



THE **Regulator**

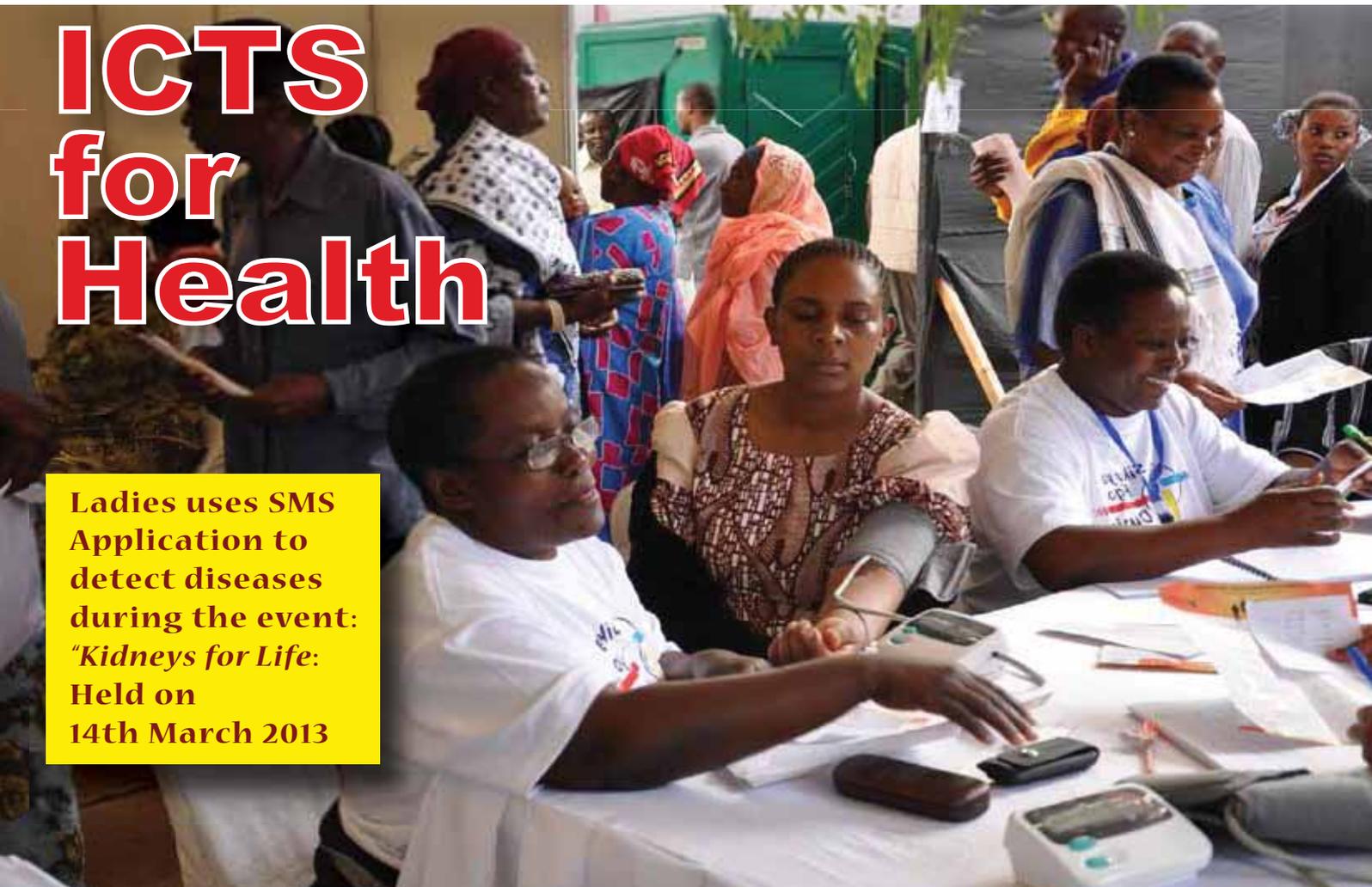
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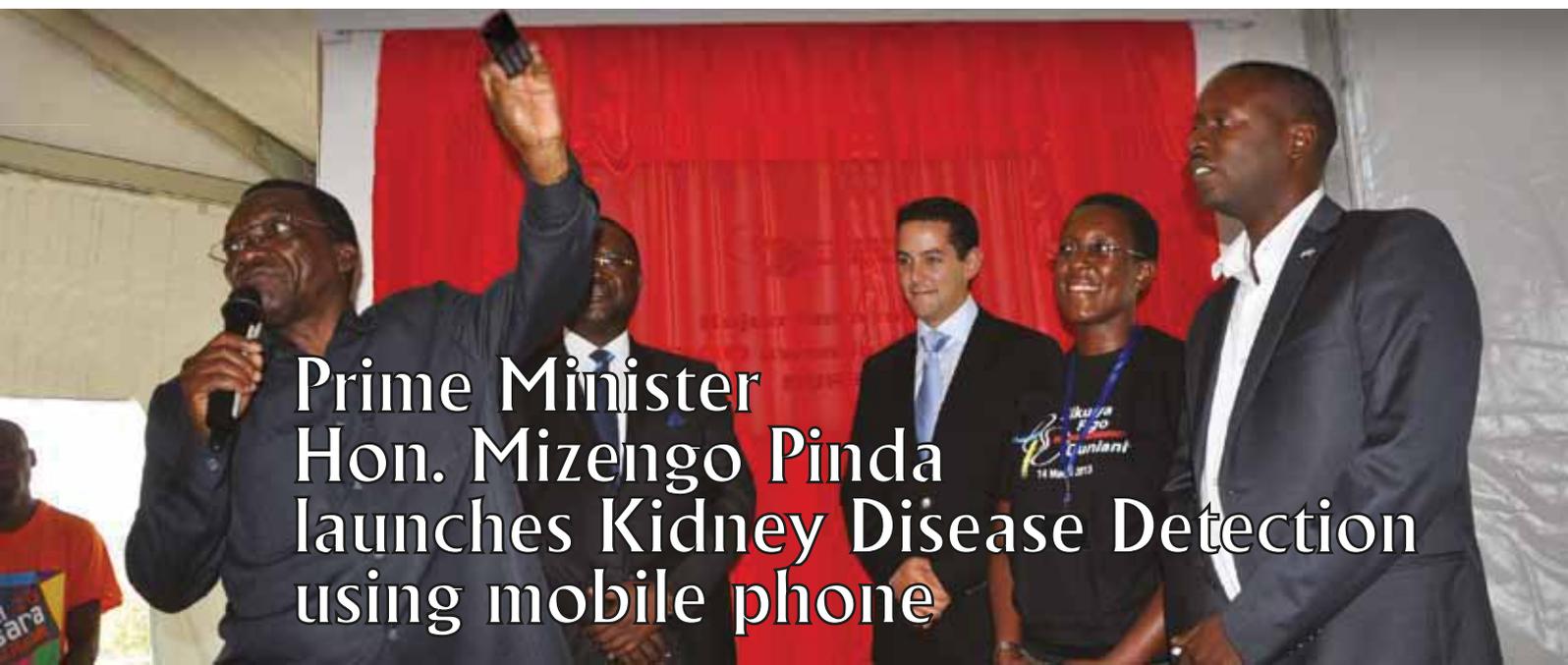
QUARTELY MAGAZINE OF TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

ICTS for Health

Ladies uses SMS
Application to
detect diseases
during the event:
"Kidneys for Life:
Held on
14th March 2013



Prime Minister
Hon. Mizengo Pinda
launches Kidney Disease Detection
using mobile phone





MAMLAKA YA MAWASILIANO TANZANIA

MWONGOZO WA KUWASILISHA MALALAMIKO



**Wasilisha Malalamiko kwa Mtoa Huduma
(Kampuni ya simu, Posta, Wasafirisha
vifurushi, Televisheni, Redio, n.k)**

Endapo hujaridhika



**Wasilisha Malalamiko kwa
Mamlaka ya Mawasiliano Tanzania
(TCRA)**

Endapo hakuna suluhu katika hatua ya pili



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ya Mamlaka ya Mawasiliano Tanzania**

Endapo hujaridhika na maamuzi ya Kamati ya Malalamiko



**Kata Rufaa katika Baraza la Uamuzi wa Haki
(Fair Competition Tribunal)**

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Na ofisi zetu za Kanda: Arusha, Mwanza, Zanzibar, Dodoma, Mbeya na Dar es Salaam

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The Regulator is published quarterly by the Tanzania Communications Regulatory Authority (TCRA), and independent government agency established under the Tanzania Communications Regulatory Authority Act No. 12 of 2003 to regulate telecommunications, Broadcasting and postal sectors in Tanzania, TCRA became operational on 1st November 2003. The sector regulation is governed by the Electronic and Postal Communications Act No. 3 of 2010 (EPOCA)

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From the Director General's desk

SIMCARD REGISTRATION USING FALSE IDENTITY IS A CRIMINAL OFFENSE

1. The Tanzania Communications Regulatory Authority (TCRA) cautions the public that it is a criminal offence to register your Subscriber Identity Module, SIM-card- using false or fallacious identity. As a user of mobile phone services, you are advised to visit the office of your service provider or their agents for registration with your photo identity for verification. You are required to provide correct information. The Electronic and Postal Communications Act (EPOCA) of 2010, under section 131, stipulates that it is a criminal offence for any person who knowingly uses or causes to be used an unregistered SIM and shall be liable on conviction to a fine of five hundred thousand Tanzanian shillings (Tshs 500,000.00) or imprisonment for a term three months or both.

2. The Authority reminds the public that effective 1st June 2013, all new unused SIM cards were locked; they will only be activated upon registration and verification. Any body found using or enabling the user of unregistered SIM to facilitate communication is against the law (EPOCA) and if convicted will fall under the penalties stipulated in para 1 above. TCRA appeals to the general public to report to the relevant Authorities (Police, TCRA) anybody who buys or sells a SIM card and uses it without registering.

3. The Authority further reminds the communication users to check their registration status by, dialing *106# if you are using a GSM networks [Vodacom, Airtel, MIC (Tigo) and Zantel], or if you are

using a CDMA network [BOL, SASATEL, TTCL Mobile and Zantel Data] call 106 and follow instructions. The information provided should indicate your registration status. If the details are not correct, please visit office of your service provider or their agents for necessary amendments.

4. TCRA calls upon all users of mobile phone services who have not registered their SIM cards to register immediately! The general public is hereby informed that, as from 10th July 2013, all unregistered SIM cards which were in use disconnected. To re-activate disconnected SIM card, one has to go through registration and verification process.

5. Consumers and the public are hereby urged to support the on-going efforts to enforce SIM card registration. The success of SIM card registration will lead to enhancement of security, welfare of Tanzanians and the development of the communications sector.

6. SIM Card registration exercise is of multiple benefits like electronic money transfer services (sending and receiving money through mobile phones). Settlement of bills like buying of electric charges, payment of water bills and school fees.

7. A total of twenty-eight million SIM-cards have been sold to users of mobile phone services in the country (some users own more than one line). The total number of users of mobile phone is estimated to be Seven Million (17,000,000).

The potential customer is required to present any of the following photo identity documents:

- Passport
- National ID
- Voter ID
- Pensions, Social Security Fund ID
- Drivers License
- SACCOS ID
- Bank Card ID
- Work ID with signed Employer introduction letter
- Local Government introduction letter
- with certified photograph
- Birth certificate with photograph
- Zanzibar Residents ID
- Work ID

Tanzania Hosts Number Portability Forum

Eng. James M. Kilaba, TCRA reports on the international summit on mobile number portability (MNP) implementation and management held in Dar es Salaam on 15 and 16 November 2012

Number Portability in telecommunications means the ability to change service provider, service or location without changing your telephone number. It therefore implies that mobile number portability (MNP) is a service that allows subscribers to keep their numbers when changing from one mobile service provider to another.

The Tanzania Communications Regulatory Authority (TCRA) hosted and sponsored the Mobile Number Portability (MNP) International Summit that was organised by BSP Media Group of the UK and held in Dar Es Salaam from 15th to 16th November 2012. The objective of hosting the fifth International Mobile Number Portability Summit in our country was to provide an experience sharing forum as a preparatory process towards the anticipated launch of mobile number portability in Tanzania.

Opening summit, the Minister for Communication, Science and Technology Professor Makame M. Mbarawa (MP) urged participants to ensure that other related critical solutions like Carrier Selection and Central Equipment Identification Register (CEIR) in the mobile industry are timely implemented.

The summit attracted about 100 participants, with resource persons drawn from TCRA (Tanzania), Republic of Kenya (CCK), Number Portability of South Africa, Caughill-Palitz International Ltd, Laurasia (UK),

Reforcia (Sweden), Rabion Consultancy (The Netherlands), Porting XS, Mediafon (Lithuania), Telcodia and Interconnect Communications Consulting (UK).

Most of the Participants came from ICT key stakeholders in Uganda, Rwanda, Burundi, Democratic Republic of Congo and Tanzania. A communiqué was issued at the end of the workshop.

That Mobile Number Portability is a sensitive undertaking and will only be implemented once. It is therefore critical to get it done right at this very first time;

The role of the Regulator in ensuring the successful implementation and Management of MNP: by:-

Setting the framework for efficient and successful porting:

Simple, Quick, Cheap, Reliable
Set clear rules for fair competition

Overcome Technical, Process and Commercial issues

Provide leadership for implementation & direction

Driving public awareness and education on MNP

Developing aligned and effective communication messages.

The fact that telephone numbers have become personal to owners as a means of being contacted, communication hence it is important that they are able to preserve their unique numbers while making a choice of which service provider to use;

That MNP is an opportunity and operators can gain substantially;

That MNP does not necessarily affect the market shares or cause price competition but can cause a disastrous effect if and when competitors starts fighting price wars;

The need to have cost efficient Number Portability in Tanzania through appropriate benchmarking.

The need for continuous education and awareness to consumers so that they are informed in the MNP process and in turn will have confidence in porting.

That Tanzania MNP Clearing House shall be operated by an independent trusted and licensed third party;

That Tanzania has opted for a Direct Routing All Call Query with a Centralised approach as it allows for a single consistent ported number, this allows the operators to control their own numbers and it is flexible on further addition or deletions of operators;

The Regulator is keen in implementation of MNP in Tanzania and the process has so far involved consultative processes in making of legislation and regulations that are been followed by licensing a Clearinghouse Administrator, supervision of MNP programme and roll out activities and compliance and enforcement;

That there are other countries like South Africa where MNP Clearing House is jointly owned by the Mobile Operators through a company with equal shares among them;

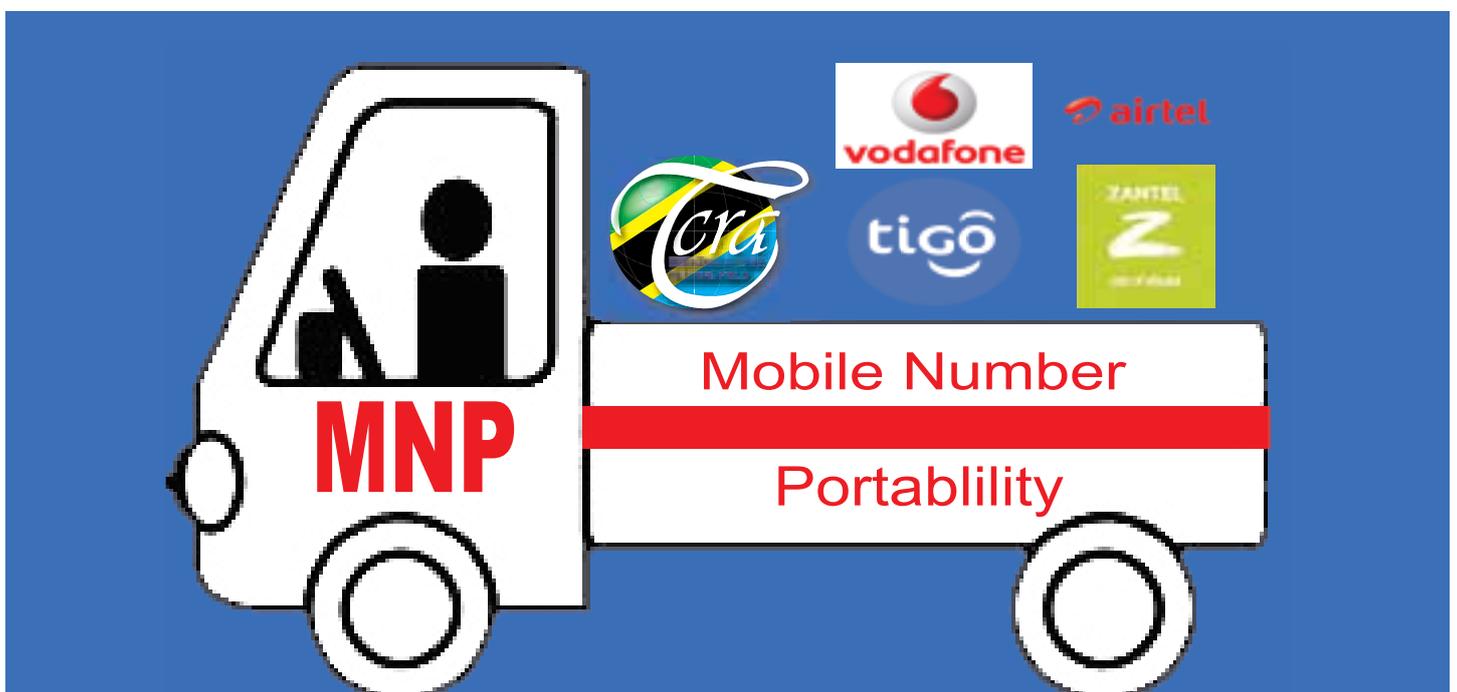
Operators need competing value proposition to attract subscribers and bundle MNP with a combination of suitable Product and Services targeted to appropriate segments;

Operators need to launch or enhance the loyalty Retention Programs;

All operators will also be recipients of customers from competitors hence MNP should not be seen as a threat but rather opportunity;

MNP is a tool that is used by the Regulator to foster competition leading to improvement of quality of service and stimulated innovations;

For the MNP to be successful the differences between the on-net and off-net tariff needs to



be negligible;

In some countries notably Ghana, the subscriber does not pay for the porting fee. The porting cost is borne by the recipient network;

The MNP Regulations in Tanzania stipulates Number Porting Approach, Solution and Conditions.

Mobile Number Portability specifications in Tanzania need to be issued so as to guide the operators;

The Regulator and operators in the country play their respective roles to ensure the

Mobile Number Portability is successfully implemented and managed in Tanzania using the published Electronic and Postal Communications (Mobile Number Portability) Regulations, 2012;

In implementing the MNP in Tanzania, the Regulator need to address the issue of tariff transparency including possibility of retrieval of Mobile Banking Funds and review on interconnection rates so as to minimise the on-net and off-net tariff differences.

The summit was closed by the Permanent Secretary in the Ministry of Communication, Science and Technology Dr. Florens Turuka.





ICT'S for Health

A Lady uses a Mobile phone SMS Application to detect Kidney and Urinary Track Diseases during “Kidneys for Life: Stop Acute Kidney Disease” event under the National Kidney Foundation of Tanzania in Arusha on 14th March 2013.

Interconnection Rates Lowered

This article traces the history of interconnection determination in Tanzania and the process leading to the issuance of the determination of the latest interconnection rates, which are for first time, in Tanzanian shil-lings.

On 29th January, 2013, the Tanzania Communication Regulatory Authority issued Interconnection Determination No. 3 of 2013 which establishes cost based glide path of interconnection rates for five years effective 1st March, 2013. This determination re-replaces the interconnection determination No.2 of 2007 that provided a glide path of cost based interconnection rates from 1st January, 2008 to 31st December, 2012.

Interconnection rates

Many times, consumers fail to distinguish between interconnection charges and the price that they finally pay for making telephone calls (retail tariff). Therefore it is important at this point to clearly differentiate

between interconnection rates and retail tariffs. In brief, interconnection is a commercial and technical arrangement, whereby telecommunications network service providers connect or link their telecommunications networks to enable their customers to have access to the customers, services and networks of other service providers. Therefore, interconnection occurs in a multi-operator (competitive) market environment which entails more than one network providing services in the same geographical market. In a monopolistic market environment interconnection is not an issue because all consumers in a given

geographical market area are connected to a single network. Thus interconnection is a tool for enhancing competition in the provision of telecommunication services.

Interconnection rates or charges are the prices that telecommunications network operator's (mobile/fixed) charge for terminating calls or texts from other fixed or mobile networks. These rates or charges are referred to as wholesale prices because termination service is sold and purchased by Network operators rather than retail customers.



Interconnection Regulatory framework in Tanzania

The Tanzania interconnection regulatory framework requires all network service providers to interconnect their networks. This requirement is provided for

by the Electronic and Postal Communications (interconnection) Regulations, 2011. The Regulations oblige network services providers to interconnect with the network of any other network service licensee in the United Republic under a freely negotiated commercial and technical interconnection arrangement and submit signed interconnection agreements to the Authority for approval and custody.

The "Electronic and Postal Communication Act, 2010" gives mandate to the Authority to intervene and regulate all interconnection arrangements between network and service providers whenever

| |
|--|
| Retail tariff |
| 1st March 2013 * 34.92 |
| 1st January 2014 * 32.40 |
| 1st January 2015 * 30.58 |
| 1st January 2016 * 28.57 |
| 1st January 2017 * 26.96 |
| * Voice call termination rate in TZs |

operators fail to agree (market failure).

Background of interconnection in Tanzania

In Tanzania, interconnection charges started to apply when the government liberalized the communications sector and introduced competition in telecommunications sub-sector in 1993. Mobile telephone services providers were licensed to operate alongside the incumbent national fixed line telecom operator - Tanzania Telecommunications Company Limited (TTCL). Since then, more network service providers have been licensed, leading to more interconnection issues.

The first interconnection agreement was signed in 1994 between TTCL and the newly licensed mobile network operator MIC (T) limited, when they agreed to interconnect at a rate of US\$ cents 25 per minute. The same rate was agreed and used by two new licensed operators (i.e. Vodacom and Tritel). Market failure on interconnection arrangements occurred after a fourth operator Celtel (T) Limited (now Airtel) was licensed in 2001. Celtel wanted to interconnect at a lower rate of US\$ cent 10. The other operators did not agree, leading to regulatory intervention by determining rates. Since then the Regulator has made several interconnection determinations. However two previous determinations are worth mentioning.

The first is Interconnection Determination No. 1 of 2004. This was issued after a cost study by a consultant followed by a public inquiry. The determination provided a glide path of cost based interconnection rates in US\$ cents applicable from 1st August 2004 to 31st December 2007. This determination adopted asymmetric interconnection rates for mobile and fixed termination rates. Interconnection Determination No.2 of 2007 was issued in December, 2007. Unlike Determination No.1 of 2004, this had three distinct characteristics:

It adopted symmetrical (single) termination rates for mobile and fixed networks;

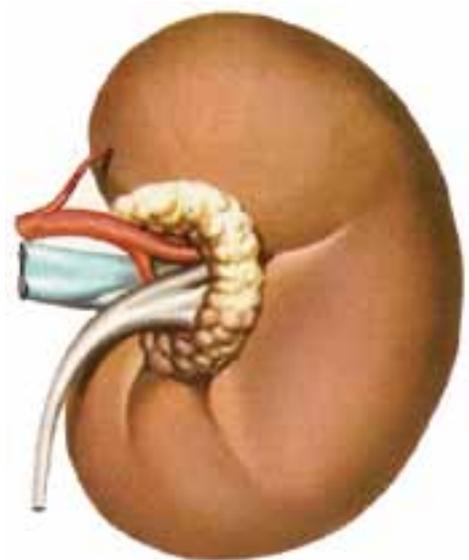
It provided a glide path for cost based interconnection rates for five years from 1st January, 2008 to 31st December, 2012;

Although the interconnection rates were issued in US dollars cents, settlement had to be made in Tanzanian shillings based on a weighted average exchange rate issued by the Authority before 1st January of each year of the glide path as provided by the Bank of Tanzania for the previous 12 months to 15 December of every year.

Interconnection Determination No.3

Interconnection Determination No. 3 of 2013 was issued by the Authority after market failure, a process which started way back in February, 2012. Network service licensee were required to negotiate and agree on the new interconnection rates effective 1st January, 2013. The Authority intervened after operators failed to agree on the way forward. TCRA engaged M/s Pricewater-houseCoopers LLP (PwC) of UK to carry out the interconnection cost study and advise the Authority on the appropriate new cost based interconnection rates. PwC was engaged after it emerged an overall winner out of six consulting firms, which expressed interest to undertake the assignment.

Based on recommendations of the Panel of Inquiry, the Authority issued Interconnection Determination No.3 of 2013 on 29th January, 2013. The interconnection rates became effective 1st March, 2013. Unlike previous determination, the interconnection rates in this determination are in TZS. The rates are tabulated below.



SMS Application For Kidney Disease Detection

Bahati was not well for about three months. She had undergone several medical tests at two dispensaries and the Temeke Municipal hospital but the results did not indicate what her problem was.

She then went to the Muhimbili National Hospital in Dar Es Salaam and was diagnosed with a kidney problem. After discussing with the doctor on the treatment she would have to follow, she was advised to check the health of her kidneys every month by using her mobile phone and come for follow up at the Hospital after three months. Her new monthly health routine can be done at her home without going to the hospital.

Now, after returning home from work, and relaxing on her sofa Bahati can use her Nokia phone to key in the determinant/variables of a formula for the kidneys' filtration rate. The variables include: age, gender, weight and the latest level of her blood creatinine.

Creatinine is a chemical that is generated once food is broken down, which is then removed by the kidneys. In the event the kidneys do not function creatinine rises, the stage of kidney disease increases from one to five and patients manifest symptoms and signs of kidney failure to a point that they require dialysis or a kidney transplant which is stage 5.

Based on the value of kidney filtration rate, Bahati is then staged as per chronic kidney disease classification and in so doing is able to know how she is faring. With the SMS

application, Bahati and other patients with kidney problems can be proactive and in control of determining the health of their kidney.

The above scenario is not imaginary. It is happening in Tanzania and not in Europe. This is a new development in the health and communications sectors in Tanzania. The SMS application for kidney disease detection was developed by the National Kidney Foundation Tanzania (NKFT) and UhuruOne (a National Application Services licensee) with TiGO providing the SMS platform for the application.

The other partners in the said application include Roche Pharmaceuticals East Africa and the National Kidney Foundation which provided the funding for developing the application.

The Kidney Disease Detection SMS Application was launched on 14 March, 2013 in Arusha by Hon. Mizengo Pinda, the Prime Minister of the United Republic of Tanzania.

Acute kidney disease is inadequately addressed in clinical education and training programmes, and largely neglected in public awareness and research programmes. The consequences are missed opportunities to mitigate risk, delayed diagnosis, poor management and increased lengths of hospital stay that contribute to spiraling health care costs. With the SMS application for kidney disease detection patients can easily check the status of their kidney. The launch of the new application was successful as it raised public awareness of kidney diseases and stimulated discussion, education and policy development leading to improved prevention and treatment of kidney disease across the country.

With the new SMS application, prevention and control of chronic kidney disease can be better addressed as the numbers of patients with failed kidneys reporting to hospitals is rising alarmingly.

How Safe are Mobile Phone Base Stations?

A report on measurements of electromagnetic fields exposure from mobile phone base stations
by Dr. Ally Y. Simba and Dr. Joseph S. Kilongola



Abstract—This paper presents measured electromagnetic field exposure from mobile phone base stations in 65 site locations accessed by the general public in Tanzania. The aim of the exercise was to compare the exposure levels obtained in these areas to the levels to safety limits recommended by the ICNIRP guideline.

We first investigated the dependence of the measured results on time and used the appropriate parameters in the actual measurements.

The maximum values of total E-fields exposure obtained in GSM 900, 1800 and W-CDMA bands were 8-, 6- and 10-% of the ICNIRP guideline. The values confirm that the field levels in public areas are below the recommended international safety limits.

Keywords—general public; E-field, down link, frequency band; ICNIRP guideline; GSM, W-CDMA.

Introduction

A rapid increase in the use of mobile phones, resulting in massive deployment of mobile base station antennas needed to support capacity and coverage, has increased public concern on the possibility of adverse health effects of the exposure to radio frequency (RF) electromagnetic radiation.

However, it should be noted that, these base stations are installed in such a way that their RF exposures comply with appropriate international safety standards and regulations currently available, including the International Commission on Non-Ionizing Radiation Protection (ICNIRP) [1] and IEEE standards [2].

The best approach recommended is to carry out a compliance test before a

base station is put into service. However, this is not currently done in Tanzania. As a result, it is important to assess the exposure by measuring E-fields in areas accessible by the general public when the base stations are already in operation in order to assure the public that the field levels they are exposed to are within the safety limits recommended internationally. To that effect, several international standards for evaluation of human exposure in the vicinity of communication towers have been developed. These standards include IEC 62232 [3], ITU-T standard K.61 [4] and ITU-T standard K.91 [5]. In this paper, we first investigate the time dependence of the measured signals and then choose the measurement time for actual measurement of the exposure in various locations. The maximum values obtained are compared to the ICNIRP guideline levels for compliance.

Measurement Time

Exposure from mobile phone base stations depends on traffic at the time of measurement. Therefore, if most conservative evaluation is needed, a long measurement time might be required to find the largest electromagnetic radiation intensity. It is therefore important to study the effect of measurement time on the measured E-fields.

The current time recommended by the ICNIRP is 6 minutes, for frequency between 100 MHz and 10 GHz. The possibility of using shorter measurement time to reduce time complete measurement is necessary, especially for the case where many measurements have to be taken as in the case presented in this work. This subsection looks in to time dependence of the measured E-fields.

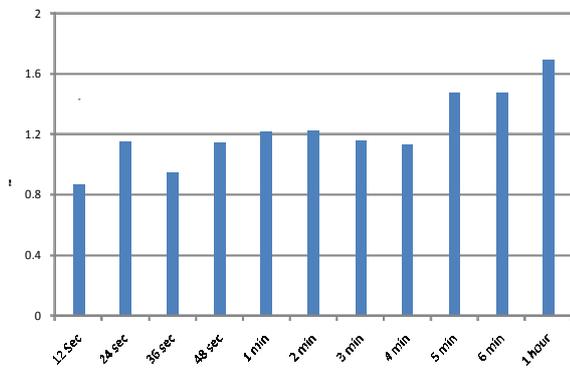


Fig. 3. Standard deviation as a function of measurement time for base station 1

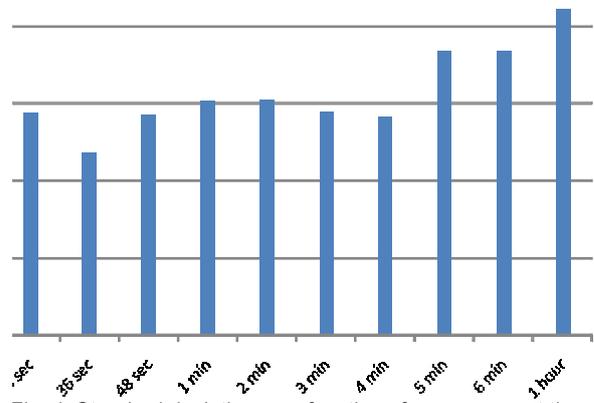


Fig. 4. Standard deviation as a function of measurement time for base station 2

A. Device

We used Narda Selective Radiation Meter, SRM 3006 for measurement presented in this paper [6]. This equipment is connected to isotropic (probe) antenna, which is capable of receiving signal in all directions. The antenna used has a range of 27 MHz to 2.9 GHz. SRM 3006 is connected to 5 metres long coaxial to eliminate the effect of the person taking measurements.

B. Measurement Configuration

We carried out measurements at 1800 MHz band for in situ measurement for two GSM mobile phone base stations, referred to as base stations 1 and 2. A SRM-3006 meter was located at the balcony in the second floor of a building and connected to the antenna using a 5 metres long coaxial cable, with the antenna fixed at the height of 1.5 metres from the ground using a wooden stand as shown in Figure 1.

The distances between the measurement location and the base stations 1 and 2 were about 630 and 750 m, respectively, with a clear line of sight (LOS). Figure 2 shows the GSM base station 1, located at 630 m from measurement point. The two base stations investigated belong to different service providers. Each of the service providers has a downlink frequency band of 12.5 MHz. All measurements were taken with the isotropic probe fixed at the height of 1.5 m from the floor. Total fields were obtained by integrating E-fields in the downlink frequency band. We set result type of the Narda equipment to actual. Since GSM uses a channel spacing of 200 kHz, a resolution bandwidth of 200 kHz, which is sufficient to resolve the spectrum into individual channels, was used.

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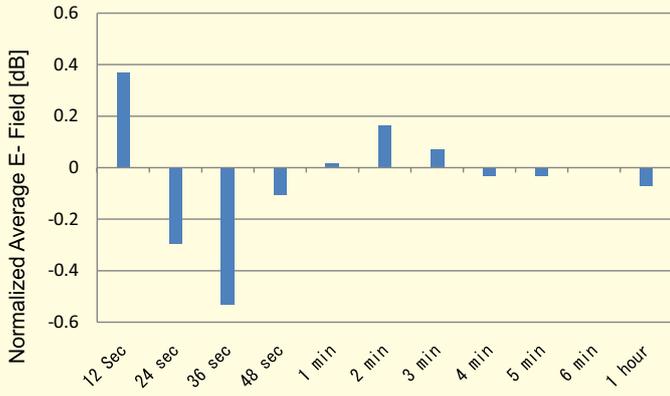


Fig. 5. Time average E-fields of base station 1 normalized to the value of the 6 minutes measurement time.

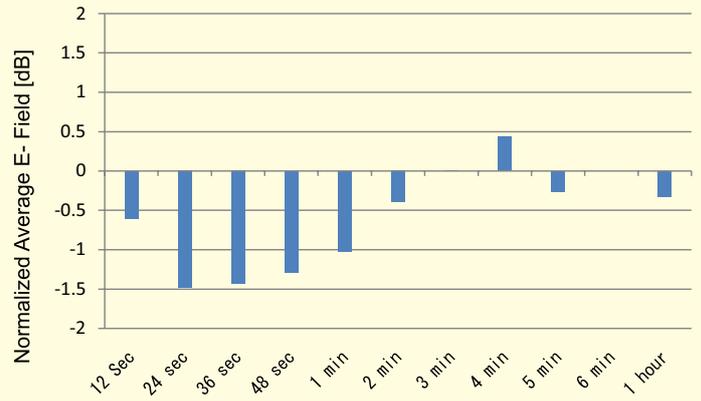


Fig. 6. Time average E-fields of base station 2 normalized to the value of the 6 minutes measurement time.

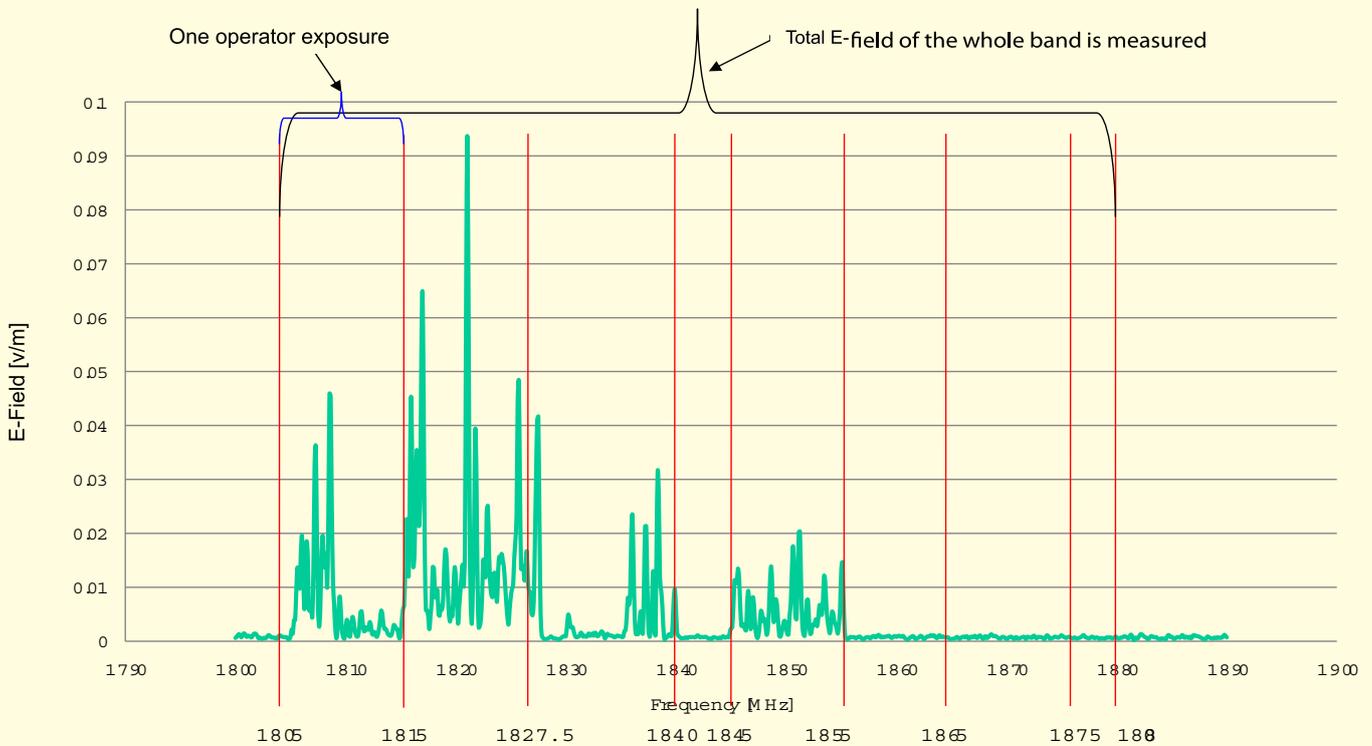


Fig. 7. RF exposure from base stations of 8 operators at GSM 1800 frequency band at a given site location. The down link frequency band for GSM 1800 is 75 MHz.

Table I: ICNIRP EMF safety limits for different frequency bands. Frequency indicated are the down links according to the Tanzania frequency band allocation, and the ICNIRP levels were calculated based on the upper frequency in each band.

| Frequency Band (MHz) | Application | ICNRP maximum E-Field [V/m] |
|----------------------|-------------|-----------------------------|
| 930 - 960 | GSM 900 | 419 |
| 1805 - 1880 | GSM 1800 | 58.4 |
| 2110 - 2170 | W-CDMA | 61 |

During the measurement from 12 sec to 6 min, the time interval of the measurement was set at 6 sec. For measurement of 1hour result, 1-min time-interval was employed.

Results and Discussions

Figure 3 and 4 shows the standard deviation for different measurement times for two different base stations. The results show that the maximum standard deviations of 1.7 and 5.1 dB, respectively, were obtained for measurement time of up to 1 hour. The standard deviation obtained is in same range with the values obtained using W-CDMA shown in [7]. We observed that the Standard deviation in Figures 3 and 4 are of similar values for measurement time of up 4 minutes (except for 12 sec value in Figure 4) for both base stations. A sudden increase in the standard deviations for 5min, 6 min and 1 hour is observed. A Standard deviations exceeding 3 dB was obtained for signal from base station 2.

Fig. 8. Maximum E-field measured in different regions at GSM 900 frequency band. The solid blue line indicates the safety limit of exposure for this exposure

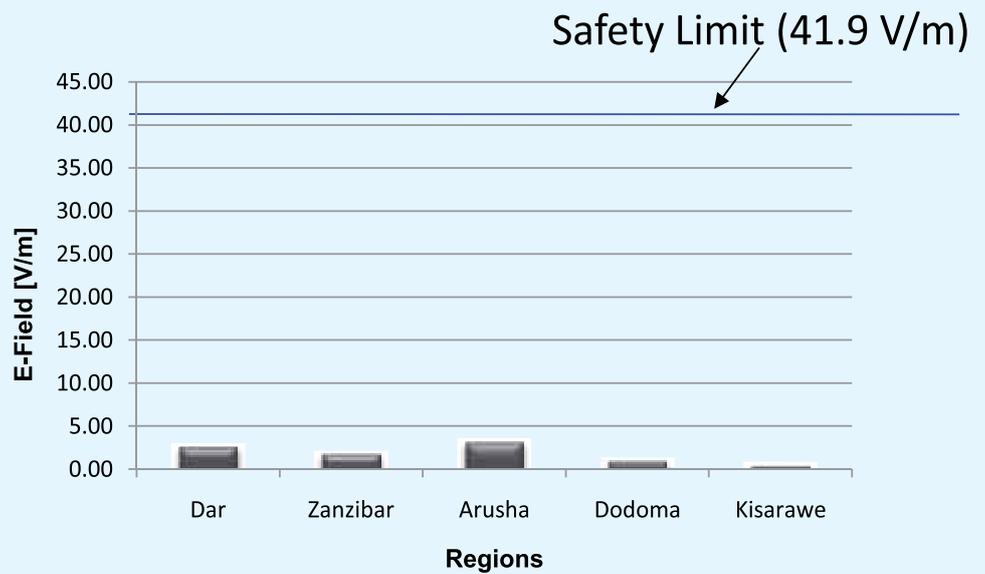
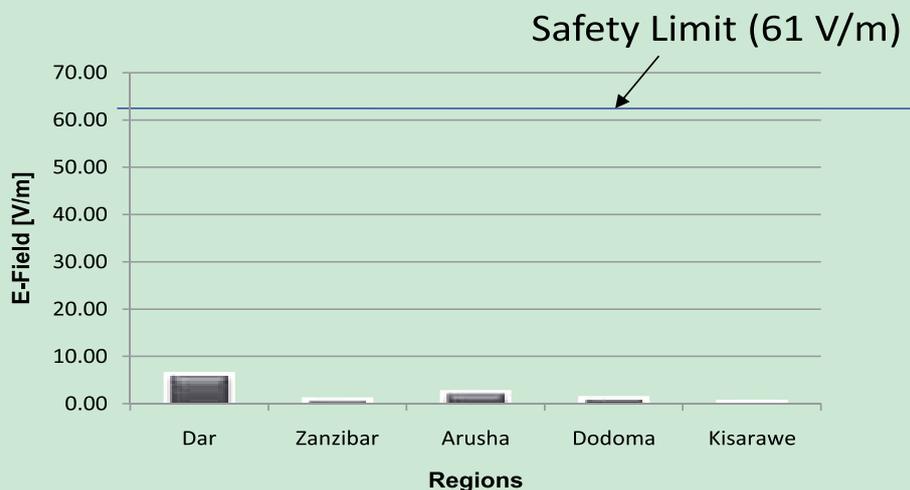


Fig. 9. Maximum E-field measured in different regions at GSM 1800 frequency band. The solid blue line indicates the safety limit of exposure for this frequency

Fig. 10. Maximum E-field measured in different regions at W-CDMA frequency band. The solid blue line indicates the safety limit of exposure for this exposure



The time average E-fields of the two base stations are shown in Figures 5 and 6. The values are normalized to the average value obtained for 6 minutes measurement time. The maximum average E-fields variations (Max – Min) are 0.9 and 1.9 dB for base station 1 and 2, respectively.

Actual Measurements of E-Fields Exposure

Measurement Consideration

In this work, measurements were divided into several frequency bands based on application as shown in Table I. For each location, the total sum of E-fields from all operators' base stations in a given frequency band was measured. This can easily be achieved by using integration function provided in Narda 3006 radiation meter. The total exposure is preferred over exposure from single base station in order to obtain conservative measurements.

Figure 7 shows the exposure at a location served by more than one base station.

Measurement Conditions

During measurement the following equipment settings were used; Resolution bandwidth (RBW) of 200 kHz, measurement was set to maximum and data were recorded manually for a measurement time of two minutes. At each site location, antenna was fixed at 1.5 metres above the ground.

Site Locations

The sites locations for measurements were chosen by considering areas with possibility of high levels of radiation, i.e., many base stations in the area and areas considered to be sensitive such as schools and hospitals. Measurements

results presented in this report were obtained from three regions in mainland Tanzania, namely Dar es Salaam, Dodoma and Arusha and few sites in Kisarawe, Coast region, and Unguja in Zanzibar. In Dar es Salaam, a total of 15 site locations were identified and measured. Twenty site locations were measured in Arusha, 14 in Dodoma, one in Kisarawe, and fifteen in Unguja. In total, measurements were conducted in 65 site locations.

Results

Figures 8 to 10 show the measured E-field levels for GSM 900, GSM 1800 and W-CDMA. The levels are the maximum value obtained for each region. It was noted that all of the maximum values were obtained in the areas around city centres. This is expected because in the areas around city centres there are many users, implying more traffic and more base stations to meet the capacity demand. Furthermore, the table indicated the safety limit value which must not be exceeded.

Table II summarises the maximum E-field levels obtained in the whole exercise. They are compared with safety limits recommended by the ICNIRP levels, i.e., reference values. Results show that the maximum values of E-fields for GSM 900, GSM1800 and W-CDMA were below 8-, 7- and 10-% of the ICNIRP reference levels.

Conclusion

In this paper we have investigated the effect of time on the measurements of mobile phone base stations based on two mobile phone base stations and conducted measurement of E-fields in 65 locations in Tanzania mainland and Zanzibar.

For the time dependence, it was observed that between 12 seconds and 6 minutes, (six minutes being the recommended time in ICNIRP guideline), the standard deviation of the measured E-fields were below 3 dB and the maximum difference between the obtained values was less than 2 dB.

In the case of actual E-fields measured, measurements were conducted in 65 site locations. The results obtained were below the safety limits recommended by the ICNIRP guideline. It was observed that the exposure levels obtained were very small compared to the international safety standards.

In the future, we plan to carry out investigation on the dependency of E-fields and distance from base stations. This is an area with a lot of public interest as more base stations are placed near homes. Also, long time measurement will be studied and E-fields measurements in other regions conducted.

Table II: Maximum E-fields levels for GSM900, 1800, and W-CDMA obtained in measurement exercise conduct in four regions in Tanzania. All values are below ICNIRP reference levels.

| Frequency Band | Max. Exposure [V/m] | ICNIRP safety Limit E-Field [V/m] | Exposure ratio over ICNIRP [%] |
|----------------|---------------------|-----------------------------------|--------------------------------|
| GSM 900 | 3.14 | 41.9 | 7.5 |
| GSM 1800 | 3.74 | 58.4 | 6.4 |
| W-CDMA | 6.02 | 61 | 9.9 |

Acknowledgment

A part of the results presented in this paper was taken from the report of the work of the Committee formed by TCRA and Tanzania Atomic Energy Commission (TAEC) to assess E-field levels in Tanzania. The Authors would therefore like to thank all members of the EMF Assessment Committee.

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TCRA Committee Sanctions Three Radio Stations

By Eunice Mabagala, Senior Broadcasting Affairs Officer, TCRA

The Tanzania Communications Regulatory Authority (TCRA) Content Committee has imposed various sanctions, including suspensions, on three radio stations for violating broadcasting regulations. The TCRA Content Committee suspended Imaan FM Radio of Morogoro and KwaNeema FM Radio of Mwanza for six months and fined Dar es Salaam based Clouds FM Radio five million shillings in February this year.

Clouds FM was also ordered to remove a segment of their morning power Breakfast show, known as Jicho la ngombe (bull's eye) because its contents contravened broadcasting regulations.

Radio Imaan FM, which broadcasts from Morogoro was found to have broken broadcasting rules and regulations by urging Muslims to boycott the 2012 National Census. KwaNeema FM was found to have violated the Tanzania Broadcasting (Content) Regulations, 2005 by broadcasting its "KwaNeema Bishop Mpemba" programme on July 13, 2012, August 20, 2012 and August 21, 2012 at 9 pm.

The committee suspended KwaNeema FM Radio for six months and issued a stern warning to the station. The station also ordered to state in writing that it would not commit such an offence again. The committee said in a statement that it would swiftly revoke the station's license if it broke the law and violated broadcasting regulations again.

Clouds FM was found to have contravened broadcasting regulations in the topic and discussions aired in the "Jicho la Ng'ombe" segment of its "Power Breakfast" programme on January 21, 2013.

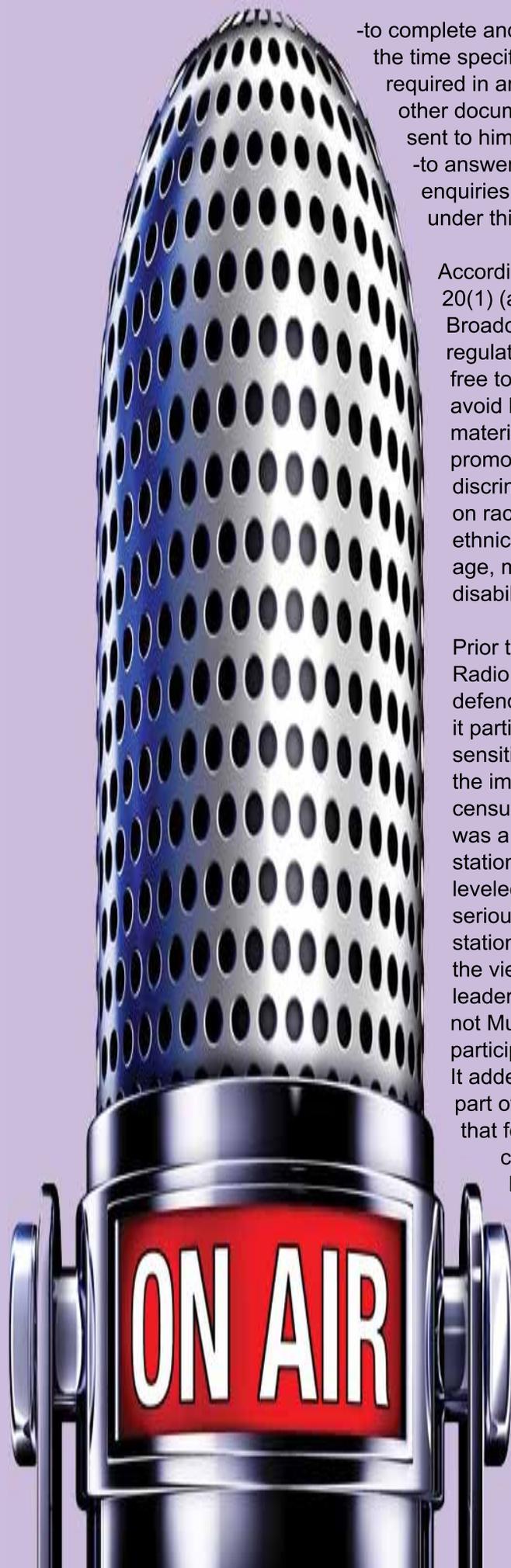
TCRA investigated Radio Imaan FM after the station was accused of violating the law and broadcasting regulations through its "Kidokezo" programme aired in the morning of June 12, 2012.

The Authority was satisfied that Radio Imaan FM had acted contrary to clauses 14(1), 27(3) (a) and (b) and (1)(2) of the Statistics Act, 2002 and regulations number 5(a) (d) (h) and 20(1) (a) of the Tanzania Broadcasting (Content) Regulations, 2005 by calling on Muslims to boycott the census.

The committee began its work in October 2012 and was inaugurated by the Minister of Information, Youth, Culture and Sports Dr. Fenella Mukangara (MP) on December 4, 2012.

The relevant sections in the Statistics Act, 2002 are 14(1), 27(3) (a) and (b) and (1)(2). They state that:

- The President may, by order, direct a population census to be taken in the whole country or any part of the country so the order may specify....
- Any person who hinders or obstructs any authorized officer in the lawful exercise of any powers imposed or conferred upon him or her under this Act refuses or willfully neglects...



-to complete and supply within the time specified the particulars required in any return, form or other document left with or sent to him or her; or
-to answer any question or enquiries put or made of him under this act...

According to section 20(1) (a) of the Broadcasting (content) regulations, 2005, Every free to air licensee shall avoid broadcasting material which promotes or glamorizes discrimination based on race, nationality ethnicity, origin, religion, age, mental or physical disability”

Prior to the ruling, Radio Imaan FM defended itself, saying it participated fully in sensitizing Muslims on the importance of the census, which, it added, was a big success. The station said allegations leveled against it were serious, adding that the station merely reported the views of Muslim leaders on whether or not Muslims should participate in the census. It added that this was part of the debate that followed a report carried by Tanzania Broadcasting Corporation (TBC), which said Muslims constituted 44 percent of Tanzania’s population, with Christians making up 56 percent. Radio Imaan FM said TBC broadcast the report on April 26, 2012.

But in a recording of “Kidokezo” programme in which some listeners called in and made it was clear that the callers said they would not participate in the census.

The committee informed Radio Imaan FM that the Statistics Act, 2002 does not allow people to debate on whether or not to participate in a census and that everybody was required to make himself or herself available to be counted. The committee was of the view that to use a radio programme as a forum in which people debate on whether or not to participate in a census amounted to violating the Statistics Act, 2002 and of the Tanzania Broadcasting (Content) Regulations, 2005.

The committee said it had become the norm for Radio Imaan FM to broadcast live programmes in which contributors were not guided in accordance with existing regulations. The station eventually admitted it had erred and promised that such transgression would not be repeated.

The committee suspended Radio Imaan FM for six months and issued a stern warning to the station, which was also required to state in writing that it would not repeat such an offence. The committee said it would not hesitate to revoke the station’s license if it broke the law and violated broadcasting regulations in the future.

KwaNeema FM Radio was punished for violating the Broadcasting (Content) Regulations, 2005. It had aired a programme on Christians’ and Muslims’ right to slaughter animals for public consumption. This amounted to incitement contrary to regulations number 5(a),(d) and (h) and 15(c) of the Tanzania Broadcasting (Content) Regulations, 2005.

The section states:
Every licensee shall insure that the programme and its presentation Upholds national sovereignty, national unity, national interest, National security and Tanzania’s economic interests
Upholds public morality
Does not incite or perpetuate hatred or vilify, any group or persons on the basis

of ethnicity, race, gender, religion or disability

It further states that Every free to air licensee shall take particular care to avoid blasphemy and take into account cultural and religious sensitivities.

This regulation requires every holder of a broadcasting license to make sure that their programmes and their transmission take into consideration national security and unity and the

of the view that whoever feels that the Constitution is inadequate in any way should follow the laid-down procedure to seek a review instead of using a broadcasting medium to carry out debates that could lead to conflicts and a breakdown in law and order,” the committee ruled.

Regarding Clouds FM radio, the committee ruled that the station’s presenters had, in bad taste, concentrated on homosexuality when discussing a clergyman’s

avoided; taking into consideration the fact that it was mentioned by a religious leader during Mr. Obama’s inauguration.

The station said the remarks were a talking point on the internet, and that its presenters were merely discussing a topical issue. The Content committee is constituted under Part IV, Article 26 (1) ,(2) of the Tanzania Communications Regulatory Authority (TCRA) act No. 12 of 2003 as amended in section 173(a) of the Electronic and Postal Communications Act,(EPOCA) of 2010.

The committee is composed of not more than five members. Four are nominees of the Minister responsible for the broadcasting sector, and its chair-man is appointed from among the members of the TCRA Board of Directors.

According to section 5 and 6 of the TCRA Act of 2003, the powers and functions of the Committee are to: advise the sector Minister on Broadcasting Policy; monitor and regulate Broadcast Content; handle complaints from operators and consumers; and monitor broadcasting ethics compliance.

The laws says that TCRA may determine the functions of the committee which shall include the carrying out of functions in relation to: matters that concern the content of anything which is or may be broadcast or otherwise transmitted by means of electronic communications networks; and The promotion of public understanding of awareness of matters relating to the publication of matter by means of the electronic media.

The Electronic and Postal Communications Act, 2010 empowers TCRA, acting upon recommendations of the Content Committee, to make rules on content related matters.



country’s economic interests; abide by generally accepted national ethics and do not incite hatred or promote the belittlement of individuals or communities based on their skin color, tribe, sex, religion or physical attributes.

KwaNeema FM Radio stated in its defense that the right to worship without breaking the law was enshrined in the Constitution of the United Republic of Tanzania. It said Tanzanians should embrace tolerance.

The committee contended that KwaNeema FM Radio , which had been provided with a license to inform, educate and entertain the public, had turned itself into a forum that promoted discord among followers of different faiths by urging Christians not to eat the meat of animals slaughtered by Muslims. “On KwaNeema FM’s Radio argument about what the Constitution says, the committee is

remarks during the inauguration of US President Barack Obama.

“The committee was satisfied that the topic aired by Clouds FM Radio in the ‘Jicho la Ng’ombe’ segment of its ‘Power Breakfast’ programme was not appropriate. The presenters gave undue prominence to homosexuality, thus corrupting morals, contrary to regulation number 5(b),(c),(d) and (g) of the Tanzania Broadcasting (Content) Regulations, 2005 as stated above,” the committee’s statement said.

The committee directed the station to desist from presentation styles that contravene broadcasting regulations and directed the station’s management to warn presenters who were fond of inappropriate topics.

Earlier, Clouds FM Radio said in its defense that the issue of homosexuality could not be



MASUALA MUHIMU YA KUZINGATIA KABLA NA WAKATI WA KUTUMIA HUDUMA ZA MAWASILIANO

Kuwa makini wakati unachagua mtoa huduma

Kabla ya kuamua kujiunga na huduma fanya utafiti wa taarifa linganishi kuhusu bei, ubora wa huduma na upatikanaji huduma hiyo mahali unapoishi.

Unaweza kufanya utafiti kwa kupata taarifa linganishi, kutembelea ofisi za mtoa huduma, kusoma machapisho ya watoa huduma, kutembelea wavuti wa mtoa huduma au kuuliza wanaotumia huduma hizo kwa wakati huo.

Soma mkataba na maelezo ya utoaji wa huduma

Mteja wa huduma yoyote ya mawasiliano, ni vema akasoma maelezo ya masharti na taratibu za utoaji wa huduma zikiwemo gharama na wakati wa kulipia. Maelezo haya mara nyingi yanaambatanishwa na kifaa au fomu ya kujisajili.

Pale ambapo vipeperushi vinasema “Vingizo na masharti kuzingatiwa,” ulizia kwa kina upewe hivyo vigezo na masharti yenyewe kabla ya kujiunga na huduma.

Kuwa makini unaponunua vifaa vya mawasiliano

Mteja anashauriwa kuwa makini sana wakati wa kununua vifaa vya mawasiliano kama radio, televisheni, simu, ving'amuzi n.k, kwa kuzingatia

sheria ya masuala ya ki-elektroniki na posta (EPOCA) ya mwaka 2010 ambayo inataka wauzaji kufanya yafuatayo kwa wateja wao:

1. Kutoa risiti halali
2. Kutoa gerentii ya miezi 12 kwa maandishi
3. Kuuza kifaa kikiwa ndani ya kasha lake pamoja na kijitabu cha maelezo (manual) angalau kwa lugha ya kiingereza

Wakati wa kutumia

(i) Mtumiaji anashauriwa kuhakikisha kuwa huduma anayotumia inaendana na maelezo aliyopata awali wakati wa kununua; kwa mfano bei, utoaji wa taarifa muhimu, n.k.

(ii) Mtumiaji ahakikishe anatunza kumbukumbu za mkataba/maelezo ya awali zikiwemo nyaraka kama risiti, fomu ya usajili, kijitabu cha maelezo na karatasi ya gerentii.

Zingatia yafuatayo

- Usipeleke kifaa chenye gerentii kwa fundi mwingine kama hakifanyi kazi kabla ya muda wa gerentii kumalizika.
- Usiongee na simu au kutuma ujumbe wakati unaendesha gari au chombo chochote cha moto, au unapovuka barabara.

Morogoro Stakeholders Want action Against Nuisance Short Messages

*By a Contributor, Department of Industry
and Consumer Affairs*



Communication Stakeholders on seminar in Morogoro.

Communications stakeholders in Morogoro region have called for the enforcement of consumer protection regulations on nuisance and unsolicited short messages.

Raising these concerns during TCRA-organized stakeholders' seminars on consumer rights and obligations, they particularly cited those short messages sent to consumers with visual disabilities as they relied on third parties to read their messages. Such consumers were at times forced to walk long distances for this service only to discover that the messages were promotional.

The seminars were organized by the Department of Consumer and Industry Affairs in collaboration with the Authority's Eastern Zone.

They were part of implementing the Authority's mandate in the area of consumer education as outlined in the Tanzania Communications Regulatory Authority Act no. 12 of 2003. The seminars also enabled the Eastern Zone to reach out to its stakeholders in the districts of Morogoro region. These include local authorities, the district Government and its organs, service providers, consumers of the services and products and the general public.

The seminars covered five of the six districts of Morogoro region. A seminar for Gairo district which missed out in this phase will be organized in June 2013.

The seminars focused on two groups – mainstream consumers and stakeholders and students in colleges and high schools.

Section 5 of the TCRA act of 2003 outlines

TCRA's duties in the area of public education. The authority has an obligation of promoting the availability of regulated services to all consumers including low income, rural and disadvantaged consumers; to protect the interest of consumers; to enhance public knowledge, awareness and understanding of the regulated sectors including the rights and obligations of consumers and regulated suppliers and the complaints lodging process.

The seminars were in line with the mandate of providing public and consumer awareness on the Authority itself, the regulatory functions and the rights and obligations of consumers of electronic and postal services. The former include consumers of telecommunications and broadcasting services.

The Morogoro seminars were part of the ongoing public awareness programme, their specific objective being to create the awareness of the general public and specific stakeholders on the rights and obligations of consumers as part of empowering them; to update consumers on developments in the communications sector including the planned migration from analogue to digital broadcasting and the postal codes and addresses system, to raise awareness and build confidence in TCRA, to assess and monitor public perceptions on TCRA and the sector and to establish links with the public and stakeholders in the areas where we have been conducting these dialogues.

On the eve of the seminars in Morogoro and Ifakara, the TCRA team went on air at the studios of Pambazuko FM in Ifakara and Abood FM in Morogoro for live interviews which addressed the main topics and responded to

listeners' questions.

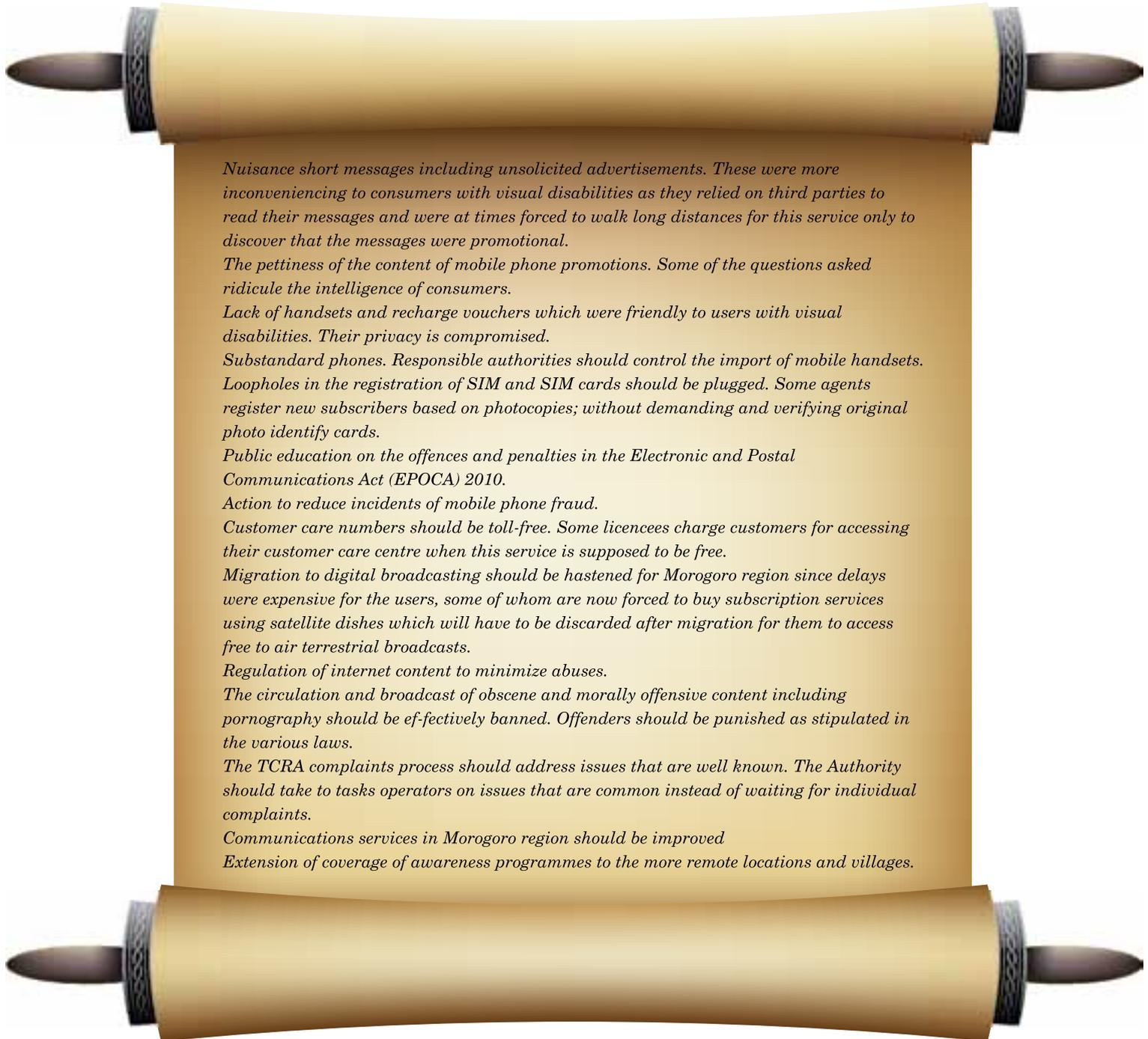
Besides the main seminars, the team conducted events for youths at the International Health training Centre, Ifa-kara; Mikumi Vocational Training Centre; and Mzumbe special school.

Papers were presented on communications technologies, TCRA and Eastern Zone mandate, rights and obligations of consumers, and the consumers complaints handling process, emerging issues – migration to digital

broadcasting, the new addresses and postcode system and cyber security and mobile money transfer frauds.

Participants were tested on their comprehension through specific oral questions based on the presentation. Winners were awarded presents which included mobile telephone handsets, recharge vouchers and cash.

During discussions and in the opening speeches, the following issues were raised:



Nuisance short messages including unsolicited advertisements. These were more inconveniencing to consumers with visual disabilities as they relied on third parties to read their messages and were at times forced to walk long distances for this service only to discover that the messages were promotional.

The pettiness of the content of mobile phone promotions. Some of the questions asked ridicule the intelligence of consumers.

Lack of handsets and recharge vouchers which were friendly to users with visual disabilities. Their privacy is compromised.

Substandard phones. Responsible authorities should control the import of mobile handsets. Loopholes in the registration of SIM and SIM cards should be plugged. Some agents register new subscribers based on photocopies; without demanding and verifying original photo identify cards.

Public education on the offences and penalties in the Electronic and Postal Communications Act (EPOCA) 2010.

Action to reduce incidents of mobile phone fraud.

Customer care numbers should be toll-free. Some licencees charge customers for accessing their customer care centre when this service is supposed to be free.

Migration to digital broadcasting should be hastened for Morogoro region since delays were expensive for the users, some of whom are now forced to buy subscription services using satellite dishes which will have to be discarded after migration for them to access free to air terrestrial broadcasts.

Regulation of internet content to minimize abuses.

The circulation and broadcast of obscene and morally offensive content including pornography should be effectively banned. Offenders should be punished as stipulated in the various laws.

The TCRA complaints process should address issues that are well known. The Authority should take to tasks operators on issues that are common instead of waiting for individual complaints.

Communications services in Morogoro region should be improved

Extension of coverage of awareness programmes to the more remote locations and villages.

Clarification was sought on the safety of handsets and base stations, the complaints process for consumers in re-mote locations and TCRA's role in promoting the use of ICT for the delivery of education, particularly in boarding schools.



The Post Braces Against Electronic Competition

By: Juma Hango of TCRA looks at traffic volumes of posted and delivered items from 2000 to 2011 and concludes that in Tanzania electronic communications do not threaten postal services

Introduction

The Postal and Courier services form part of the daily life of people all over the world. Even in the digital and electronic age the Post and courier remain for millions of people, the most accessible means of communication and message delivery available.

UPU Statistics (2010) indicate that, more than four million Postal and Courier employees, working in over 660,000 Postal outlets, ensure that some 430 billion mail items are processed and delivered each year to every corner of the world. However, during the past 15 years, a wide variety of forces caused postal services providers to re-think their roles in the communications market.

The combined effects of direct and indirect competition, privatization of Postal services especially in industrialized countries, the separation of the Operator and Regulator function, liberalization, customer demands for better and more reliable products, and the advent of new communications technologies, convinced Postal services that they should modify their operational and financial strategies in order to remain competitive.

To date, one of the serious challenges to postal and courier services, both public and private, is competition from other communications services such as facsimile, electronic mail, and data networks, particularly in the business-to-business market segment. About five years ago, the number of international messages sent by fax assumed a larger share of the market than those conveyed by post.

In 1996, for the first time, the volume of electronic

mail in the United States for example, exceeded the number of letters delivered by the postal service. However, other segments such as business-to-private and private-to-private mail may be less affected by new communications technologies, so long as public postal services are run in an efficient and customer-oriented manner and as access to postal services remains more widely available to residential customers than in-home computer terminals (WTO, 2009).

Despite all of these challenges, in Tanzania postal and courier services remain vital and form a key part of the country communications infrastructure, with high economic and social importance. For many of our people, particularly in the rural and remote locations, the post remains the only cost-effective and easily accessible means of communication.

Electronic communication has significantly contributed towards two-way communication. For example, the electronic commerce has added to the need of having efficient postal and courier services. Many people use electronic media to communicate through emails as it is fast and available round the clock. However, the need of sending parcels can't be fulfilled by the use of electronic communication. The companies doing businesses online need to ship their products on right time to the national and international destinations. So, the electronic trading has encouraged the countries to have effective postal and courier systems.

The trend of posted items and delivered items in Tanzania does not show much suffering of industry as it is expected after an escalation in the usage of electronic communication witnessed in recent years. Although there had been a negative

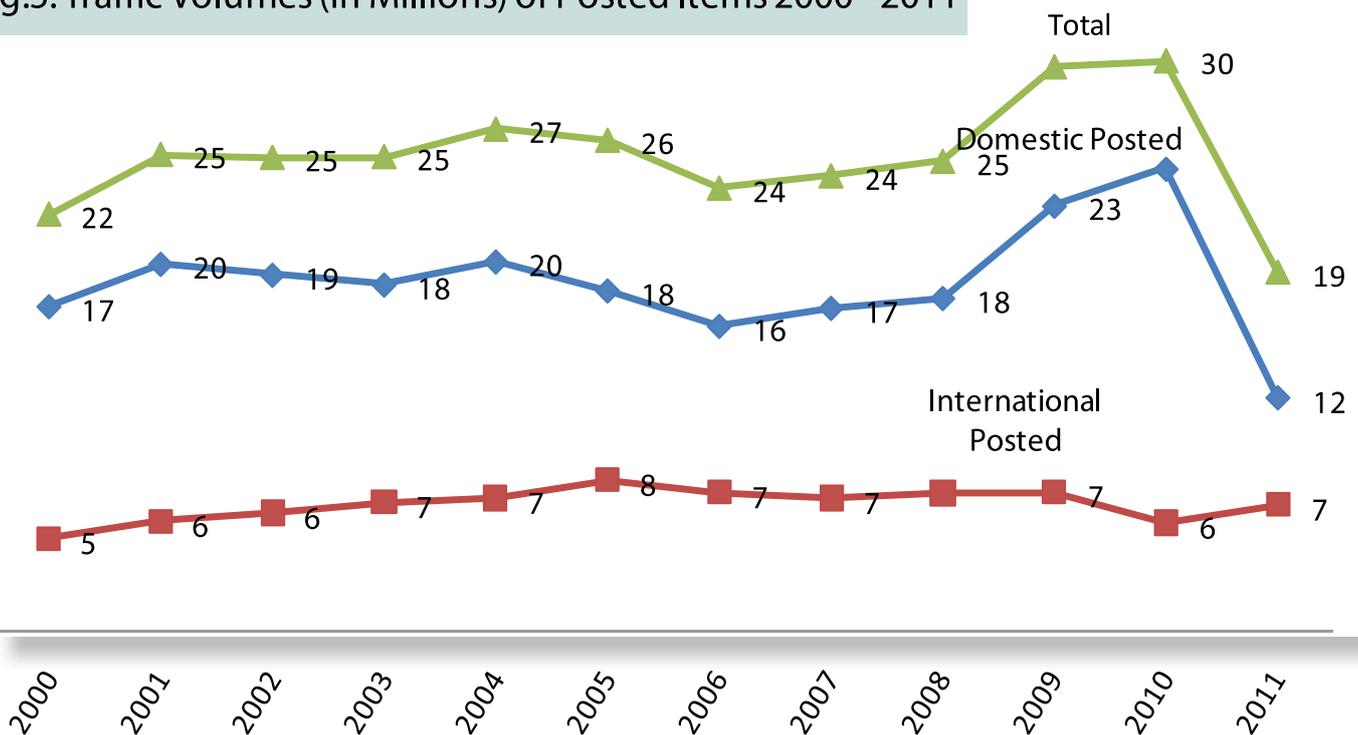
growth over the period, the difference is not significant and cannot directly be associated with ICT usage without considering other factors. To further confirm the above, it is reported that one Tanzanian does not send and receive even a single letter per year compared to other developing and developed countries. In Asian countries for example, a person sends and

receives not less than 12 letters in a year. But again a person in industrialized countries sends and receives not less than 400 letters per year. This tells how the advancement in technology is not a reason for decline in the use of postal services - (UPU Statistics: 2010 and TPC News Letter, 2011).

TRAFFIC VOLUME OF POSTED AND DELIVERED ITEMS

Traffic of Posted Items

Fig.5. Traffic Volumes (in Millions) of Posted Items 2000 -2011

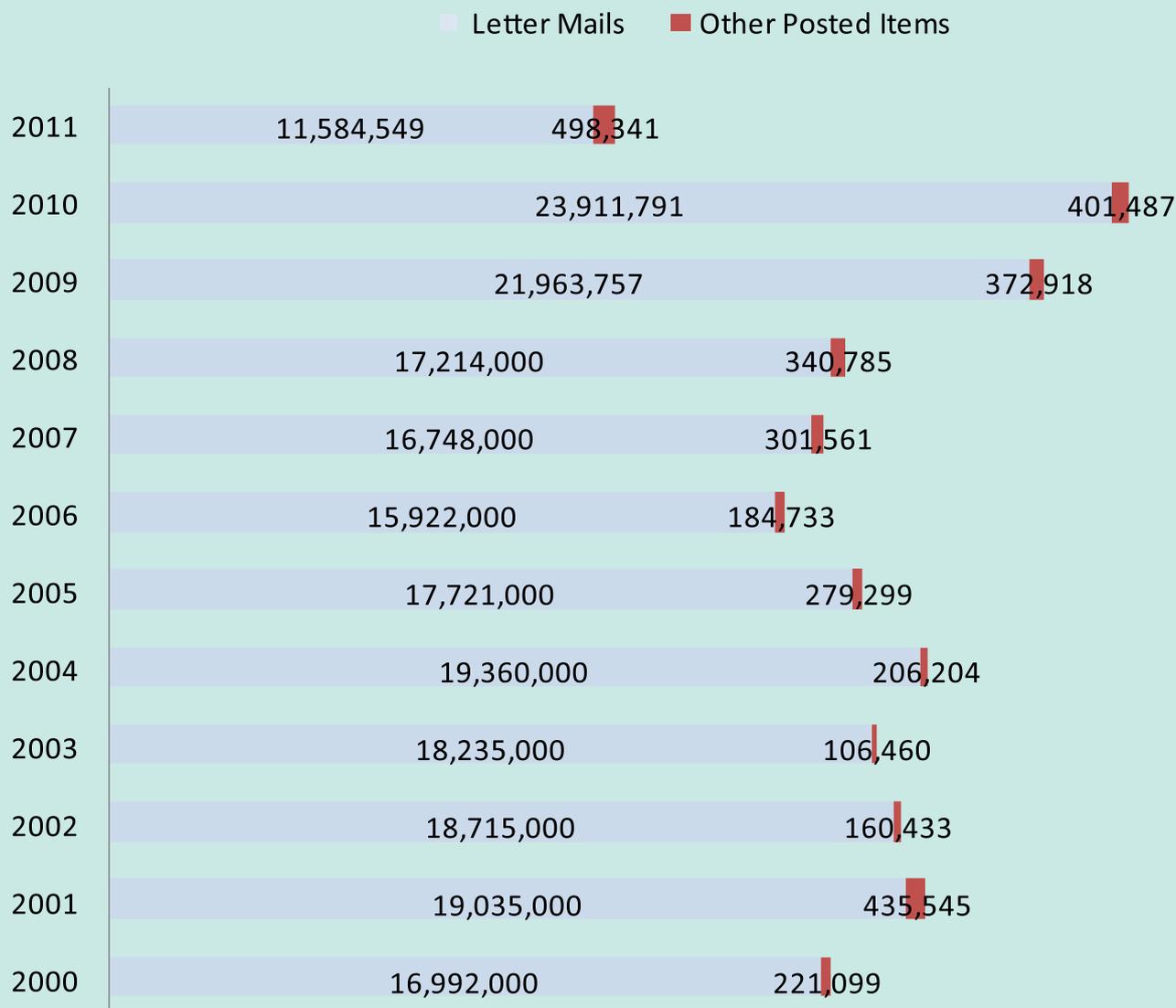


The traffic volumes of posted items had been assuming a slowly drop down from 2000 to 2010. With the exception of 2011 where there was a very sharp drop down, in which the average growth for the time period was recorded to be -58%. Figure 5 below depicts the traffic volume for both domestic and international posted items. As shown in figure 5, for the whole period, there were more domestic than international items posted. Although

the domestic posted items outnumbered the international posted by an average of 11.8 million items every year, the latter had been growing at an annual average of 3.5% unlike domestic posted items which went down by 0.8%. The close mark is shown in 2011 where the difference was minimized to five million compared to annual average of 11.8 million posted items.

The domestic posted items are shown in figure 6. The figure shows that 98% of the posted items from 2000 to 2011 were letter mails. The remaining percentage was for parcels and other documents.

Fig.6. Domestic Posted Items 2000-2011



Although the other posted items have only 2% of the market share, they had been increasing at a higher rate compared to the counterpart. The data shows that the letter mails grew by 4% while other items by 16%. This is four times high over the whole time period.

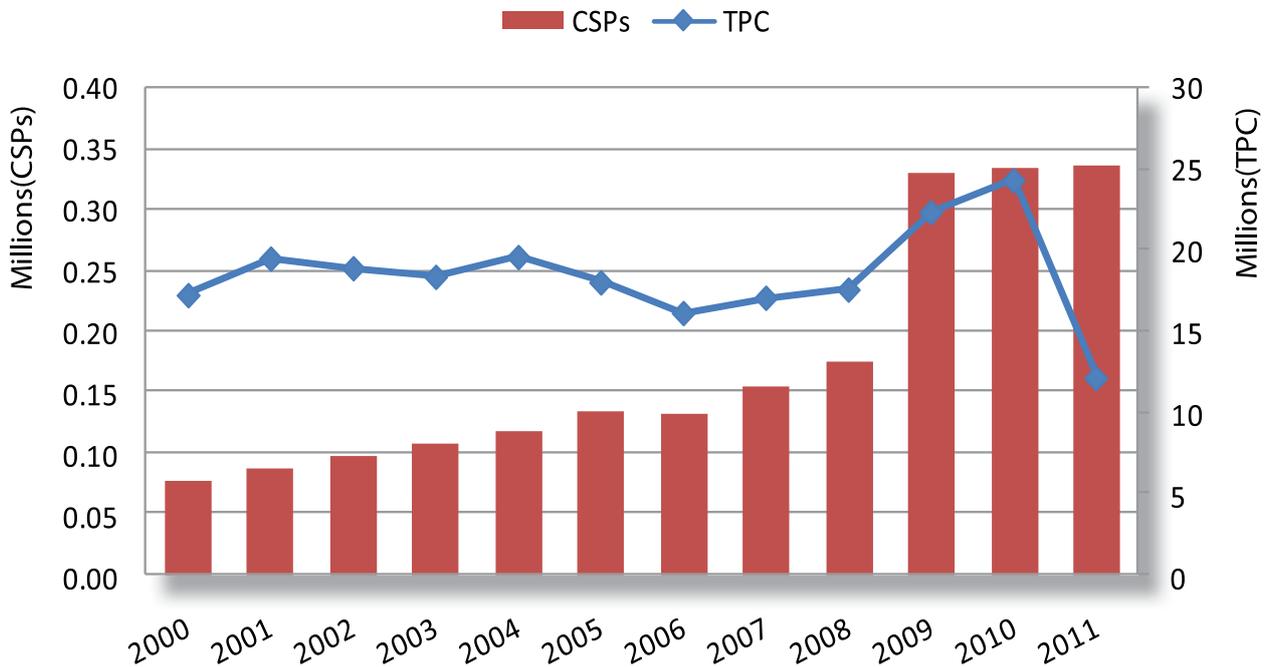
A very big difference is noted between 2010 and 2011 when letter mails dropped drastically from 24 millions items to 12 millions items. During the same period, other posted items shot up to 0.5 million items; from 0.4 million items reported in 2010. Holding other factors constant, this drop in letter mails may probably be associated partly to the growth in use of short message and electronic mails. For example, between 2009 and 2011, SMS went up by 33% while letter mails went down by 20%. The data for electronic mails are not available to confirm the case further.

As regards service providers, the Tanzania Post Corporation (TPC) led the market for the whole period under the review. As shown in figure 7, TPC posted items rose from 17 million in 2000 to 20 million in 2005 after which there was a fall. The rise was witnessed in 2006 when it grew to 22 million in 2010 before a drastic fall in 2011.

On the other hand, posted items for CSPs were constantly going up from 0.1 millions in 2000 to 0.2 millions in

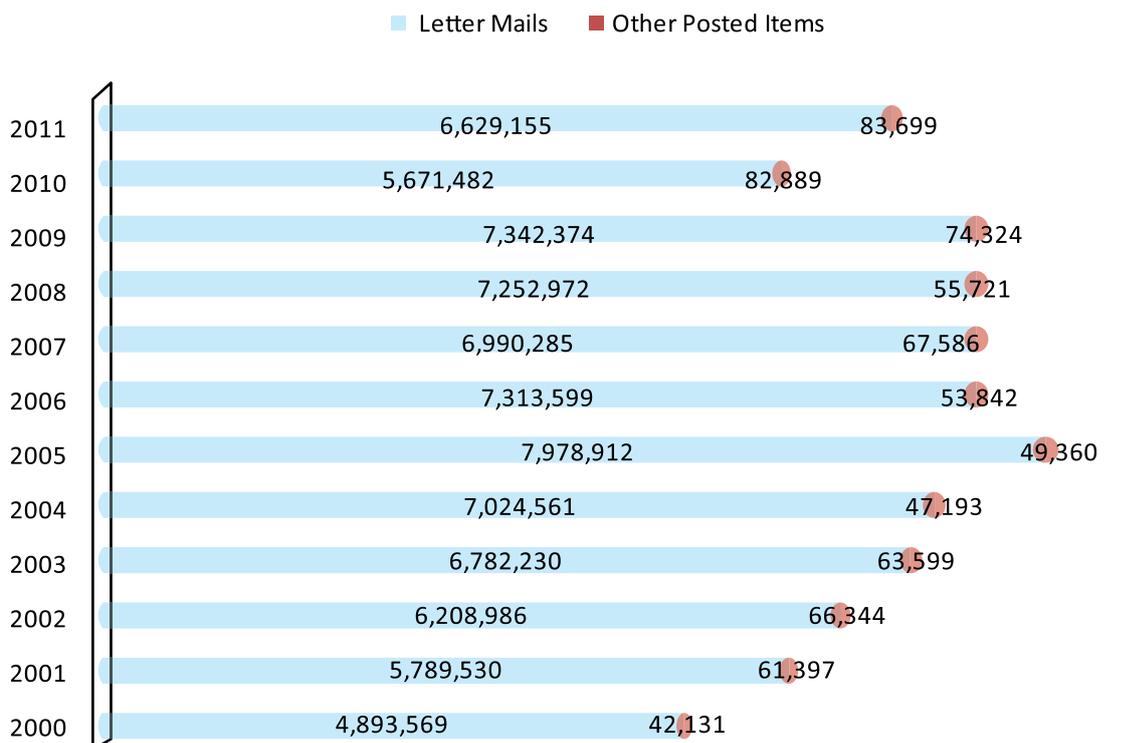
2008 after which there was a jump to 0.3 millions in 2009. The level was somewhat maintained constantly to 2011.

Fig.7. Volumes of Domestic Posted Items (000,000), TPC and CSPs



The international posted items portrayed similar features as posted items. As it was in domestic posted items, letter mails control the market by 99% of the market share over the period under review.

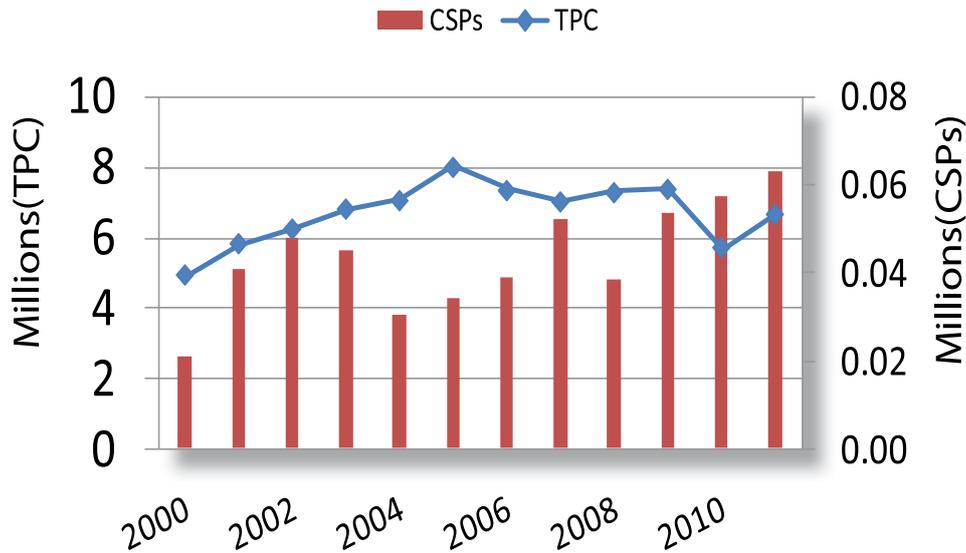
Fig.8. International Posted Items



The above figure shows that letter mails continued to grow at increasing rate from 4.9 millions in 2000 to 8 millions in 2005. In that time period, the rate observed for letter mails was 10% while for other international posted items it was only 6%. After 2005, both experienced uneven state, with ups and downs. They grew at 3% and 8% respectively.

Figure 9 depicts the international posted items for TPC and CSPs. The traffic volumes of items rose for both TPC and CSPs from 2000 to 2002. After 2002 items for CSPs started to decrease to 0.04 millions in 2006 where they started going up again before falling to 0.04 millions in 2008. The increase resumed 2009 and held on to 0.065 Million items in 2011.

Fig.9. International Posted Items (000,000), TPC and CSPs



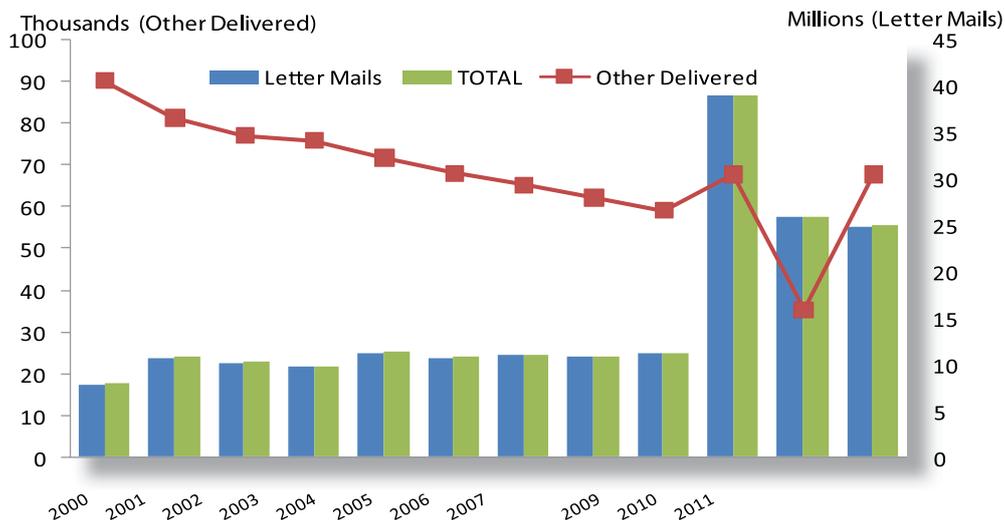
On the other hand, TPC items maintained a rise from 2000 to 2005 where the maximum volumes of about 8 million international posted items were reported. After 2005, sluggish ups and downs were experienced.

Traffic of Delivered Items

The trend of delivered items from international sources is shown in figure 10. There was a slight increase of the total delivered items from 8 million in 2000 to 11 million in 2008. The increase was only at an average of 5% per ann m. In 2009

, the trend changed abruptly from 11 million to 39 million delivered items. This number went down in subsequent years to an average of 25 millions in 2011. The total annual increase rate for the whole period under review was recorded to be 23%.

Fig.10. Trend of Delivered Items 2000-2011



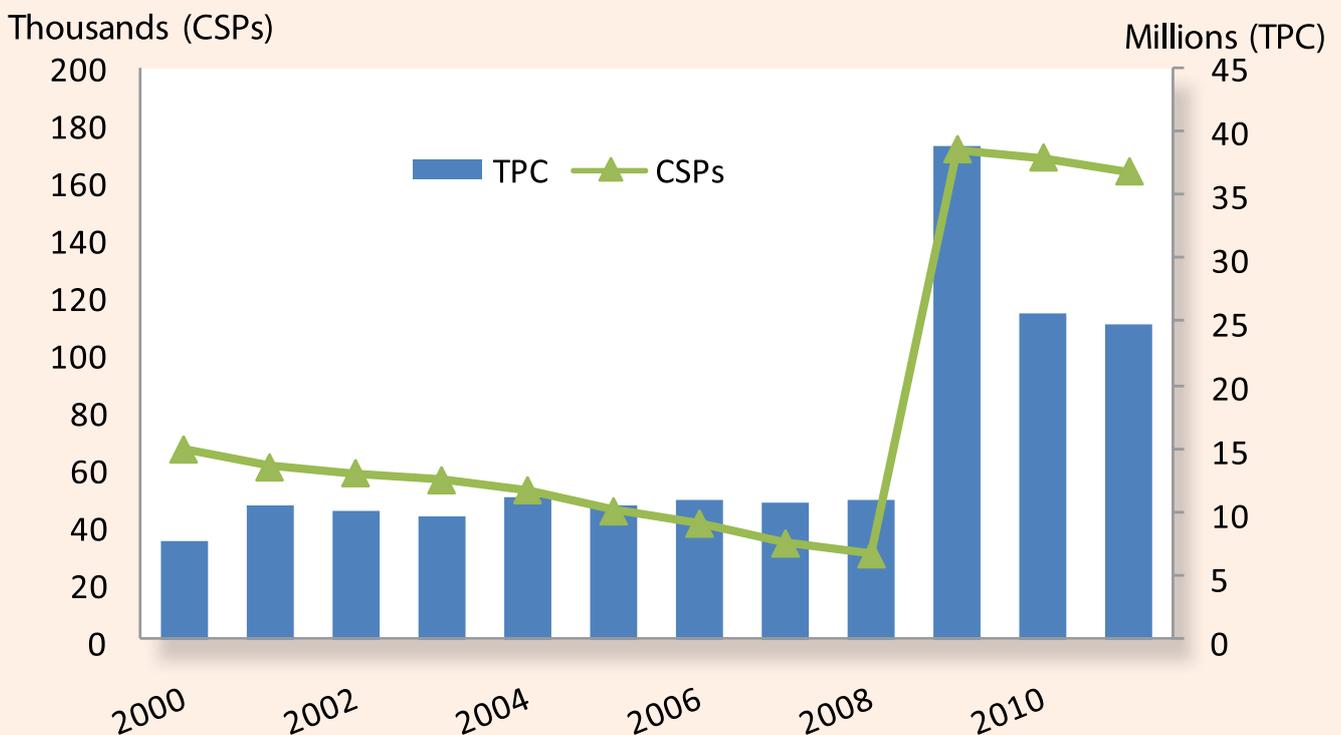
Most of the delivered items were letter mails. They consisted of 99% of all international delivered items. As it is shown in figure above, the trend for the letter mails shows almost the same movement as for the total of all delivered items. This is because a significant share of all delivered items is from letter mails.

On the other hand, the trend of other delivered items (Parcels and Documents) showed a decreased movement from 90 million 2000 to 59 million in 2008. The decrease was at annual rate of 5%. A slight up movement was shown in 2009 after which there was a sharp drop in 2010 and sharp rise in 2011. The total annual growth rate of other delivered items was only 2%.

Figure 11 shows the delivered items in TPC and CSPs. TPC delivers 99% of all international. There was a slightly constant growth rate for the first seven years after 2000 in TPC delivered items. The growth was recorded at annual rate of 5% on that time period. However the rate is on average of 23% for the whole time period under review.

During the period from 2000 to 2008, there was a fall in delivered items in CSPs. The records show that they dropped from 66,000 recorded in 2000 to 30,000 in 2008. This is more than a 100% fall. However, after 2008, they experienced a tremendous increase of about 500%.

Fig.11. Delivered Items for TPC and CSPs



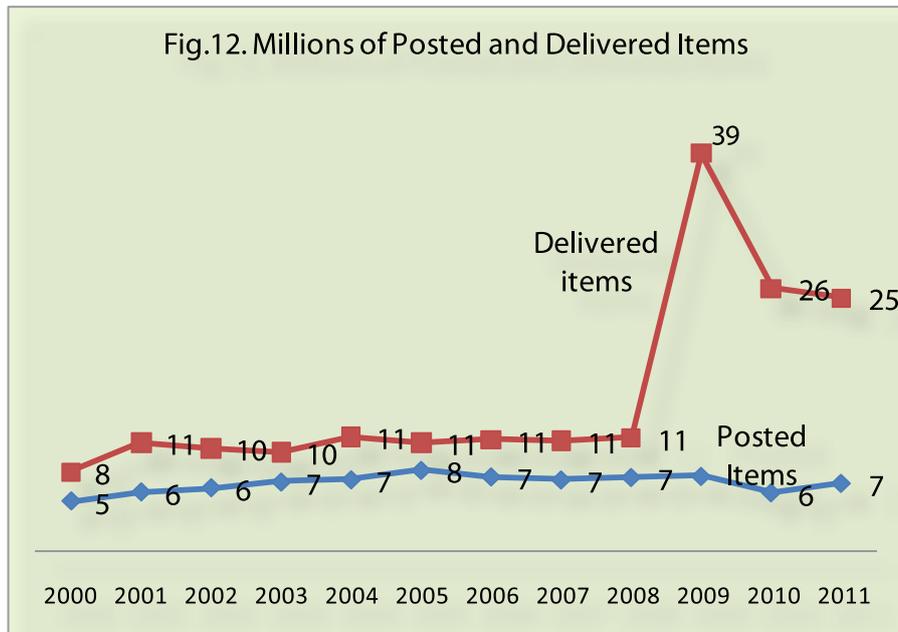
As shown in the figure, most of the items from International were delivered through TPC. On average, over the time period, TPC delivered 99% of all international incoming items. More than 80% of these items were delivered through private letter boxes and private bags. Only less than 20% were delivered at client's offices or homes. CSPs delivered insignificant share (1%) of items from international.

Traffic of Posted and Delivered Items to and from International

The traffic volumes of international posted and delivered items are shown in figure 12. The trend of posted items to international destination shows

a noticeably constant movement varying from 5 million to 7 million items. This was not the case for delivered items. Though the movement was roughly the same as posted items from 2000 to 2008, but come 2009 a big rise was experienced. The peak was slightly altered by downfall of about 19% from 2008 to 2011.

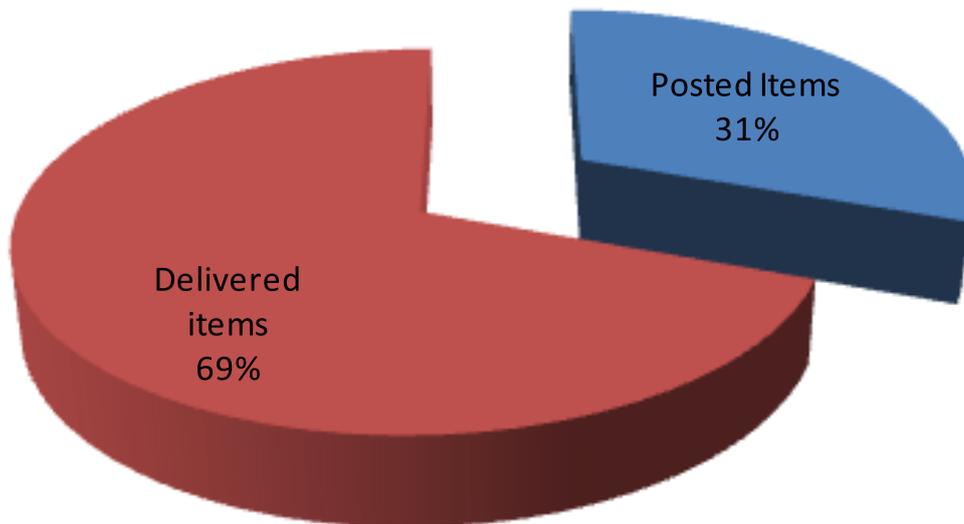
In comparison, looking at the period under review, the international delivered items were growing faster than the items posted to international destination. While the posted items were growing at an average of 4%, the delivered items recorded 23% annual growth. This is six times larger than the posted items.



Throughout the time period, delivered items from international outnumbered the international posted items. On average, the delivered items were more than half of all posted items. This is really an expected situation due to the fact that the

posted items are from fewer consumers of postal services compared to delivered items which are from the rest of the world. The average share of International posted items and delivered items from international are as shown in figure 13.

Fig. 13. Average Percentage Share of Posted to and Delivered Items from international



CONCLUSION

The contention that the posts and courier industry has lost its market because of increasing usage of other communication means especially electronic mails and mobile phone short messages, may be questionable especially in a developing country like Tanzania. There is no any evidence so far showing an inverse relationship between the two; for example, electronic mails and letter mails.

However data shows that despite the increase of electronic communication especially emails and the like, the volumes of letter mails and other documents maintain the pace. One can therefore conclude that, in developing countries like Tanzania, a replacement of letter mails with electronic mails has no room.



The Zambian Information and Broadcasting Services Minister Hon. MwasaKapeya (MP) and his delegation of communication experts made a benchmarking visit to TCRA accompanied by the Zambian Deputy High Commissioner to Tanzania Elizabeth Phiri on 14th February 2013. Above, the TCRA Eastern Zone Manager Eng. Oscar Mwanjesa (right) briefs the delegation on the Mobile Frequency Monitoring Station at the Mawasiliano Towers in Dar Es Salaam.

TCRA Principal Broadcasting Affairs (PBAO) Eng. Andrew Kisaka briefs the Communication Commission of Kenya (CCK) Officials on the Content Monitoring Unit in Dar Es salaam.



The TCRA DG Prof. John Nkoma briefs Zanzibar House of Representatives Committee for Infrastructure at Mawasiliano Towers in March 2013.



The TCRA DG Prof. John Nkoma briefs Zanzibar House of Representatives Committee for Infrastructure at Mawasiliano Towers in March 2013.



MFUMO WA ANUANI MPYA ZA KITAIFA NA POSTIKODI

SEKRETARIATI YA MRADI

MAMLAKA YA MAWASILIANO

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Nukushi: +255 22 2412009/10
Barua pepe: dg@tcra.go.tz,
Tovuti: www.tcra.go.tz

Manufaa kwa Sèrikal

- Ni msingi wa kutoa vitambulisho vya Taifa kwa watazania
- Inaongeza ufanisi katika usimamizi ya makazi ya watu
- Inawezesha kutambua mali na kaya katika eneo fulani
- Itaongeza tija katika huduma za uokoaji na maafa
- Itawezesha ukusanyaji wa kodi mbalimbali kwa urahisi na kwa wakati
- Inainua umoja na utafika katika nchi
- Inaongeza kasi ya kupambana na uhalifu, kuimarisha shughuli za uhamiaji na kuongeza utalii

Manufaa kwa Watumiaji wa Barua

- Inarahisisha uchambuzi wa barua kuwa wa haraka zaidi
- Itawezesha utambuzi wa anuani kuwa rahisi zaidi
- Itaongeza ufanisi katika usafi ishaji na usambazaji wa barua
- Itaongeza ufanisi katika kushughulikia malalamiko ya wateja
- Itapunguza uwezekano wa barua kupotea

Manufaa kwa Jamii

- Mfumo utatoa anuani ya uhakika kwa kila Mwananchi au Mkazi
- Itarahisisha utoaji wa utambulisho sahihi
- Inarahisisha kupata huduma za jamii kama vile za afya, usalama, maji nk
- Uwezekano wa matumizi ya vifaa vya kisasa kuongoza magari (GPS system) katika miji yetu
- Inarahisisha biashara kwani inawezekana kununua bidhaa ukiwa nyumbani kutumia tekinolojia za kisasa kama e-commerce

Manufaa kwa Biashara

- Kuboresha maendeleo ya biashara kwa kuwa na anuani za kuaminika
- Kuwezesha kutoa mikopo na kukusanya madeni kirahisi hasa kwa mabenki
- Itawezesha uendeshaji biashara kwa njia ya mtandao (E-commerce)
- Itawezesha upangaji wa mauzo, na utoaji wa matangazo na uhamasishaji katika maeneo ya biashara kwa kuwafikia walengwa kirahisi
- Kufanikisha kazi za tafiti za biashara, kwa mfano, kuwafahamu wateja wa tabaka fulani na kuwahudumia ipasavyo.



*The Board, Management and Staff
of
The Tanzania Communications
Regulatory Authority*

*Wish you
a Happy Eid*

Sajili laini yako

Kwa wateja:



Usajili wa laini za simu ni lazima. Sheria hii imepitishwa na Mamlaka ya udhibiti wa Mawasiliano Tanzania.



Usajili wa laini ni rahisi na bure. Kama haujasajiliwa tafadhali onyesha kitambulisho chako usajiliwe. Mf: Kitambulisho cha mfanyakazi, kitambulisho cha kupiga kura na kadhalika.



Ukishamaliza utapatiwa kipande cha fomu kuthibitisha usajili wako.



Unaweza kuthibitisha usajili wa namba yako kwa kupiga *106#

Kwa wakala:

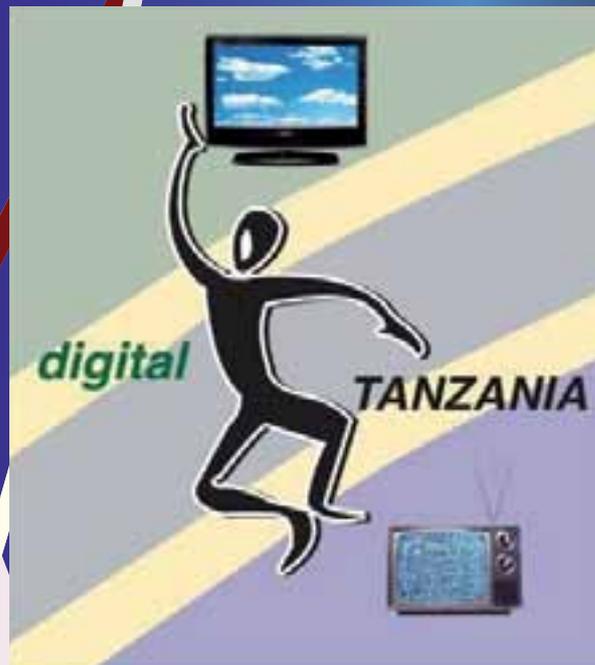


“Kwa mujibu wa sheria, ni lazima kusajili laini ya mteja kabla ya kumkabidhi”.





MAMLAKA YA MAWASILIANO TANZANIA



MASWALI YAULIZWAYO MARA KWA MARA

KUHUSU MABADILIKO YA TEKNOLOJIA YA

UTANGAZAJI KUTOKA ANALOJIA KWENDA DIJITALI

King'amuzi (Set-Top-Box)



CREATING A LEVEL PLAYING FIELD

The Tanzania Communications Regulatory Authority (TCRA) is a quasi independent Government body responsible for regulating the communications and broadcasting sectors in Tanzania. It was established under the Tanzania Communications Regulatory Authority Act NO.12 of 2003 which merged the Tanzania Communications Commission and the Tanzania Broadcasting Commission. The Authority became operational on 1st November 2003 and effectively took over the functions of the defunct two Commissions. The Authority is a statutory body established as part of the Government Policy reforms in the communications sector with the aim to improve the availability of the info-communications services to the public as well as allow new players into the market.

VISION

To be a world- class regulator, creating a level playing field among communication service providers and promoting accessible and affordable services to consumers in Tanzania.

MISSION

To develop an effective and efficient communications regulatory framework, promote efficiency among the communications services providers, and protect consumer interests with an objective of contributing to socio-economic and technological development in the United Republic of Tanzania.



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