

8 LEGAL METROLOGY IN 2020 – ROLE OF GOVERNMENTS OF AFRICA’S DEVELOPING COUNTRIES

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Introduction

In Africa, as in every other society, weights and measures are ranked among the necessities of life. They feature among the earliest tools invented by the people because they needed rudimentary measures for tasks like the construction of dwellings of an appropriate size and shape, fashioning cloth, or bartering food or raw materials.

As contacts with the international community developed during the colonial era, the international exchange of raw materials, goods, and communication made societies to evolve and weights and measures became more complex.. It therefore became necessary for Africans and their trade partners to use measurement systems in which both parties had confidence. This led to the adoption of European and Asian measurement systems which comparatively were more accurate, consistent, and coherent.

Retrospective overview of governments’ role

At independence some forty years ago, these systems were inherited by the new national governments for the following reasons:

- ❑ the meager resources of the new countries were preferably allocated to areas like the civil service, Building of roads, schools, and health centers,
- ❑ there were no viable indigenous private economic or civil sectors,
- ❑ legal metrology was not considered as a priority because its importance and role in social and economic development had not been established,
- ❑ there were very few or no adequately qualified metrology personnel.

As society evolved, it became necessary for governments to protect consumers from unscrupulous traders. Also, they had to ensure that consistent and dependable measurements were carried out in areas like petroleum, mining and agriculture which were of substantial economic importance to the country. The inherited measurement systems were therefore modified and adapted to the aforementioned needs.

The emergent modified systems, some of which remain unchanged till date have the following major characteristics:

- ❑ government is the sole regulatory and conformity assessment authority,
- ❑ training of personnel is mainly ‘on the job’ and is offered only by government services and agencies,

- ❑ all funding for metrology activities is provided either directly or indirectly by government.

These systems do not possess adequate qualified personnel and metrology infrastructure. This partially explains the non-existence of:

- ❑ traceability,
- ❑ the accurate evaluation of the uncertainty of most measurement results.

Traceability and the existence of a hierarchical chain of standards each having its own stated uncertainty makes it possible for measurement results to be compared. Without traceability, comparability is impossible and confidence in the measurement result is absent.

The ultimate result of this lack of confidence being:

- ❑ uncompetitive exports,
- ❑ diminution of government revenues,
- ❑ unsustainable development,
- ❑ unemployment,
- ❑ and social instability which in most cases leads to unrest.

Impact of globalization

Following the death of communism about fifteen years ago, the process of globalization characterized by the expansion of cross-border flows of ideas and information, goods and services, technology and capital, has advanced rapidly and broadly in Africa.

Most African developing countries have realized that in order to facilitate their progressive integration into the world economy, they have to:

- ❑ lower trade barriers,
- ❑ pursue joint ventures,
- ❑ enforce intellectual property rights,
- ❑ protect property rights,
- ❑ reduce high import and export taxes,
- ❑ eliminate government corruption,
- ❑ support entrepreneurship,
- ❑ remove restrictions on investment,
- ❑ observe the rule of law,

- ❑ set up measurement systems with a coherent structure that ensures that measurements can be made in a constant, accurate, transparent, and internationally accepted manner.

So far as metrology is concerned, legal metrology is no longer considered as just ‘weights and measures’ but as a science indispensable in areas like human health and safety, resource and environmental control, and other domains where good measurements also serve as a basis of important government decisions.

With the advent of globalization, small and medium sized enterprises which help in:

- ❑ job creation,
- ❑ dissemination of entrepreneurial capacities,
- ❑ promotion and diversification of exports,

are faced with:

- ❑ difficulties adopting innovative technologies, and
- ❑ problems of access to global markets.

Consequently, it has been realized that metrology related technical barriers to trade like differing standards, technical regulations, and conformity assessment requirements must be compatible with international practice in order to facilitate trade which is an important mechanism for the economic development of the African countries in question.

Government’s new role

Fifteen years ago, the economies of the developing countries of Africa were state-run, government-controlled, with little or no growth. Today most of these same economies are opened or opening and liberalizing. Governments are privatizing the para-statal and their economies are growing. The governments have thus realized that in the present globalization context, sustainable prosperity ultimately depends upon creating an environment for:

- ❑ domestic capital formation
- ❑ private sector led growth
- ❑ successful integration into global markets.

For this to be achieved, governments have the following policy-making, arbitration, and supervisory role to play:

- ❑ put in place mandatory legal requirements for:
 - units of measurement,
 - methods of measurement,
 - measuring instruments and measurement results,

used in the following areas of activity;

- ❑ commerce and trade,
 - ❑ fiscal matters,
 - ❑ services and utility metering like water, electricity, telecommunications, and taximetering,
 - ❑ resource control like oil and fishing quotas,
 - ❑ environmental control and pollution like automobile exhaust gases,
 - ❑ health care like temperature and blood pressure measurements,
 - ❑ human safety matters like speed radar control.
- ❑ draw up coherent and unfragmented laws and make sure that enforcement is uniform. This can be facilitated by the adoption of internationally recommended metrology requirements.
 - ❑ ensure that emphasis on societal concerns like trade or health do not dominate fundamental aspects of metrology like precision, uniform conformity assessment, and traceability, whenever national laws and regulations are being drawn up.
 - ❑ urge metrologists to provide them with analysis and guidance on realistic infrastructural needs necessary for the implementation of legislation.
 - ❑ take measures to increase the availability of high quality education and training in metrology.

It should be noted that the above-mentioned duties are related to legislating and regulating metrology.

On the other hand, enforcement can no longer be a government monopoly and should be carried out by government services, para-statal and private bodies. The lack of the capacity to invest in the enforcement of laws and regulations in the modern fields of metrology like health, safety, and pollution monitoring by government, makes the use of the private sector indispensable.

However, the existence of many enforcement bodies might lead to the existence of multiple unrelated methods and procedures creating a state of incoherence and non-uniformity of assessment procedures.

For there to be confidence in the measurement system, the government has to monitor and supervise the activities of conformity assessment bodies to ensure uniformity and coherence.

This supervisory role makes it necessary for:

- ❑ All mandatory legal and technical metrological requirements to be registered, made public, and available to all.
- ❑ All conformity assessment bodies should be registered.

Government should create a forum which will permit cooperation, consultations, coordination, and the development of fruitful relations between all the actors of the metrology sector (legislating and regulating bodies, enforcement bodies, and clients). Such a forum could be called ‘National Metrology Council’.

Government should create conditions that will attract investors into the metrology sector because metrology infrastructure is expensive and government alone cannot support the cost.

Legal metrology department

For government to play its role fully, it must have a department which is solely in charge of legal metrology. The form and structure of such a department will definitely depend on the political organization of each country. However, by the year 2020, a Legal Metrology Department placed directly under the authority of a member of government should be in charge of the following:

- ❑ the conception, definition, and implementation of a national legal metrology policy,
- ❑ the drafting of coherent legal metrology laws and regulations which meet national and international concerns for consistent, credible, and appropriately accurate measurement,
- ❑ the authorization, registration, and control of private legal metrology bodies delegated the responsibility to enforce mandatory technical and legal requirements. The aim here is to ensure and guarantee uniformity of enforcement,
- ❑ the secretariat of a national metrology council or any national forum set up to promote consensus, debates, discussions, consultations, cooperation, and good relations between all legal metrology bodies in the country,
- ❑ the drawing up of guidelines and the implementation of measures aimed at providing appropriate training and education in legal metrology,
- ❑ advice the government on the following aspects relevant to the needs of legislation; measurement standards, calibration programs, traceability and accreditation,
- ❑ representation of the government in all regional and international cooperation matters and organizations,
- ❑ sensitization of national public opinion on the importance of legal metrology in the socio-economic development of the country,
- ❑ facilitate the development of partnerships between national and foreign metrology bodies, mobilize national and international capital for metrology development,
- ❑ ensure that legal metrology is not over-regulated for as it is often said, too much of everything is a disease.

Conclusion

As the world's last great emerging market, Africa offers tremendous opportunities especially as there are many things to be developed. About fifteen years ago, internal and foreign investors were not welcome in many parts of Africa, but today they are not only welcome, they are sought for. This shows the desire to come out of marginalization and it includes legal metrology. The question is not the will but the way, especially as these countries possess limited financial resources.

The answer to this is regional and international cooperation. Africa is today divided into economic zones like ECOWAS, CEMAC, SADEC, etc. Development of legal metrology along the same lines is cheaper and faster.

Discussion

Comment: Which achievements have been made by UNDP and UNIDO in African countries in the past?

Reaction: Quite a lot has already been done by UNDP, UNIDO, etc. but it is not sufficient.

Comment: Governments have to prioritize their activities in order to be able to focus on most important areas. However, the assistance which is offered by certain international organizations does not always focus on the right priority areas, and often provides systems that are badly focused.

Reaction: This is quite right and assistance coming from the outside should not be offered only to governments, but also to private companies which are already engaged in metrology and which need to be encouraged.

Comment: After giving information concerning existing African sub-regional organizations and their role and membership, the SADC MEL representative pointed out that countries outside the SADC sub-region might participate in SADC MEL activities as associated members.

Comment: Developing countries are currently facing major problems in Africa as well as in other parts of the world, such as (i) training and (ii) increasing the awareness of policy makers (governments and donor organizations) concerning the role of metrology.

Reaction: This is quite true. The OIML has a responsibility in convincing governments and donor organizations about the role of metrology and the need to assist developing countries in the establishment of sound metrology bases. The CIML President and Vice-Presidents and the BIML Director may also play an important role in visiting OIML developing country members and giving them sound advice as to how to develop their activities. It was also pointed out that the OIML should develop its cooperation with the Metre Convention, ILAC, etc. in order

to better coordinate assistance provided by donor organizations. In this respect, information was given by Mr. Magaña about a recently established joint working group comprising representatives of the BIPM, OIML, ILAC, ISO, UNIDO and others, with a view to proposing coordinated actions to donor agencies which assist developing countries in the setting up of metrology, accreditation and standardization structures.

