



THE **Regulator**

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July - September, 2012

QUARTELY MAGAZINE OF TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

THE RIGHT ADDRESS **Tanzania adopts new addressing and postcode system**



H.E. Dr Jakaya Mrisho Kikwete, President of The United Republic of Tanzania inaugurates new addressing system and Postcode for Dar Es Salaam Region. Right, Minister for Lands and Humansettlement Development Prof. Anna Tibaijuka.

Decoder, key facility to the Analogue to Digital Broadcasting **SWITCH-OFF**



The Regulator is published quarterly by the Tanzania Communications Regulatory Authority (TCRA), an 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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The Editor welcomes contributions mainly on postal, telecommunications and broadcasting issues. Contributions can be posted or transmitted by telefax to the TCRA address on page 3. E-mailed articles should be addressed to: dg@tera.go.tz

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FROM THE DIRECTOR GENERAL'S DESK

Countdown to Analogue Switch off

Tanzania is set to switch off the analogue system of Terrestrial Broadcasting on 31st December, 2012. This date was agreed by all East African Communication Organizations (EACO) members in 2010.

Tanzania is satisfied that the analogue system of broadcasting should be switched off now other than later. The reasons of switching off are myriad but suffice to say the following.

i. The presence of unthneching political will. The President of the United Republic of Tanzania H.E. Jakaya Kikwete Government supports digital migration. As may be recalled Tanzania logo was launched by the President on 24th August, 2012.

ii. The regulatory framework that accommodates digital broadcasting is in place, Signal distribution (Multiplex Services) licences were granted in 2010 by the Authority to three providers in a move to foster competition and better services.

iii. Broadcasters on analogue system have accommodated digital broadcasting by adoption of new business model that allows them to concentrate on content service provision and signal distribution (Multiplexing services) to be done by Multiplex Operators.

iv. Consumers have been sensitized through concerted country wide Public Awareness Campaigns to adopt digital broadcasting.

v. Availability of Set Top Boxes (decoder) has been made much easier by the government's waiver of import duties and hence making decoders affordable to majority of television viewers to buy.

We are quite confident that come December 31, 2012 all analogue transmitters will be switched off in Dar es Salaam pursuant to the switching off timetable released by TCRA and by the Ministry of Communication

Science and Technology. The analogue switch off (ASO) will be in phases in different parts of the country.

We are quite cognizant of the fact that Tanzania is switching off early ahead of the ITU deadline of June 17th 2015 to protect the country from becoming a dumping ground for unused analogue broadcasting equipment from countries that have already switched off.

Secondly, Tanzania wanted to avoid high cost of running a long (Simulcast period) which could be a burden to Content Service Providers.

Thirdly, it is important to have on early switch off in order to squarely deal with the challenges of ASO so that when we reach 2015, the ITU deadline we shall have a stable digital broadcasting which is up and running efficiently.



It is our hope that all Tanzanians with analogue television sets will buy decoders to be able to watch digital television. I would also urge distributors of Set Top Boxes to make available enough transmitters. In the meantime the Public awareness Campaign will continue unabated to ensure that all our stakeholders' are digitized.

We can do it provided we are all united in our resolute to realize

experience the digital experience. I wish all Tanzanian the best luck with Digital Tanzania for 2013.

Prof. John S. Nkoma
DIRECTOR GENERAL

TCRA Participates in ANNUAL FARMERS' EXHIBITION

THE Tanzania Communications Regulatory Authority participated in the 2012 Agricultural Sector Exhibition – NaneNane in Dodoma from 1st to 8th August 2012 and showcased its functions in both regulating the electronic communications and postal sectors as well as facilitating various ICT applications. This year's event was fifth one and TCRA participated in all previous events.

TCRA's participation was part of implementing her mandate as outlined in the enabling Act, the Tanzania Communications Regulatory Authority Act No. 12 of 2003. It was also part of reaching out to the communications sector stakeholders. The stakeholders include the Government - Ministries, Departments and Agencies (MDAs); service providers; consumers; media and the general public. The latter include agricultural sector stakeholders.

TCRA is obliged to promote 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 as per section 5 of the TCRA Act No.12 of 2003.

The specific objectives of TCRA's participation in the exhibition was to enhance the awareness of the general public and specific stakeholders on the role, mandate and functions of TCRA; to enlighten consumers on their rights and obligations as part of empowering them; to update stakeholders on developments in the communications sector including the planned migration from analogue to digital broadcasting, 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.

Clarifications were also given on various ICT applications including how TCRA has facilitated the common citizen to raise their economic values through using numbering resources for mobile money transactions, access to agricultural information online using both mobile phones and shared access points like tele-centres.



Engineer Oscar Mwanjesa briefs visitors at TCRA pavilion during the Nane-Nane exhibition 2012 in Dodoma.

“The Geneva based International Telecommunication Union (ITU) Deputy Secretary General Haolin Zao presents Award to Tanzania for its contribution to the improvement of rural communications fund. Receiving the Award is TCRA DG. Prof. John S. Nkoma”



“Participants to the Annual General meeting of the Communications Regulators Association of Southern Africa (CRASA) held in Luanda Angola 2012”



“TCRA emerged First Prize winner out of 60 organisations that participated in the week long Finance and Investment exhibition held in Dar Es salaam in October 2012”

PARLIAMENTARIANS VISIT TCRA

Director General of the Tanzania Communications Regulatory Authority Prof. John Nkoma (second left) briefs Members of Parliament of Public Corporation Accounts Committee during their visit to TCRA earlier this year.



Eng. Jumanne Ikuja briefs the members of the Parliament Infrastructure Committee on frequency monitoring.

Hon. Alphaxard Kangi Lugola (MP) commenting after the briefing.



EVENTS



Hon. Prof. Anna Tibaijuka Minister for Lands and human settlement (left) and the Minister for Communications Science and Tehchonoly (MCST) Prof. Makame Mbarawa display boards bearing the Postcode and New Address system at the MCST, in Dar Es Salaam recently. The Post code and new address system depicts Zone, Region, District, Ward, street and house number that enables members of the community to easily access postal services.



Tanzania is a member state of the International Telecommunication Union (ITU) . In the photograph are delegates to the ITU Telecom World Conference 2012.



The Tanzania Communications Regulatory Authority (TCRA) officials on a skills upgrading course. TCRA encourages training and proper understanding of the communication services for its effective regulatory role.

POST CODES PUBLISHED

Pursuant to section 41 of the Electronic and Postal Communications Act, 2010, the Tanzania Communications Regulatory Authority (TCRA) would like to inform the general public that the Postcode list for the United Republic of Tanzania have been published under the Government Gazette Notice No: 220 of 22nd June, 2012.

A postcode is a string of numeric number identifying a given postal delivery point or area and for Tanzania the area that is pinpointed is a Ward. This professional allocation of the Postcodes has been done after a long research that involved different experts The codes can be accessed on the TCRA website: www.tcra.go.tz

Status of Digital Terrestrial Television Roll-out in Tanzania

By A Special Correspondent

Digital Migration

The process of migration from analogue to digital terrestrial television in Tanzania started in 2005. In that year the Tanzania Communications Regulatory Authority (TCRA) issued a Public Consultation Document (PCD) on Switchover (Migration) from Analogue to Digital Broadcasting in Tanzania. The PCD main objectives were to gather comment from stakeholders on how digital broadcasting in Tanzania can be adopted, organized and regulated.

Since 2005, series of regulatory decisions and action have been undertaken to make the process of migration smooth. Among the regulatory action taken by TCRA was to attend the Regional Radio-communication Conference in 2006 in Geneva, Switzerland in which all the analogue television plan in existence were converted to digital television assignments plan. The same year the ITU GE-06 agreement was signed to approve the digital plan on DVB-T technology.

After GE-06 agreement, TCRA finalized the national planning and assignment of the digital frequencies and issued a second Public Consultation Document (PCD) which focused on the role of a multiplex operator (MUX), to handle all the signal distribution functions in broadcasting value chain. From 2006 to 2008 TCRA formed a national technical Committee to oversee the migration, conducted a series of sensitization to government and stakeholders and finalized the cabinet policy document on digital migration.

Licensing of Multiplex Operators

Following the second public and consultation document and comments from the stake holders, TCRA started the process of licensing of Multiplex operators. In April, 2008 TCRA welcomed interested companies to bid for the Multiplex operation licence, five companies turned up but no one qualified for the Licence. In July, 2008 TCRA re-advertised the Expression of Interest for companies wishes to provide Multiplex operators in Tanzania. Seven companies submitted their proposal and after scrutiny three companies qualified for the grant of Multiplex Operation licence. The Companies were awarded the Multiplex licence in 2010.

The companies are Star Media Tanzania Limited, Basic Transmission Limited and Agape Associates Limited.

Status of Digital Broadcasting Network Roll-out

The Digital Broadcasting Network roll-out started after the three companies were granted licences. Up to July, 2012 seven towns were already covered by digital signal. The regions are Dar Es Salaam, Mwanza, Mbeya, Arusha, Moshi, Tanga and Dodoma. The roll-out is going on in other regions. The map below shows the analogue and digital presence in Tanzania.

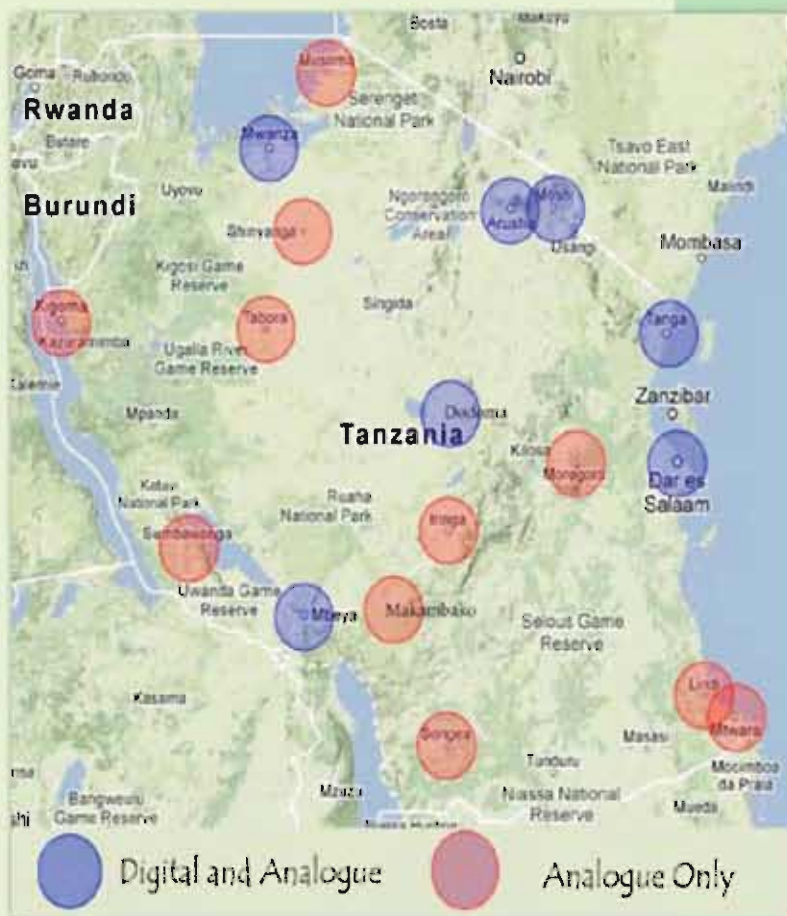


Figure 1: Presence of Analogue and Digital Television Transmission

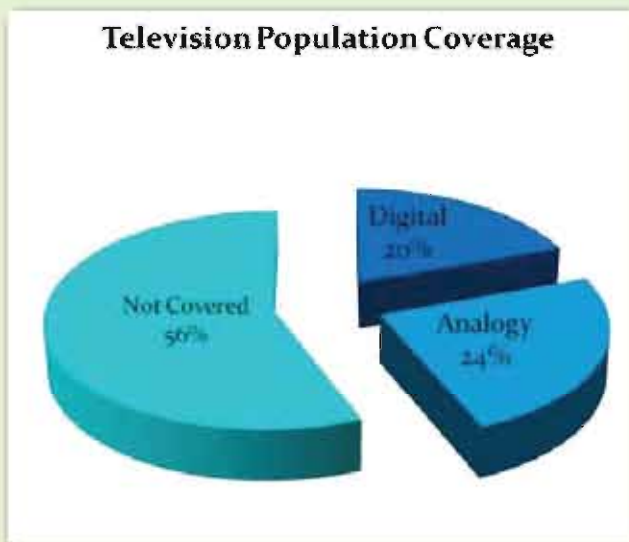


Figure 2: Television Population Coverage in Tanzania

Analogue Switch Off Date

31st December, 2012 is the agreed date by EAC member states to switch off Analogue Broadcasting Transmission.

COVER STORY

Status of Digital Terrestrial Television Roll-out in Tanzania

Some of the reason for the early switch off includes the protection of our country from becoming the dumping ground for unused analogue broadcasting equipment from countries that has already switched off and also the cost of a running analogue and digital transmitters in parallel (Simulcast). The switch off will consider the 100% coverage match between analogue and digital broadcasting.

The Tanzania Communications Regulatory Authority is working hard to ensure a smooth migration from analogue to digital and thus no one will be left without a broadcast signal after 31st December, 2012. To make migration from analogue to digital television broadcasting smooth the government has exempted tax on importation of set-top-boxes to make them affordable to ordinary Tanzanians with view that they are not left out in the digital platform.

Public Education on Digital Migration

To ensure that the public is well informed on the migration, the Ministry of Communications, Science and Technology (MoCST) formed a National Public Awareness Campaign Team (NPACT). The team is made up of nine members from TCRA, two from the Ministry of Information, Youth, Culture and Sports (MoIYCS) and three from MoCST.

The team has been given the task of educating the public on the importance of the migration. The team has visited several regions, including Dodoma, Mwanza, Arusha, Moshi and Tanga. During the campaigns the team conducts seminars to regional leaders and road shows campaigns.

The campaign has enabled the team get public opinion and perception on the migration.



“Some members of the TCRA Board, Management and TCRA officers on Interconnection rates seminar in Dar Es Salaam.”

THE TELECOMMUNICATIONS INTERCONNECTION RATES ARE TO BE REVIEWED IN 2012 IN THE UNITED REPUBLIC OF TANZANIA

By Dr. Raynold C. Mfungahema

The author is serving with the Authority as the Director, Consumer and Industry Affairs and was a Member of a technical team and the Panel of inquiry on Interconnection rates reviews in 2004 as well as in 2007.

INTRODUCTION

Interconnection or Termination rates are charges which one telecommunication operator charges to another for terminating traffic/calls on its network. Termination may take place on a fixed or mobile network.

Interconnection rates may be commercially negotiated or regulated. A range of approaches are used to regulate rates. The most common approaches used include international benchmarking and cost models such as the LRI/C cost model currently being in use in Tanzania.

The commonest arrangement when a phone call involves two different networks for conveying the call is for the originator of the call to pay the full cost. The network from which the calls originate is charged by the network on which the call terminates. This charge is the interconnection/termination charge or rate.

Since the Interconnection/Termination rate is not something likely that consumers of telecommunication services will take into account when choosing a network or service provider, the level of termination is not really considered as the subject of competition. In fact terminating in any network big or small is monopolistic in nature. This is one of the key reasons why the telecommunications interconnection rates are regulated worldwide.

Essence of the Interconnection rates

The term interconnection refers to the physical and logical linking of public electronic communication networks, used by the same or a different undertaking in order to allow users of one undertaking to communicate

with the users of the same (or another) undertaking, or to access services provided by another undertaking. Interconnection has the purpose of allowing, in a context of plurality of operators, any communication between two unspecified users.

Termination rates arise due to the fact that two or more telecommunication networks have to be physically and logically linked to enable subscribers of a network to communicate with subscribers of other networks.

Where operators do not commercially agree on reasonable terms between themselves most jurisdictions including Tanzania the regulator is empowered legally to intervene and determine the terms including the termination rates so as to protect consumers from uninterrupted provision of services and ensure that there is fair treatment of both consumer and operators and level playing field is ensured for all operators to compete in the market.

Historical Perspectives of Interconnection rates review in Tanzania.

The Policy framework.

The genesis of telecommunication Interconnection (I) rates in Tanzania could be traced way back to the year 1994 when partial liberalization of the telecommunication sector began.

The communications Act of 1993 which came to force in 1994 created the first Tanzania telecommunication independent regulator, the now defunct Tanzania Communications Commission (TCC, 1994-2003) and competition was introduced in the mobile and value added telecommunication services markets.

In 2003 the Government launched the National Information and Communications Technology Policy. The policy's broad objective is to provide a national framework that accommodates the convergence of information, communications and technology including media.

On 23rd February, 2005 after the expiry of the exclusivity period of TTCL, the government liberalized fully the communication markets including the basic voice, international services and leased lines.

Managing the interconnection interface between the competitive and regulated sectors is crucial for the liberalization of the infrastructure services. The ability to interconnect with other operators is essential for all operators, particularly for new entrants, as customers for the services provided by the new entrant want to be able to reach all existing customers.

The Legal and Regulatory Framework

The Tanzania Communications Regulatory Authority (TCRA) is an independent Government Agency responsible for regulating Postal and Electronic communication services (i.e. telecommunications and broadcasting services). It was established by the Tanzania Communications Regulatory Authority Act No.12 of 2003 which formed by the merger of the former Tanzania Communications Commission (TCC) and the Tanzania Broadcasting Commission (TBC). The Authority is responsible for enhancing the welfare of Tanzanians. Effective from 23rd March 2005 TCRA introduced the Converged Licensing Framework (CLF), which has resulted into unprecedented growth in the number of providers and users of telecommunications services.

Recent Developments in the Information Communications Technology (ICT) Sector in Tanzania

The ICT sector has grown significantly over the past decade. With the exception of fixed telephony where there has been a decline, there has been an exponential increase in the number of service providers and consumers of the regulated services. There are now fourteen (14) licensed telecommunications network and service providers of which nine (9) licensees are operational as follows:

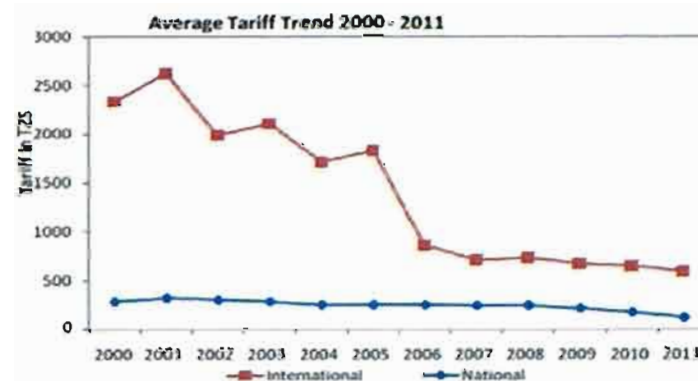
Table1: Number of Subscription by operators as at 31st December, 2011

S/ No.	Name of Licensee	Subscription	% share
1	Tanzania Telecom Co. Limited	225,578	1%
2	Zanzibar Telecom Limited	1,524,601	6%
3	Vodacom Tanzania Ltd	11,625,773	45%
4	Airtel Tanzania Ltd	6,993,418	27%
5	MTC Tanzania Limited	5,450,766	21%
6	Benson Informatics Limited	1,558	0%
7	Dovetel Tanzania Ltd	5,824	0%
Total subscription		25,827,518	100%

Source: TCRA

The increase in the number of service providers, increased competition among operators leading to more than 50 per cent fall in mobile tariffs. Average tariff for national calls decreased from TZs. 324 in 2001 TZs. 123 per minute in 2011. International Tariff dropped from TZs. 2,305 in 2000 to TZs.468 in December, 2011 per call minute as illustrated in the figure below.

Figure 1: Telephone Average Tariff Trend in Tanzania 2000 - 2011



Source: TCRA

The National ICT Backbone (NICTBB)

The Building of the NICTBB has opened up more opportunities for investments in the sector. The over 10,000-kilometres National fibre-optic backbone infrastructure is made up of three rings, that is, northern, western and southern rings connecting all regional and district centres provides full resilience and protection. Also, the facility provides links to 9 cross border points of Horohoro, Namanga and Sirari (Kenya); Mtukula (Uganda), Rusumo (Rwanda), Kabanga (Burundi), Manyovu (DRC), Tunduma and Kasumulo for Zambia and Malawi borders.

In addition, the NICTBB is connected to submarine cables of SEACOM, EASSY, SEAS (Q2, 2012) and TEAMS via Horohoro; thus it provides a reliable and cheap alternative for international connectivity compared to the traditional costly and low capacity satellite links. The facility is owned by the Government and managed by the National Telecommunication Company (TTCL).

Assessment of Competition in Tanzania Telecommunications Market.

Pursuant to Section 62 (1) of EPOCA, 2010, in November, 2011 the Authority commissioned an independent consultant who carried out a study on assessment of competition in Tanzania telecoms market and issued a report which identified nine (9) telecommunications

market and dominant players as follows:

Table 2 : The Identified Relevant Telecommunications Markets in Tanzania.

No	Market Segments	SMP operator(s)
Retail markets		
1	Call origination(includes mobile and fixed)	None
2	Fixed access	TTCL
3	Retail Internet access	None
4	Retail leased lines	None
Wholesale market		
5	Fixed termination	All terminating fixed voice operators
6	Mobile termination	All terminating mobile voice operators
7	Wholesale broadband internet access	None
8	Wholesale leased lines and transmission	NICTBB/ TTCL
9	International connectivity (sub-sea cables)	None

In addition, the market assessment report identified that the fixed and mobile terminations and wholesale leased lines markets were characterized by dominance leading to the following competition problems:

(i) Difference between on-net and off-net Tariffs

Despite the achievements in reduction of tariffs and increased customer choice, the difference between on-net and off-net tariffs is affecting competition and therefore need to be addressed. The high spread between on-net and off-net tariffs has lead customers to own multiple SIM card in order to ensure that they always make on-net calls which are cheaper than off-net calls. The consultant recommended addressing this problem through wholesale market intervention.

(ii) Wholesale leased lines and Transmission

The NICTBB is a major transmission infrastructure, which is crucial for the ICT development in Tanzania. The facility will increase access to telecommunications services to all regions in the country. However, questions were raised by telecom operators during the competition assessment study on the ownership and administration of the NICTBB, sighting that the current arrangement could have an impact on the rest of telecommunications companies. Thus regulatory remedies and safeguards are required to ensure that the NICTBB

provides access to all licensees on a fair and non-discriminatory terms and conditions.

The current Interconnection Regulatory Framework Interconnection of licensed telecommunications networks and access issues are governed by the Tanzania Communications Regulatory Authority Act (TCRA), 2003, Electronic and Postal Communications Act (EPOCA), 2010 and the Electronic and Postal Communications (Interconnection) Regulations of 2011.

Section 27 (a) of EPOCA, 2010, gives powers to the Authority to Regulate all interconnection arrangements between network service licensee where there is market failure. Pursuant to Regulation 4 (1)-(5) of interconnection Regulations, 2011 interconnection of networks is mandatory for all network service licensees. Furthermore, Regulation 6(1) (2) provides for interconnection parties to negotiate on technical and commercial terms, and that negotiations should be done on freely and in good faith.

The interconnection regulatory framework entails that network facilities and services providers are required to negotiate commercially and agree on the terms and conditions for interconnecting their networks and enter into an interconnection agreement.

However, where licensees are unable to agree on the terms and conditions for interconnection the Authority is empowered by virtue of section 16 (1) (2) of TCRA Act, 2003 to intervene in the public interest and determine the interconnection rates, which shall become binding to all licenses

The Tanzania Communications Regulatory Authority (TCRA) Act No. 12 of 2003 and the Electronic and Postal Communications (EPOCA) Act of 2010, give specific powers to the regulatory Authority to regulate interconnection and to resolve interconnection disputes. The Interconnection Regulations of 2001 and 2005 and now replaced by that of the year 2011; stipulates the current general framework and sets out principles of interconnection arrangement in Tanzania.

In a nutshell it is stipulated that operators should negotiate agreements amongst themselves before they file their agreements with the regulator for approval or petition for arbitration in case of disputes.

One key obligation of the Network facilities and Network services Licensees is to enter into agreements with other licensed operators to provide interconnection services on fair, cost oriented and non-discriminatory terms to ensure the provision of seamless and end-to-end telecommunications services.

Regulatory Interventions and the Determination of the Interconnection rates

Since 2002 the interconnection rates has been determined by the regulator, the Tanzania Communications Regulatory Authority (TCRA) and its predecessor the Tanzania Communication Commission (TCC) after failures by operators to reach commercial agreements. A number of disputes among operators triggered regulatory interventions through determinations as follows:-

1. Determination No. 1 of 2002

The Determination No.1 of 16th January 2002 was issued after three mobile operators (MIC (T) Ltd, Tritel, and Vodacom) had refused to interconnect with the then newest licensed operator, Celtel (T) Ltd disputing on a 10 US cents termination rate offered by the new entrant. The regulator intervened and required all operators to interconnect at a cap ceiling rate of not more than 17.5 US cents per minute decreasing it from the all time high rate of 25 US cents.

2. Determination No. 2 of 2002

Determination No. 2 of 19th April, 2002 set singular interconnection rates ceiling cap from fixed to mobile networks at Tshs 221 per minute but multiple interconnection rates ceiling caps from mobile to mobile at 10.US cents per minute to Celtel and Zantel and 17.5 US cents per minutes to MIC (T) Ltd, Tritel and Vodacom (T) Ltd.

The operators were urged to commercially negotiate lower rates.; which they never did but connected at the very ceiling rates.

3. Determination No. 3 of 2002

On 30th September 2002, the regulator deferred the implementation of determination 3/2002 which was based on international benchmarking study, from 1st October 2002 to 10th January 2003 and later on until a cost based study was completed as requested by some operators and as advised by the then Ministry responsible for the Communications sector.

However some operators implemented some items contained in the deferred determination including the use of the local currency ; Tanzanian shilling and the call durations for termination charges started being rounded to the nearest second to avoid over charging of calls which did not last to a complete minute.

4. Cost oriented Determination No.1 of 2004

The determination No.1 of 2004 applied from 1st August, 2004 to 31st December 2007 was based on a Long Run Incremental Cost (LRIC) methodology cost study commissioned by the regulator, on March 2003 to an international consulting firm M/S Analysis consulting (UK) Ltd which won an open international tender to carry out a cost study and develop an Interconnection charge model for mobile and fixed Telecommunications in the United Republic of Tanzania.

The interconnection charge models developed for the mobile and fixed networks utilized the Long – Run – Incremental – Cost (LRIC) methodology where by reconciled Bottom – Up and Top – Down models were used as means to arrive at economic cost – based charges i.e. long run incremental cost (LRIC) that covers all relevant costs involved plus an Equi- Proportionate Mark Up (EPMU) of common cost and cost of capital.

In the determination No.1 of 2004 the regulator took a holistic approach and determined the termination (Interconnection) rates among the fixed and mobile telecommunications applicable form 1st August 2004 to 31st December2007, a four year glide path staggered termination rates determination with rates falling gradually and progressively becoming cost oriented as follows:-

Table 3: Applicable Interconnection Rates from 1st August 2004 to 31st December 2007 in US cents.

	1 st August,2004	1 st January,2005	1 st January,2006	1 st January,2007
Mobile Termination	10.0	8.9	7.9	6.9
Fixed termination	3.9	3.8	3.6	3.5
Single Tandem				
Double Tandem	5.5	5.3	5.0	4.0

The staggered approach allowed Industry to smoothly adjust and enabled planning into the future. The rates though were indicated in US dollars; were converted into Tanzanian shillings by the official exchange rates determined by the Bank of Tanzania when operators were transacting.

5. Termination Rates Review of 2006

Prior to the implementation of the 1st January 2006 determined rate; an adjustment was made by carry-

ing an industry wide assessment, operators and other stakeholders were given an opportunity to submit data for year 2004 and 2005 that reviewed the LRIC charge model as follows:-

Table 4: Revised Termination charges from 1st January 2006 to 31st December 2007 in US cents.

	1 st August 2004	1 st January 2005	1 st January, 2006	1 st January, 2007
Mobile Termination	10.0	8.9	7.9	7.9
Fixed termination	3.9	3.8	3.6	3.6
Single Tandem				
Double Tandem	5.5	5.3	5.0	5.0

N.B: *Single Tandem meant a connection made through one switch and double tandem meant a connection through two switches.*

The review was done in the light of full sector liberalization introduced in 2005, market developments and the Converged Licensing Framework (CLF) also introduced in 2005.

The review recommended that the interconnection rates should be frozen until the end of the control period a recommendation that was implemented by the regulator in 2006 until the end of the determination No.1 of 2004 at the end of December 2007.

6. Determination No.2 issued in 2007

The regulator issued a cost oriented determination known as the Interconnection Determination No.2 issued on 2007 effective from 1st January 2008 to 1st December 2012 following the expiry on 31st December 2007 of the Determination No.1 of 2004 as reviewed in March 2006 on cost based Termination (Interconnection) rates for fixed and Mobile telecommunication networks.

The current interconnection regime was established by an Interconnection Determination No. of 2007, which was issued and published in December 2007, and became effective from 1st of January 2008. The determination established a five years glide path of cost based interconnection rates from 1st January, 2008 to 31st December, 2012 as show in the table below.

Table 5: Glide path for cost based interconnection rates (in US\$ cents) with effect from 1st January, 2008 to 31st December, 2012

	1 st Jan ,2008	1 st January, 2009	1 st January, 2010	1 st January, 2011	1 st January, 2012
Voice Call Termination	7.83	7.65	7.49	7.32	7.16

The rates established the ceiling upper cap on interconnection rates, operators were free to negotiate and agree on rates below the cap. The determined rates remain valid, binding and applicable on licensed operators until 31st December 2012.

The Public inquiry on the interconnection rates

The determination was determined after a Public Inquiry that was conducted by a Panel of Inquiry appointed pursuant to the Tanzania Communications Regulatory Authority Act.

The determination also reported on the process and procedures adopted by the Panel in the Inquiry. The Panel determined that the use of the Long Run Incremental Cost (LRIC) methodology was appropriate for setting interconnection prices, and the Authority approved of this finding. In this determination, the Authority reviewed the reasons for the approval of the use of the LRIC methodology. Ultimately, the determination concluded by setting out interconnection rates for voice call termination rates for each of the years between 2008 and 2012, inclusive.

The inquiry panel composed of eight members appointed by the regulator from within and out of the regulator, who conducted the inquiry in a transparent manner involving all telecommunications network operators, representatives of consumers and other stakeholders including the general public.

The inquiry process involved literature review, consultations, written submissions and public hearing to get views on proposed rates from operators, consumers and other stakeholders including the general public. The panel of inquiry submitted its report to the Authority that was taken into consideration when drawing the Determination #2 issued in 2007.

The panel of inquiry established that two operators i.e Celtel (T) Ltd and Vodacom (T) Ltd out of the seven were not in favour of the proposed rates as determined by the cost study.

Other stakeholders especially consumers and most members of the public were of the view that the proposed rates were reasonable and implementation of the same should induce reduction of retail tariffs which were viewed as high and do not reflect actual cost involved in the provision of the services. The panel of inquiry satisfied itself that the Long Run Incremental cost (LRIC) methodology which was used by the consultant was an appropriate basis for determining interconnection rates because it reflects cost of the modern equivalent networks. These costs according to the panel promote effective competition and attract new entrants to enter into the market.

The panel of inquiry looked at benchmarks of selected African Countries which have undertaken some form of cost studies. That notwithstanding it was the panel's considered view that benchmarking presupposes that countries / operators being compared have almost exactly the same economic and operating environment which is difficult to find in the real world.

The Authority noted with approval the panel of inquiry agreement with the cost study, the consultant's consideration of costs which are relevant for the provision of termination (Interconnection) services namely Long Run Incremental Costs, Equi proportionate mark – up and the location updates.

The Authority concurred with the panel of Inquiry's observation that all operators have monopoly on terminating calls on their networks. In order to promote fair competition there is indeed a need for regulating the interconnection rates especially when the operators fail to commercially negotiate and agree on the desirable interconnection rates.

The Interconnection rates are to be reviewed in 2012.

Rationale for the Review of the Cost based Interconnection Rates

The Interconnection determination No. 2 that was issued in 2007 by the Authority will come to end on 31st December 2012; thus the need to carry out a cost study and develop a new interconnection charge model for telecommunications network service providers in the United Republic of Tanzania.

Pursuit to Section 27 (a), of EPOCA, 2010, the Authority organized a stakeholder's workshop on 22nd February, 2012 at TCRA headquarters, with the following objectives:

1. Obtain from operators views and status on preparation for interconnection arrangement post 31st December, 2012.
2. Identify interconnection issues to be resolved

such as the high deference between the on-net and off-net call tariffs and customers/operators perception that the current interconnection rates are on the higher side.

3. Propose and agree on the way forward to achieve new interconnection arrangement starting 1st January, 2013.

The Review process has began

Pursuant to section 16 (1) (2) of the TCRA Act, 2003 and Section 27 (a), of EPOCA, 2010, the Authority shall proceed to review the current applicable interconnection rates and determine new interconnection rates for the next five years effective from 1st January, 2013 following failure for the industry to commercially negotiate and agree on the post determination # 2 of 2007 era. This has been manifested by disagreements on previous consultative meetings on the matter. The most conclusive was the industry high level workshop held in January 2012 and events and correspondences thereafter between the regulator and the interconnecting network operators.

Interconnection being one of the most important elements of the telecommunication/ICT regulation in a liberalized environment and indeed is needed to achieve equitable and sustainable expansion of infrastructure services; and very vital for a well functioning, competitive telecommunication/ICT market and the need for it to be aligned with the general regulatory context, industry stability and a clear predictable framework.

This is recognized in the Tanzania Communications Regulatory Authority act of 2003 and the Electronic and postal communications act of 2010 plus the Interconnection regulations of 2011, which requires network facilities providers and network services providers to provide to other licensees interconnection at any technically feasible location at request.

Service providers are required to negotiate in good faith bilaterally to foster Interconnection agreements that are non-discriminatory. Where they are unable to agree on the terms and conditions for interconnection, the Authority is empowered and required to intervene in the public interest whether or not requested to do so by either party to an interconnection agreement and if necessary, set rules binding on parties concerning interconnection.

Accordingly the Authority has procured consultancy services of an independent party to review the current interconnection regime and make proposals for a new five year glide path of cost based interconnection rates effective from 1st January, 2013, in order to ensure a

level playing field and a fair play.

Tender awarded for a cost study

M/S. PricewaterhouseCoopers LLP UK (PwC) has competitively won a tender floated by the Tanzania Communications Regulatory Authority following failure by the operators to commercially negotiate and agree on desirable interconnection rates on post interconnection determination number 2 of 2007 that is coming to an end on 31st December 2012.

The firms have been awarded a tender as a lead consultant to carry out Interconnection cost study and advice on cost oriented interconnection rates. The assignment is expected to take three months starting from September, 2012.

The overall objective of this consultancy is to review the current telecommunications market and the existing interconnection regime (Interconnection Determination No.2 of 2007) in view to establish a revised cost based interconnection charges among telecommunications network operators.

This assignment will involve reviewing and analysing the existing interconnection regime in the telecommunication/ICT market in view to provide the Authority with knowledge, models, applications and software needed to determine the cost based interconnection rates, as well as benchmarking the rates, for the interconnection of networks and operation of leased lines. The consultant shall train and work with to the TCRA Interconnection Taskforce Team (ITT) for the purpose of imparting knowledge and skills to use and update LRIC model.

Specifically, the assignment seeks to:

1. Review the legislation, regulations and guidelines relevant to interconnection in the telecommunications/ICT sector;
2. Design and develop Long Run Incremental Cost (LRIC) model for costing telecommunication networks and estimating the cost of providing fixed (PSTN) and mobile telecommunication services;
3. Train and involve the TCRA Interconnection Taskforce Team (ITT) in the entire process from the conceptual models design, data collection, actual modelling and derivation of cost based retail and wholesale tariffs for voice telephone services and leased lines;
4. Participate in a due and highly interactive consultation process with stakeholders from the conceptual models design, data collection, actual modelling and the results therefrom;
5. Recommend appropriate cost based retail and

wholesale (interconnection rates) tariffs for voice telephone calls and leased lines.

Specific Tasks to be performed are:

1. To take stock of what is required to undertake the assignment and prepare an action plan showing key activities, deliverables, resource requirement and time-frame for completing the assignment,
2. To Consult with telecommunications network operators to gain their understanding, perception and expectations with regard to establishing new cost based interconnection rates by 31st December, 2012 with an objective to build a common rapport on approach, process and procedure for achieving the new interconnection rates,
3. To review the existing legal and regulatory framework relating to interconnection issues and recommend appropriate interconnection regime,
4. To assess the existing level of provision of telecommunication services in terms of supply and demand, types of services and technologies, taking due account of the licensing regime and establish what constraints exist in respect of further development (technical, economic and regulatory),
5. To design and develop an appropriate LRIC model for estimating cost based interconnection rates, which covers all conceivable aspects of telecom networks and services offered and based on the developed model calculate the estimated five year glide path for cost-based interconnection rates for Tanzania telecom market,
6. In developing the LRIC model, the consultant shall take into consideration costing of retail and interconnection services provided under new technology platforms such as IP and Next Generation Networks (NGN).
7. To present the findings of the cost study to the management, board and stakeholders through a workshop in order to establish common understanding of the methodology and approach to the work.
8. Participate during public consultation (due process) in view to provide an external opinion if need arise to relevant stakeholders from the beginning to the adoption of the determination of new cost-based interconnection rates. The consultation may take various forms including workshops, online and direct meetings.
9. Train and involve TCRA Interconnection Task Force Team (ITF) in the process of data collection and actual modelling in view to impart knowledge, skills and competencies required to use and update the LRIC model.

THINGS YOU SHOULD KNOW

Offences and penalties relating to electronic communications

Forewarned is forearmed, so goes the age old counsel. The 2010 Electronic and Postal Communications Act (EPOCA) outlines several offences and penalties relating to electronic communications in Tanzania. In the first of a three-part series, we publish the list of offences and penalties as presented in part vi of the Act.

Failure to observe licence requirements

116.(1) Any person who installs, operates, constructs, maintains, owns or makes available network facilities without obtaining any relevant individual licence, commits an offence and shall be liable upon conviction to a fine of not less than five million Tanzanian shillings or imprisonment for a term not less than twelve months or to both.

(2) Any person who provides network services without obtaining any relevant individual licence, commits an offence and shall be liable upon conviction to a fine of not less than six million Tanzanian shillings or imprisonment for a term not less than twelve months or to both.

(3) Any person who -

- (a) provides application services without having first obtained any relevant individual licence;
- (b) provides content services without having first obtained any relevant individual licence, or any relevant class licence commits an offence and shall be liable upon conviction to a fine of not less than five million Tanzanian shillings or imprisonment for a term not less than twelve months or to both;
- (c) imports, distributes, or sells electronic communication equipment or apparatus or; establishes, installs, maintains and operates an electronic communication

system or imports non type approved electronic communication equipment or apparatus into the United Republic without a licence, commits an offence and shall be liable upon conviction to a fine of not less than five million Tanzanian shillings or imprisonment for a term not less than twelve months or to both.

Failure to observe assignment requirements

117.(1) Any person who uses radio frequency spectrum without obtaining any relevant individual assignment, commits an offence and shall be liable upon conviction to a fine of not less than two billion five hundred thousand million Tanzanian shillings or imprisonment for a term not less than twelve months or to both and in case of continuing offence, to a fine of not less than seventy five million Tanzanian shillings for everyday during which the offence continues after conviction.

(2) Notwithstanding the provision of sub-sections (1) and

(3) any person who willfully contravenes or fails to comply with the conditions imposed on his licence granted under this Act in relation to the use of radio communication channel or frequency, shall have his licence cancelled.

(3) Any person who uses one or more numbers or electronic addresses without having first obtained any rel-

evant individual assignment, or any relevant class assignment, commits an offence and shall be liable upon conviction to a fine of not less than five million Tanzanian shillings or imprisonment for a term not less than twelve months or to both, and shall be liable to a fine of seven hundred and fifty Tanzanian shillings for every day during which the offence is continued after conviction.

Penalty for transmission of obscene communication

118. Any person who-

(a) by means of any network facilities, network services, applications services or content services, knowingly makes, creates, or solicits or initiates the transmission of any comment, request, suggestion or other communication which is obscene, indecent, false, menacing or offensive in character with intent to annoy, abuse, threaten or harass another person;

(b) initiates a communication using any applications services, whether continuously, repeatedly or otherwise, during which communication may or may not ensue, with or without disclosing his identity and with intent to annoy, abuse, threatens or harass any person at any number or electronic address;

(c) by means of any network services or applications service provides any obscene communication to any person; or

(d) permits any network services or application services under the person's control to be used for an activity described in section 117 (3), commits an offence and shall, on conviction, be liable to a fine not less than five million Tanzanian shillings or to imprisonment for a term not less than twelve months, or to both and shall also be liable to fine of seven hundred and fifty thousand Tanzanian shillings for every day during which the offence is continued after conviction.

Penalty for failure to obtain radio frequency spectrum licence

119. Any person who uses radio frequency spectrum

without having first obtained any relevant class license commits an offence and shall be liable upon conviction to a fine of five million Tanzanian shillings or imprisonment for a term not less than twelve months or to both fine and imprisonment and in case of a continuing offence to a fine of not less than one million five hundred thousand Tanzanian shillings.

Penalty for interception of communications

120. Any person who, without lawful authority under this Act or any other written law-

(a) intercepts, attempts to intercept, or procures any other person to intercept or attempt to intercept any communications; or

(b) discloses, or attempts to disclose to any other person the contents of any communications, knowingly or having reason to believe that the information was obtained through the interception of any communications in contravention of this section; or

(c) uses, or attempts to use the contents of any communications, knowingly having reason to believe that the information was obtained through the interception of any communications in contravention of this section, commits an offence and shall, on conviction, be liable to a fine of not less than five million Tanzanian shillings or to imprisonment for a term not less than twelve months, or to both.

Authorized person discloses interception to others

121(1) Any person who is authorized under this Act intentionally discloses, or attempts to disclose, to any other person the contents of any communications, intercepted by means authorized by this Act-

(a) knowing or having reason to believe that the information was obtained through the interception of such communications in connection with a criminal investigation;

(b) having obtained or received the information in connection with a criminal investigation; or

(c) improperly obstructs, impedes, or interferes with a

Act-

(a) knowing or having reason to believe that the information was obtained through the interception of such communications in connection with a criminal investigation;

(b) having obtained or received the information in connection with a criminal investigation; or

(c) improperly obstructs, impedes, or interferes with a duly authorized criminal investigation, commits an offence and shall, on conviction, be liable to a fine of not less than five million Tanzanian shillings or to imprisonment for a term not less than twelve months, or to both.

(2) It shall be lawful under this Act for an officer, employee or agent of any network facilities provider, network service provider, application service provider or content service provider whose facilities or services are used in communications, to intercept, disclose, or use those communications in the normal course of his employment while engaged in any activity which is a necessary incident to the performance of his facilities or services or to the protection of the rights or property of the provider of the facilities or services, but the provider shall not utilize the facilities or services for observing or random monitoring unless it is for mechanical or service quality control or checks.

Penalty for fraudulent use of network facilities, network services, applications service and Content services

122. Any person who-

(a) dishonestly transmits or allows to be transmitted any communication or obtains a service provided by a licensed network facilities provider, network services provider, applications services provider or content services provider with intent to avoid payment of any rate or fee applicable to the provision of that facility or services; or

(b) possesses, obtains or creates a system designed to fraudulently use or obtain any network facilities, network service, applications service or content service, commits an offence and shall, on conviction, be liable

to a fine not less than five million Tanzanian shillings or to imprisonment for a term not less than two years, or to both.

Penalty for interference of transmission of electronic communications

123.(1) Any person who without probable cause, interferes with or obstructs the transmission or reception of any electronic communications commits an offence and upon conviction shall be liable to a fine of not less than five million Tanzanian shillings or to imprisonment for a term not less than two years or to both.

(2) When a court is convicting a person of an offence under this section may in addition to any penalty that may impose, order forfeiture to the Authority of any electronic communication equipment or other material in relation to or in connection with the means the offence was committed.

(3) Notwithstanding sub-section (2), no order for forfeiture shall be made by the Court where it is proved that the electronic communication equipment in question is not owned by the person so convicted.

Unauthorised access or use of computer system

124.-(1) There is hereby established a National Computer Emergency Response Team (CERT), which shall coordinate response to cyber security incidents at the national level and cooperate with regional and international entities involved with the management of cyber security incidents.

(2) The Minister may make regulations with respect to the composition and duties of CERT.

(3) Any person who secures unauthorized access to a computer or intentionally causes or knowingly causes loss or damage to the public or any person, destroy or delete or alter any information in the computer resources or diminish its value or utility or affect it injuriously by any means, commits an offence and on conviction shall be liable to a fine not less than five hundred thou-

sand Tanzanian shillings or to imprisonment for a term of not exceeding three months or to both.

Offences and penalties relating to SIM card

Sale, transfer, or disposal of SIM cards without authority of Network Service Licensee

125. Any dealer or person who sells or distributes any SIM

– cards without authorization of the appropriate Network Service Licensee shall be guilty of an offence and be liable on conviction to a fine of seven million Tanzanian shillings or to imprisonment for a term of two years or to both.

Failure to give satisfactory account of mobile telephone or SIM card

126. Any person who is found in possession of any mobile telephone or SIM - card in regard to which there is reasonable suspicion that it has been stolen and is unable to give a satisfactory account of such possession, commits an offence and is liable on conviction to a fine not exceeding five hundred thousand Tanzanian shillings or to imprisonment for a term not exceeding three months.

Absence of reasonable cause for believing mobile telephone or SIM card properly acquired

127.-(1) Any person who in any manner acquires or receives into his possession from any other person a stolen mobile telephone or SIM card without having reasonable cause to believe that at the time of such acquisition or receipt that mobile telephone or SIM card was the property of the person from whom he acquires or receives it or that person has been duly authorised by the owner to deal with it or dispose of, is guilty of an offence.

(2) In the absence of evidence to the contrary which

raises a reasonable doubt, proof of such possession is sufficient evidence of the absence of reasonable doubt.

(3) Any person who commits an offence under this section shall on conviction be liable to a fine of seven million Tanzanian shillings or to imprisonment a term of two years or to both.

Failure to report loss or theft of mobile telephone or SIM card

128. Any person who fails to report the loss, theft or destruction of a mobile telephone or SIM card commits an offence.

(2) Whenever a person is charged with an offence under sub-section (1) and it is proved that such person was, at the time, the owner or authorised possessor of the mobile telephone or SIM card alleged to have been lost, stolen or destroyed, proof that the person has failed to produce such mobile telephone or SIM- card within seven days of a written request by a police or other law enforcement officer, shall, in the absence of evidence to the contrary which raises reasonable doubt, be sufficient evidence that the mobile telephone or SIM card has been lost, stolen or destroyed.

(3) Any person who commits an offence under this section shall on conviction be liable to a fine of three hundred thousand but not more than five hundred thousand Tanzanian shillings or to imprisonment for a term of six months or to both.

Tampering with mobile telephones and SIM card

129. Any person who, intentionally and unlawfully in any manner-

(a) tempers, modifies, alters, reconfigures or interferes with mobile telephone or SIM card or any part thereof; and

(b) reverse engineers, decompiles, disassembles or interferes with mobile telephone or SIM card, or any part thereof, commits an offence and shall be liable on con-

Tampering with mobile telephones and SIM card

129. Any person who, intentionally and unlawfully in any manner-

(a) tempers, modifies, alters, reconfigures or interferes with mobile telephone or SIM card or any part thereof; and

(b) reverse engineers, decompiles, disassembles or interferes with mobile telephone or SIM card, or any part thereof, commits an offence and shall be liable on conviction to a fine of thirty million Tanzanian shillings or to imprisonment for a term not exceeding ten years or both.

Recording sale of mobile telephone and SIM card

130.(1) Any person who sells or in any other manner provides, any mobile telephone or SIM card to any other person, natural or legal, without recording the particulars of that person as required by section 102 of this Act, commits an offence and on conviction shall be liable to a fine of three million Tanzanian shillings or to imprisonment for a term of twelve months or to both.

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(2) Where the offender is a network service licensee or operator it shall be liable to a fine of fifteen million Tanzanian shillings.

(3) Where the offender is an employee of the Network Service licensee or a legal person, he shall be liable to the same penalty as provided under sub-section (1).

Use of unregistered SIM Card

131. Any person who knowingly uses or causes to be used an unregistered SIM card commits an offence and shall be liable on conviction to a fine not exceeding five hundred thousand Tanzanian shillings or imprisonment for a term not exceeding three months.

False information or statement

132. Any person who furnishes information or makes a statement knowing that such information or statement is false, incorrect or misleading or not believing it to be true, commits an offence and shall be liable on conviction to a fine of three million Tanzanian shillings or to imprisonment for a term of twelve months or to both.

Obstruction to perform duties

133. Any person who obstructs, hinders or interferes with an authorised person to execute any direction issued under this Act or assists with the execution thereof, commits an offence and shall be liable on conviction to a fine not exceeding three million Tanzanian shillings or to imprisonment for a term of twelve months or to both.

Offence of allowing use of black listed phone

134. Any Network service licensee who allows any black listed mobile telephones to operate commits an offence and shall be liable to a conviction to a fine of seventy five million Tanzanian shillings or imprisonment for a term of five years or to both.

Tampering with blacklisted phones

135. Any person who physically electronically tempers with any blacklisted mobile telephone commits an offence and shall be liable on conviction to a fine of one million five hundred thousand Tanzanian shillings or imprisonment for a term of five years or to both.

Prosecution if acts in course of employment or in good faith

136. No person shall be liable to prosecution for a contravention of this Act if he acts in the course of his employment or in good faith assists an authorised person

and believes that such authorised person is acting in accordance with this Act.

137. (1) No person shall –

(a) offer for sale, sell or possess for sale any electronic equipment; or communication broadcasting apparatus; or

(b) possess any radio communication equipment, except in accordance with a licence issued under this Act.

Prohibitions in respect of radio communication and electronic communication equipment (2) Any person who contravenes or fails to comply with sub-section (1) commits an offence.

(c) Offences relating to postal communications Penalty for operating without postal licence

138. Any person who-

(a) conveys, otherwise than in accordance with the terms of a valid postal licence, and letter or postal article;

(b) performs any service incidental to conveying, otherwise than in accordance with the terms of a valid postal licence, any letter or postal article;

(c) sends, tenders or delivers in order to be sent otherwise than in accordance with the terms of a valid postal licence, any letter or postal article as aforesaid ;and

(d) makes a collection of letters or postal articles as aforesaid for the purpose of sending them otherwise than in accordance with the terms of a valid postal licence, commits an offence and shall, be liable on conviction in case of a first offence to a fine of not less than five hundred thousand Tanzanian shillings and in the case of a subsequent offence, to a 88 No. 3 Electronic and Postal Communications 2010 fine of not exceeding four hundred and fifty million Tanzanian shillings for every day during which the offence continues.

Penalty for transmission of prohibited articles

139. Any person who sends by post any postal article or any thing which is injurious, indecent or prohibited under this Act, commits an offence and shall, on conviction, be liable to a fine not less than five million Tanzanian shillings or to imprisonment for a term not less than twelve month or to both.

Penalty for damaging or destroying letter boxes

140. Any person who places in or against any letter box provided public postal by the licensee for the reception of postal articles any fire, match or light, or any explosive, dangerous, filthy, noxious, or deleterious substance or any fluid, or commits a nuisance in or against any such letter box, or does anything likely to destroy or damage any such letter box or its appurtenances or contents, commits an offence and shall, on conviction, be liable to a fine of not less than five million Tanzanian shillings or to imprisonment for a term not less than twelve months or to both.

Penalty for affixing without authority anything to, or spoil the appearance of a post office

141. Any person who, without due authority affixes any placard, for advertisement, notice, list, documents, board or other thing in or on, or paints, tars, or in any way spoils the appearance of, any post office, commits an offence and shall, on conviction be liable to a fine of not less than five million Tanzanian shillings.

Penalty for unlawfully detaining mails or opening mail bags

142. Any person who, except under the authority of this Act or in obedience to the order in writing of the Minister or the Authority or the directions of a competent court, detains the mails or any postal article in the course of transmission by post or on any pretence opens a mail bag in course of transmission by post commits of an offence and shall, on conviction, be liable to a fine of not less than five million Tanzanian shillings.

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MASWALI YAULIZWAYO MARA KWA MARA KUHUSU MABADILIKO YA TEKNOLOJIA YA UTANGAZAJI KUTOKA ANALOJIA KWENDA DIJITALI

Swali 1: Nini maana ya utangazaji kwa kutumia teknolojia ya analogia?

Jibu 1: Ni mfumo wa utangazaji ambao ulianza kutumika tangu kugunduliwa kwa mawasiliano ya televisheni na radio. Mfumo huu umedhihirika kuwa na mapungufu katika urushaji wa matangazo katika ubora wa picha, sauti na matumizi ya masafa.

Swali 2: Nini maana ya utangazaji kwa kutumia teknolojia ya dijitali?

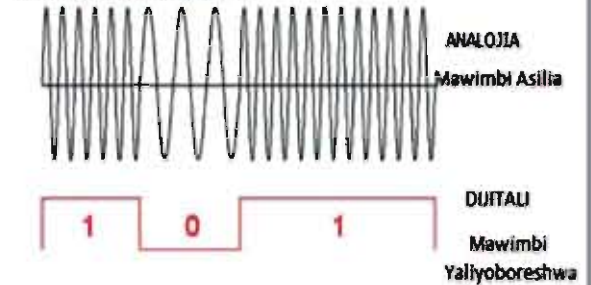
Jibu 2: Ni mfumo wa utangazaji ambao umetokana na uboreshwaji wa mfumo wa analogia ili kuweza kukabiliana na mapungufu ya mfumo wa analogia. Mfumo huu umedhihirika kuwa bora zaidi katika urushaji wa matangazo kwa kuwa na picha bora zaidi, sauti bora zaidi na matumizi bora zaidi ya masafa.

Swali 3: Nini tofauti ya Mfumo wa utangazaji wa teknolojia ya dijitali na mfumo wa utangazaji wa teknolojia analogia ambao unatumika kwa sasa?

Jibu 3: Tofauti kati ya analogia na dijitali iko kwenye mfumo wa usafirishaji wa mawimbi ya sauti na picha. Kwa asilia mawimbi ya sauti au ya picha yako kwenye mfumo wa analogia. Mawimbi yaliyo kwenye mfumo wa analogia yanaposafirishwa mbali kwa msikilizaji/mtazamaji yameonyesha kupoteza ubora wa sauti na picha. Mawimbi yanapobadilishwa kutoka mfumo wa analogia kwenda dijitali yanaposafirishwa kwenda mbali yameonyesha kuwa na ubora wa sauti na picha.

Mchoro wa mawimbi ya Analogia na Digitali

Mfano wa Mawimbi



Swali 4: Kwa nini tunahama kutoka mfumo wa utangazaji wa teknolojia ya analogia kwenda katika mfumo wa utangazaji wa teknolojia ya dijitali?

Jibu 4: Tunahama kwa sababu mfumo wa dijitali una faida zifuatazo:-

- Ubora wa sauti na picha;
- Vifaa vya kuhifadhi habari (CD, VCD, DVD) ni vidogo na huhifadhi habari nyingi ukilinganisha na tape recorder na santuri ambazo ziko kwenye mfumo wa analogia;
- Matumizi bora ya masafa. Kwa mfano chaneli moja ya analogia hutumiwa na kituo kimoja cha utangazaji wakati kwa mfumo wa dijitali chaneli moja hutumiwa na vituo zaidi ya kumi;
- Mitambo ya kurusha matangazo kutumia nguvu ndogo ya nishati;
- Kuwepo kwa luinga za mkononi (Mobile TV) kwenye mfumo wa dijitali;

- vi. Uhuru wa kuchagua vipindi;
- vii. Kupanga muda wa kuangalia kipindi wakati unaoitaka;
- viii. Kuitisha kipindi unapokitaka;
- ix. Kushiriki moja kwa moja kutoa maoni juu ya kipindi unachokiangalia;
- x. Upatikanaji wa huduma mbalimbali za ziada kwenye luninga, kwa mfano intaneti, redio, michezo ya elektroniki.

Swali 5: Nini tofauti kati ya Utangazaji wa Televisheni kwa kutumia miundo mbinu ya ardhini (Terrestrial) na utangazaji wa kutumia satelaiti

Jibu 5: Utangazaji unaotumia mitambo ya ardhini (Terrestrial) hutumia mitambo ya kurushia matangazo (Transmitters) iliyosimikwa ardhini (minara). Kwa kupokea matangazo ya mitambo hii mtazamaji na msikilizaji hupokea matangazo kwa njia ya antenna zinazofungwa juu ya nyumba au ndani.

Utangazaji wa satelaiti hutumia mitambo ya kurushia matangazo ambayo huwekwa angani na kurusha matangazo ambayo humfikia mtumiaji kwa njia ya madishi au nyungo zinazofungwa mahali ambapo hakuna kizuizi kwa mawimbi (Masafa) yatokayo kwenye satelaiti. Ukubwa wa madishi haya hutegemeana na teknolojia ya mawimbi yanayotumika.

Swali 6: Je, mabadiliko ya teknolojia ya Dijitali yametokea sehemu nyingine duniani?

Jibu 6: Ndiyo, mabadiliko haya yameridhiwa na nchi zote duniani wanachama wa Shirika la Mawasiliano ya Simu Duniani (ITU) mwaka 2006.

Swali 7: Je nitahitaji dishi (ungo wa satelaiti) kupokea matangazo ya mfumo wa utangazaji wa dijitali unaotumia mitambo ya kurushia matangazo iliyosimikwa ardhini (Terrestrial)?

Jibu 7: Hapana, dishi ni kwa ajili ya mfumo wa matangazo unaotumia mitambo ya kurushia matangazo yal-

ioko angani kwenye satelaiti.

Swali 8: Je nitahitaji antena mpya kupokea matangazo ya dijitali?

Jibu 8: Antena unayotumia sasa kwa ajili ya kupokea matangazo ya mfumo wa analojia iliyofungwa juu ya nyumba au iliyoko ndani yaweza kutumika. Hata hivyo unashauriwa kuwasiliana na mtoa huduma ili aweze kukupa ushauri unaofaa kwa matumizi ya kupokea matangazo kwa kuzingatia eneo la kijiografia unapoishi.

Swali 9: Je zaidi ya luninga zinazopokea matangazo ya analojia na antena, nitahitaji vifaa gani zaidi kupokea matangazo ya dijitali?

Jibu 9: Utahitaji kuwa na king'amuzi ili kupata matangazo ya dijitali kwenye luninga za analojia.

Swali 10: Nini maana ya King'amuzi?

Jibu 10: King'amuzi ni kifaa kinachotumika kupokea matangazo yanayorushwa kwa mfumo wa dijitali ili yaonekane na kusikika katika luninga za analojia.



Swali 11: Nini umuhimu wa King'amuzi katika mfumo wa dijitali?

Jibu 11: King'amuzi kinahitajika ili matangazo yanayorushwa katika mfumo wa dijitali yaonekane na kusikika kwenye luninga za analojia (hii ni pamoja na

picha na sauti). Bila kifaa hiki, mawimbi yaliyo kwenye mfumo wa dijitali hayawezi kuonekana kwenye luninga za analojia.

Swali 12: Ili mtazamaji aweze kupokea na kuona matangazo yanayorushwa kwenye mfumo wa dijitali ni lazima kulipia matangazo hayo?

Jibu 12: Watoa huduma za matangazo ya bila kulipia kwa mfano TBC1, Channel Ten, Star TV na ITV wataendelea kuonekana kwa watazamaji bila malipo na matangazo haya yataonekana kwenye ving'amuzi vyote.

Aidha matangazo ya luninga yanayorushwa kutoka vituo mbalimbali ambayo ni ya kulipia kwa mfano TBC2, ikiwa mtazamaji atapendelea kuona matangazo hayo, itabidi kuwasiliana na mtoa huduma.

Swali 13: King'amuzi kitauzwa kwa bei gani?

Jibu 13: Bei ya king'amuzi inategemea ushindani kwenye soko.

Swali 14: Je kuna mpango gani wa kutoa nafuu ya bei kwa ving'amuzi ili wananchi wengi waweze kununua?

Jibu 14: Serikali imetangaza kwenye Bajeti ya 2012/13 kwamba ving'amuzi havitalipiwa ushuru ili kufanya bei iwe nafuu na kumwezesha mwananchi kununua.

Swali 15: Je kama nina king'amuzi kinachopokea matangazo yanayorushwa kutoka kwenye satellite (DSTV/ZUKU) naweza kukitumia kwa kupokea matangazo yanayorushwa na mitambo ya dijitali iliyosimikwa ardhini (Terrestrial) au nitahitaji king'amuzi kingine?

Jibu 15: Ndiyo, utahitaji king'amuzi kingine.

Swali 16: Je ni makampuni mangapi yaliyopewa leseni ya kujenga miundombinu ya kurusha matan-

gazo ya dijitali?

Jibu 16: Mamlaka ya Mawasiliano Tanzania imetoa leseni kwa makampuni matatu kujenga miundombinu ya kurusha matangazo ya dijitali, ambayo ni:-

- i. Star Media (T) Limited;
- ii. Agape Associates Limited;
- iii. Basic Transmissions Limited.

Swali 17: Nini Kazi ya Mamlaka ya Mawasiliano Tanzania (TCRA) kwenye kutoa huduma za utangazaji kwenye mfumo wa dijitali?

Jibu 17: Kazi kubwa ya Mamlaka ya Mawasiliano Tanzania ni kusimamia na kuratibu zoezi zima la uhamaji kutoka utangazaji wa luninga wa mfumo wa analojia kwenda mfumo wa dijitali. Vile vile kutoa leseni kwa watoa huduma wa miundombinu ya dijitali, waagizaji na wasambazaji wa vifaa vya dijitali (Vingamuzi) na vituo vya utangazaji kwenye mfumo wa dijitali. Vilevile Mamlaka itaendelea kushughulikia malalamiko ya watumiaji wa huduma za utangazaji.

Swali 18: Je nikiwa na king'amuzi naweza kupokea matangazo ya dijitali mahali popote nchini?

Jibu 18: Utapokea matangazo kwenye mfumo wa dijitali ikiwa tu eneo ulipo kuna mtambo wa ardhini (terrestrial) wa kurushia matangazo kwenye mfumo wa dijitali. Mitambo hii inaweza ikasafirisha mawimbi kama kilomita 50 mpaka 80 kutegemea nguvu ya mtambo.

Swali 19: Je king'amuzi kinafungwa namna gani hadi kipate kufanya kazi?

Jibu 19: King'amuzi kinahitaji maelekezo ya kitaalamu ili kiweze kufanya kazi vizuri. Hakikisha unawasiliana na muuzaji ili uweze kupata msaada katika ufungaji wa king'amuzi hiki.

Swali 20: Je nitahitaji kununua luninga mpya kwa ajili ya matangazo ya dijitali?

Jibu 20: Hapana, luninga zote za analojia zinaweza kupata matangazo ya dijitali kwa kutumia king'amuzi.

Swali 21: Lini itakuwa mwisho wa kupata matangazo ya analojia?

Jibu 21: Kwa Tanzania na nchi za Jumuiya ya Afrika Mashariki, mwisho wa kurusha matangazo ya analojia ni tarehe 31 Disemba, 2012.

Swali 22: Luninga za dijitali zinapatikana wapi?

Jibu 22: Luninga za dijitali zinapatikana madukani. Mnunuzi ahakiishe kwamba anauziwa luninga ya dijitali.

Swali 23: Je, ni vigezo gani vya kuzingatia kama mtu anataka Kununua TV hivi sasa?

Jibu 23: Kuna aina mbili za luninga kama ifuatavyo: luninga zilizo na ving'amuzi na zisizo na ving'amuzi. Lakini kwa zenye ving'amuzi ndani unashauriwa kuwasiliana na mtoa huduma ili upate ushauri zaidi.

Swali 24: Je mfumo wa dijitali utakuwa wa gharama zaidi kwa vile watengeneza vipindi ni tofauti na wasambazaji (transmission)?

Jibu 24: Hapana, kwa sababu watoa huduma za utangazaji wa dijitali watatumia miundombinu ya dijitali. Vilevile, watengeneza vipindi vya maudhui hawatakuwa na haja ya kujenga miundombinu yao kwa hiyo gharama zao zitapungua; gharama za uendeshaji za miundombinu ya dijitali ni nafuu ukilinganisha na ile ya analojia.

Swali 25: Mkongo wa Taifa unahusikaje na mfumo wa utangazaji wa dijitali?

Jibu 25: Mkongo wa mawasiliano wa Taifa utarahisisha usambazaji wa huduma za utangazaji wa diji-

tali kwa vile umepita katika maeneo mbalimbali nchi nzima.

Swali 26: Je, mtumiaji wa huduma za utangazaji akipata matatizo kuhusiana na mfumo wa dijitali afanye nini?

Jibu 26: Mtumiaji wa huduma za mawasiliano anapopata matatizo kuhusiana na mfumo wa utangazaji wa dijitali anashauriwa kuwasiliana na Mamlaka ya Mawasiliano Tanzania, S.L.P 474 Dar Es Salaam au kwa barua pepe dg@tcra.go.tz. Pia anaweza kufika kwenye ofisi zetu Makao Makuu Dar Es Salaam au kwenye ofisi za kanda za TCRA.



The Tanzania Communications Regulatory Authority (TCRA) Manager for Corporate Communication Mr Innocent Mungy presents a Nokia Asha 201 phone to Ms Amina Mandawa from Kihonda, Morogoro who emerged one of the winners of assorted prizes from TCRA in the live interview questions on TBC1 during the analogue to digital switchover in Dar Es Salaam on 31st December 2012. The handover exercise was held at the Mawasiliano Towers in Dar Es Salaam recently. (Photo by courtesy of TCRA)



The Tanzania Communications Regulatory Authority (TCRA) Manager for Corporate Communication Mr Innocent Mungy presents a SAMSUNG Min-Lap Top to Mr Emmanuel Shayo of Dar Es Salaam who emerged one of the winners of assorted prizes from TCRA in a live interview questions on TBC1 during the analogue to digital switchover in Dar Es Salaam on 31st December 2012. The handover exercise was held at the Mawasiliano Towers in Dar Es Salaam recently. (Photo by courtesy of TCRA)

Rights and Obligations of consumers of COMMUNICATIONS SERVICES

Tanzania Communications Regulatory Authority was established by the TCRA Act no. 12 of 2003 following the merger of the then Tanzania Communications Commission (TCC) and the Tanzania Broadcasting Commission (TBC). The main duties and functions of TCRA, among others are:-

- 1) Establishing a level playing field in order to promote effective competition and economic efficiency;
- 2) Protecting the interests of consumers;
- 3) Promoting the availability of regulated services;
- 4) Licensing and enforcing licence conditions of broadcasting, postal and telecommunications operators;
- 5) Establishing and enforcing standards for regulated goods and services;
- 6) Regulating rates and charges (tariffs);
- 7) Management of the radio frequency spectrum and telecommunication numbering resources;
- 8) Monitoring the performance of the regulated sectors

Consumers' rights

Here below are some of the basic consumer rights and obligations of consumers of communications services.

Access

- **A consumer has a right to have access to basic communications services at reasonable prices.**

It is a fundamental human right to have access to communications services at an affordable price particularly the basic services like telephone and postal.

Government and subsequently TCRA have a responsibility to ensure that services are made available to all persons by adopting the right policies and that the licenses issued ensure the necessary roll out of services to all underserved areas and populations.

Rights and Obligations of consumers of COMMUNICATIONS SERVICES

Information

- **A consumer has a right to full pre-contractual information that is clear (understandable), helpful, adequate and accurate on the services and choices offered by a service provider/operator to facilitate the making of an informed choice.**

Such information should include a specification of what is and is not included in the price quoted as well as a clear statement on the quality of service to be provided.

TCRA has made it a requirement on all service providers/operators that these conditions of contract be contained in a service agreement that should be presented to each customer before the customer utilises the service provider's/operator's the customer utilises the service provider's/operator's services.

- **Consumers have a right to receive information assistance to assist them in use of services.**

This is particularly true among telecommunication operators who are required to provide directory assistance to customers.

- **Consumers have a right to have access to sector governing information.**

The information referred to in this case is information on issues such as governing policies and legislation as these affect the end service available to the consumers.

- **Consumers have a right to have comparative information.**

This information is provided to assist them in making choices between different service providers/operators, services and equipment.

Quality of Service

- **Consumers have a right to receive a service with a quality that reflects the cost of the service (Value for money).**

JAMHURI YA MUUNGANO WA TANZANIA MAMLAKA YA MAWASILIANO TANZANIA



MFUMO WA ANUANI MPYA ZA KITAIFA NA POSTIKODI

Manufaa kwa Serikali

- a) Ni msingi wa kutoa vitambulisho vya Taifa kwa Watanzania.
- b) Inaongeza ufanisi katika usimamizi wa makazi ya watu.
- c) Inawezesha kutambua mali na kaya katika eneo fulani.
- d) Itaongeza tija katika huduma za uokoaji na maafa.
- e) Itawezesha ukusanyaji wa kodi mbalimbali kwa urahisi na kwa wakati.
- f) Inainua umoja na utaifa katika nchi.
- g) Inaongeza kasi ya kupambana na uhalifu, kuimarisha shughuli za uhamiaji na kuongeza utalii.

Manufaa kwa Watumiaji wa Barua

- a) Inarahisisha uchambuzi wa barua kuwa wa haraka zaidi.
- b) Itwezesha utambuzi wa anuani kuwa rahisi zaidi.
- c) Itaongeza ufanisi katika usafirishaji na usambazaji wa barua
- d) Itaongeza ufanisi katika kushughulikia malalamiko ya wateja
- e) Itapunguza uwezekano wa barua kupotea

Manufaa kwa Jamii

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

Manufaa kwa Biashara

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



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



**Kata Rufaa katika Kamati ya Malalamiko
ya Mamlaka ya Mawasiliano Tanzania**

Endapo hujaridhika na maamuzi ya Kamati ya Malalamiko



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

Kwa maelezo zaidi wasiliana nasi:

Mawasiliano Towers, Kiwanja Na. 2005/5/1, Kitalu C, Barabara ya Sam Nujoma,
S.L.P 474, Dar es Salaam

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Nukushi: +255 22 2412009/2412010

Piga: 080 000 8888 bure

Tuma ujumbe 15454

Barua pepe: dg@tcra.go.tz, malalamiko@tcra.go.tz, complaints@tcra.go.tz

Tovuti: www.tcra.go.tz

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 1 st 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 information 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.



Tanzania Communications Regulatory Authority (TCRA)

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