

# **ITU-T Workshop on Delivering Good Quality Telecommunication Service in a Safe Environment in Africa**

**(Nairobi, Kenya, 26 July – 27 July 2010 )**

## **‘Maintaining Equipment Standards for Better Quality of Service: Country Experience - TANZANIA’**

**JAMES M. KILABA,  
Deputy Director,  
Tanzania Communications Regulatory Authority (TCRA)**



Nairobi, Kenya, 26 – 27 July 2010



# ***Discussion Topics***

1. Abstract
2. Country Profile
3. Key Definitions
  - *Standards*
  - *Categories of Communications Equipment*
4. Importance of Equipment Standardisation
5. The Situation in Tanzania
  - *Applicable Laws & Regulations*
  - *Equipment Survey*
  - *Enforcement Strategies*
6. Challenges
7. Concluding remarks



Nairobi, Kenya, 26 – 27 July 2010



# 1. Abstract

*Liberalisation of telecommunication markets has made it possible for various importers and vendors to bring into the United Republic of Tanzania a variety of electronic communications equipment, cellular phones inclusive, without well documented importation procedures and proof of quality. This high proliferation of non-type approved equipment in the market has posed a health risk to users and also exposes customers to substandard electronic communications equipment which may have a very short life span; while such equipment are brought in for use in the United Republic of Tanzania, the country may be turned into a dumping place of substandard communications equipment.*

*The presentation titled 'Maintaining Equipment Standards for Better Quality of Service' starts by prescribing the country profile of Tanzania aiming at establishing the affordability to acquire quality communication terminals at the published per Capita Income. It further defines various types of standards as well as categories of equipment. It then highlights on the country's approach and initiatives in making the country free from substandard equipment, which accordingly is termed as Tanzania's experience.*

*In conclusion, the paper calls for action to maintain equipment Standards at acceptable quality levels.*



Nairobi, Kenya, 26 – 27 July 2010



## 2.0 Country Profile - Tanzania

- **Location:** East Africa
- **Total Area:** 945,000 Km<sup>2</sup>
  - **Mainland:** 881,000 Km<sup>2</sup>
  - **Zanzibar:** 2,000 Km<sup>2</sup>
  - **Water:** 62,000 Km<sup>2</sup>
- **Boundaries:** Share borders with 8 countries
- **Population:** Approx. 40m
  - **Women > Men**
- **Per Capita Income:** >UD\$ 380
- **GDP growth:** 6.8% (2006)
- **Inflation:** 7.2% (June 2007)
- **Currency:** T. Shillings
- **Official Languages**
  - English & Kiswahili
- **Economic Occupation:**
  - >80% of the population work in agriculture and live in Rural areas
- **Political system:** Multiparty democracy



Nairobi, Kenya, 26 – 27 July 2010





Nairobi, Kenya, 26 – 27 July 2010



## ***3.0 Key Definitions - Standards***

- *Technical Standards*
- *Safety Standards*
- *Inter-working and Performance Standards*



Nairobi, Kenya, 26 – 27 July 2010



## ***3.1 What is a Technical Standard?***

- A **Technical Standard** is an established norm or requirement. It is usually a formal document that establishes uniform engineering or technical criteria, methods, processes and practices (*wikipedia*);

***Also.....***

- A technical standard can be a controlled **artifact** or similar formal means used for calibration.



Nairobi, Kenya, 26 – 27 July 2010





## 3.2 What are Safety Standards?

**Safety Standards** are set to ensure safety of people, animals and environment when equipment or network is in operation or when idle. These standards deal for example with:

- *Insulation requirements for equipment*
- *Maximum exposure levels (occupational and general public)*
- *Shielding requirements ( domestic /workplace)*
- *Maximum emission limits ( e.g. SAR)*



Nairobi, Kenya, 26 – 27 July 2010





### ***3.3 The Interoperability & Performance Standards***

- These are standards that deal with specifications for connectivity between devices and there performance: -
  - *They can define physical layer characteristics of connectors, electrical levels even size of connectors;*
  - *They also state the performance requirements of various pieces of equipment.*



Nairobi, Kenya, 26 – 27 July 2010



## 3.4 Categories of Communications Equipment

### (i) Terminal equipment:

- *Any communication equipment at user side of the communication network infrastructure is categorised as terminal equipment; ..... for fixed network the boundary is the line jack and for wireless interface the boundary varies depending on the type of technology.*

## ***3.4 Categories of Communications Equipment (2)***

### **(ii) Network Equipment:**

- *The network equipment includes switches, Access Points, Base Stations, transmission equipment etc.*
- *This does not include passive equipment (ducts, batteries, towers, etc).*



Nairobi, Kenya, 26 – 27 July 2010



## ***4.0 Importance of Equipment Standardisation***

### **□ Electrical & Electromagnetic Safety:-**

- National Electrical Standards; e.g. 220/240 VAC, 50/60Hz Power Supply for Tanzania;
- International Electromagnetic Compatibility Standards

### **□ Minimises Equipment Interference:-**

- Operation within Limits of Standardised Parameters

### **□ Facilitates Equipment Interoperability:-**

- Equipment Connected to Public Networks need to Inter-work Over Standardised Protocols



Nairobi, Kenya, 26 – 27 July 2010



## 4.0 Importance of Equipment Standardisation (2)

To Ensure the equipment comply with specific standards in respect to electromagnetic compatibility (EMC):-

- *Does not emit spurious signals and emissions exceeding some permitted levels; and*
- *operates under some low levels of electromagnetic fields*

Facilitates effective monitoring of QoS/QoE performance.



Nairobi, Kenya, 26 – 27 July 2010



## 5.0 The Situation in Tanzania

- All network communications equipment with interfaces to other network and/or terminal equipment are subject to **type approval** process;
  - *Type Approval is a process whereby a submission is made to the Authority to check if an equipment conforms to standards applicable in the country. Once that is confirmed a certificate is issued. And the equipment is said to be type approved. However if the equipment does not conform to the standards the application is rejected.*



ii, Kenya, 26 – 27 July 2010



## ***5.0 The Situation in Tanzania (2)***

- In the year 2007/8 the Authority conducted a Survey on available Communications Equipment countrywide;
- A total of 726 vendors were Surveyed;
- The Report (*not published*) showed: -
  - *Most of the Equipment in the market were not Type Approved by the Authority;*
  - *64% of the Vendors were Selling Mobile Phones;*



Nairobi, Kenya, 26 – 27 July 2010





## 5.0 The Situation in Tanzania (3)

### ■ The Report (*not published*) showed :-

- *NOKIA brand led in counterfeit products followed by SONY on TV and DVD/CD players;*
- *Counterfeit Equipment had Fabricated Labels attached to them (Brand Names, S/N, etc);*
  - *The Labels could not guarantee quality and authenticity of the equipment;*
- *One could key in \*#92702689# for phone's "Life Timer" (NOKIA brands);*

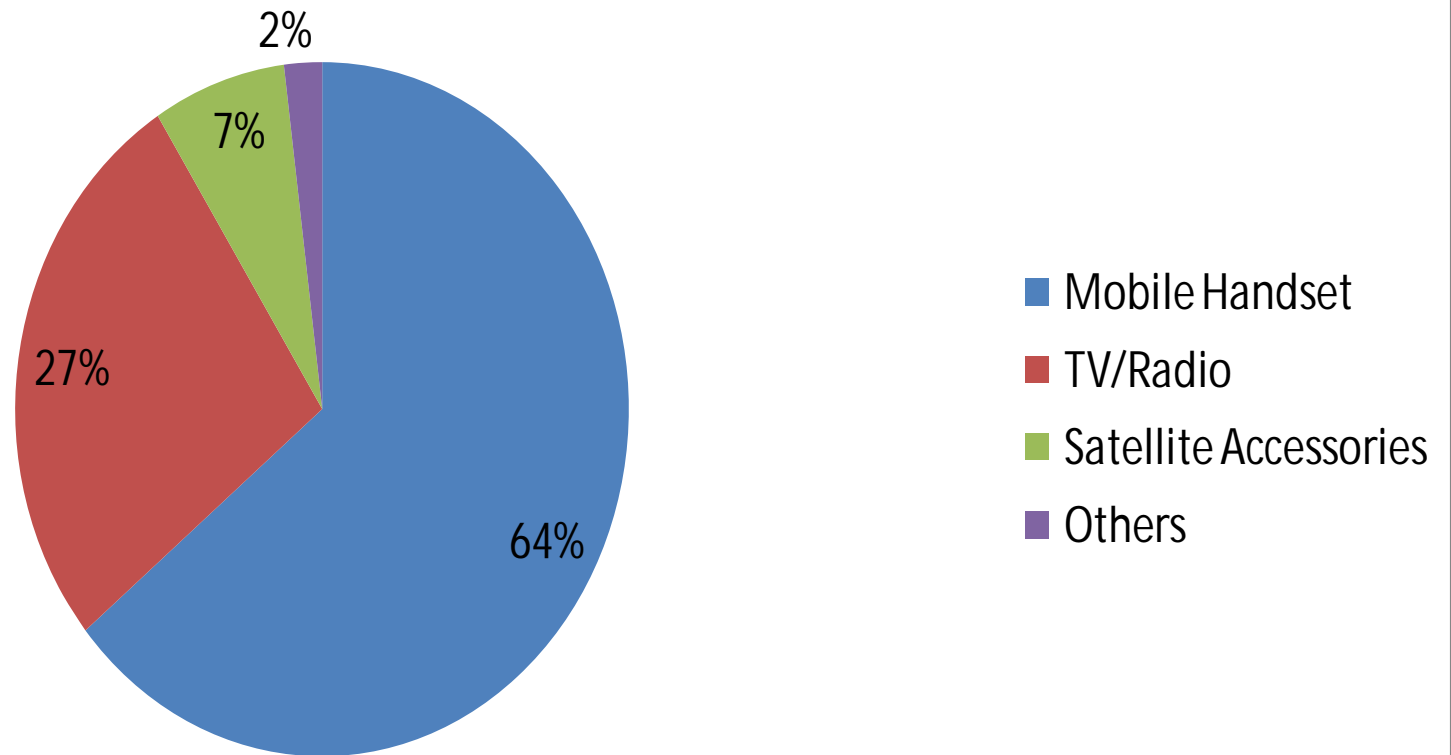


Nairobi, Kenya, 26 – 27 July 2010



## 5.0 The Situation in Tanzania (4)

Communications Equipment Market Share



## ***5.0 The Situation in Tanzania (5)***

### **After the Survey, as Enforcement strategies ...**

- Early this year a new Law (The Electronic and Postal Communications Act No. 3/2010) was enacted;
  - Empowers the Authority to establish Technical Standards for any Equipment to be Connected to any Public Network;
  - Makes it Mandatory to Type Approve any Communications Equipment to be connected to any Public Network;
  - Empowers the Authority to undergo Equipment Certification Process, including Testing of such Equipment;
  - Makes it illegal to sell any Communications Equipment without WARRANTY.



Nairobi, Kenya, 26 – 27 July 2010



## 5.0 The Situation in Tanzania (6)

### After the Survey, .....

- The Authority has implemented an Online Type Approval Process in order: -
  - *To Stream line Application Process;*
  - *To Ensure Efficient Processing of Applications;*
  - *To Provide Online Certification; and*
  - *To Provide Electronic Type Approval Labels.*

The system is at a Testing stage.



Nairobi, Kenya, 26 – 27 July 2010



## 5.0 The Situation in Tanzania (7)

### After the Survey, .....

- The Authority embarked on a process of implementing a Type Approval Laboratory (**TAL**) Project;
- The **TAL** will provide:
  - *Local Equipment Testing Facilities;*
  - *Capability to verify Equipment Specifications;*
  - *Collaborative avenue with other Equipment Certifying/Accreditation Bodies in the world;*



Nairobi, Kenya, 26 – 27 July 2010



## 5.0 The Situation in Tanzania (8)

Further, the **TAL** will .....

- *Serve as a way of implementing the ITU-T **WTSA-08** (Johannesburg) **Resolution 76** (Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU mark programme);*
- *be used to do spot check for imported communications equipment not only in the country but also in the East African Region; and*
- *Help to reduce counterfeit Communications Equipment in the country and therefore maintain better **QoS** and **QoE**.*



Nairobi, Kenya, 26 – 27 July 2010



## *5.0 Challenges*

- User Awareness and Low purchasing power lead to opting for low quality (mostly counterfeits) communications equipments;
- Establishing a **TAL** is an expensive undertaking; and
- Leaky entry points.



Nairobi, Kenya, 26 – 27 July 2010





## ***6.0 Concluding Remarks***

- Equipment standards play an important role towards achieving overall quality of services as perceived subjectively by end users;
- Standards are important to ensure not only consistent performance of communications networks, but safe operations of communications equipment and value for money to end users;
- At National level, Tanzania through **TCRA** would wish to keep equipment standards at acceptable quality levels.



Nairobi, Kenya, 26 – 27 July 2010



# E- Contact

[kilaba@tcra.go.tz](mailto:kilaba@tcra.go.tz)



Nairobi, Kenya, 26 – 27 July 2010

