on modern instrumentation and calibration for our plant," he added.

The major purpose of our calibration is to give the most accurate results; CIMERWA carries out an eight hours shift at each park, weighing equipment are calibrated during the shifts. This is why RSB is an important partner in our production process," Gisore explains.

To ensure that quality that has been emphasized in the factory is not compromised on the market, CIMERWA takes yet another initiative of sensitizing its suppliers as well as customers to be aware of the quality assurance and standards, understanding measurements through outreach programs.

INES RUHENGERI HELPING PRIVATE SECTOR TO BOLSTER QUALITY ASSURANCE



Following RSB's call for private laboratories to be set up in order to help testing services get closer to people, Ruhengeri Institute of Higher Education (INES Ruhengeri) has heeded to this call.

But INES Ruhengeri heeded to that call and took initiative of having their laboratories designated and now they are at the core not only offering their students practical lessons but also serving the private sector especially those in the construction sector.

"Our mandate is to be a practical university offering applied sciences. We emphasize teaching of Science Technology, Engineering and Mathematics to mention but a few hence the need to have testing laboratories for our students," said Rev.Fr. Dr Fabien HAGENIMANA, University's Vice-Chancellor.

Rev. Fr. Dr. Hagenimana says that establishment of testing laboratories helped INES Ruhengeri shift from only serving as teaching laboratories to as

well offering testing services to the private sector. This was as a result of research carried out by the University which showed that the community wanted laboratory the services.

"We also checked if we are doing the right business in terms of responding to real needs of the community, as a result of research we conducted in 2008 we had check our teaching methodology and analyze our academic products to suite market demands," he explained.

So far three laboratories have been designated by Ministry of Trade and Industry implying that they can carry out certified tests for different products. INES Ruhengeri plans to have more laboratories designated.

"First of all we know all the required facilities, RSB helps us to ensure all our testing equipment are calibrated to meet international standards," adds Rev. Fr. Dr. Hagenimana.

He further explains that equipment in all laboratories are calibrated by National Metrology Division of Rwanda Standards Board; which ensures that the test provided by the University to its clients conform to standards.

The laboratories carry out tests in areas of construction, water and water management, soil tests, food and beverages, among others.

Main clients for the laboratories include; beverage manufacturing companies, youth cooperatives and construction companies among other.

LABORATORIES AT INES RUHENGERI

Water Quality laboratory

The laboratory carries out tests in mass, volume and temperature. Ugeneza Franscine, Temperature Laboratory Analyst at INES Ruhengeri says RSB calibrates their equipments for measuring mass, volume which helps the laboratory to have accurate results. The laboratory serves water suppliers, constructors, and students from civil engineering department to mention but a few.

Geo - Technical laboratory

The laboratory offers services to researchers, private sector companies dealing in constructors; we test their metals, cements and soil. The equipments used



ACCURATE MEASUREMENTS HELP SHAGASHA TEA FACTORY BOOST EXPORTS POTENTIAL



in the laboratory are calibrated by National Metrology Department.

"If we don't calibrate our apparatus that means that the set engineering standards will not be the exact ones and consequently the structures of the products will be shoddy or incomplete and therefore losses will be incurred," says Christian Hirwa, a Geotechnical Engineer at INES Ruhengeri.

Food microbiology laboratory

The laboratory offers testing services for private businesses engaged in manufacturing of beverages like juices, milk, alcohol, food stuffs.

The apparatus used in the laboratory are also calibrated twice a year by RSB.

Food and biochemistry laboratory,

This laboratory offers moisture content testing on proteins and minerals in milk and cereals. It serves clients in dairy sector, agro processing, milling factories, bakeries and pastries. Claudine Nirere, in charge Food and biochemistry laboratory at INES Ruhengeri says calibration is vital in ensuring that the tests provided by the laboratory meet the required standards.

Tea is one of the key Rwanda's foreign exchange earners. Quality is one of the key elements in the production chain and requires quality assurance at each stage of processing that is to say from the plantation to the final consumer.

To achieve tea quality checks are needed and these are carried out using different apparatuses in the production chain which includes clocks, gauges, weighing scales, weigh bridge among others to ensure standards and quality across the whole value chain.

Sagasha Tea factory is one of the tea processors in the country that specializes in tea exports.

"We comply with the set international tea standards on every stage of production. Caution is put on ensuring the right moisture content that is to say from first stage of production, the driers to the final product," Patrice Hitimana, Sagasha Tea Factor engineer.



Measurements and tests are important to the factory as it removes the chances of losses which would be incurred by the factory, tea farmers and consumers.

"We ensure that our tea is of the right quality and quantity to ensure fair trade with our clients," adds Mr. Hitimana.

The factory has a weigh bridge that ensures that what goes in and out is of the right quantities.

To ensure that their measurements and tests comply with international standards of which their tea exports are subjected to, Shagasha uses Rwanda

Standard Board, metrology services to help calibrate their equipments.

"So calibration is very important in our day today activities. We carry out moisture tests in order to produce the good qualities as per international standards.

Tea is one of the most delicate products that require strict standards, therefore its measurements should be observed to keep consumer confidence and also to uphold the standards requirements for quality and safety for each and every buyer until the last consumer.








"YOU SHALL NOT HAVE IN YOUR BAG DIFFERING WEIGHTS, A LARGE AND A SMALL. "YOU SHALL NOT HAVE IN YOUR HOUSE DIFFERING MEASURES, A LARGE AND A SMALL. "YOU SHALL HAVE A FULL AND JUST WEIGHT; YOU SHALL HAVE A FULL AND JUST MEASURE, THAT YOUR DAYS MAY BE PROLONGED IN THE LAND WHICH THE LORD YOUR GOD GIVES YOU".

DEUTERONOMY 25:13-16





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