

Policy and Regulatory Approach on The Next Generation Networks: The Case of Tanzania



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Introduction - The Country



TANZANIA

- Population: 34,500,000
- 30% Living in Urban areas and 70% Rural areas. (Source: NBS- Census & Housing Survey 2002)
- Size 945,000 Square KM
- *Teledensity: 13/100* (Source: TCRA)
- *Per Capita Income \$365*






Introduction (cont..)

- Next Generation Networks (NGN)

- NGNs mean slightly different things to different people. The ITU for instance, maintains that 'the fundamental difference between NGNs and today's network is the switch from current circuit-switched networks to packet-based systems'.
- Italy's regulator AGCOM defines an NGN as 'a packet-based network able to provide telecommunication services and able to make use of multiple broadband, QoS-enabled transport technologies, and in which service-related functions are independent from underlying transport-related technologies'.



Introduction (cont..)

- TCRA Views on the Next Generation Networks (NGN)

- We believe that the above definitions describe NGNs well. Their essence, in our view, lies in the convergence of fixed and mobile, voice and data, data and content, and most importantly IT and telecommunications.
- We view the migration from circuit-switched to packet-based networks as a development of current networks, where different technologies and functional layers – access, transport, control, and services – can be combined to provide all players with innovative opportunities, new sources of revenues and improved quality of service.
- At the same time, NGN is not simply about Internet Protocol, but also constitute a paradigm shift when embedded in the economy and society at large.

Communication Sector Overview

The communications sector is undergoing a complex restructuring process:

- monopoly to competition
- From fixed to mobile
- public sector to private sector ownership
- convergence between telecoms and other ICT markets: 3 levels (Contents and services, Infrastructure and networks, Terminals)
- Now, transition to the New Generation Networks (NGNs)

Communication Sector Overview (cont...)

- End of TTCL's exclusivity enhanced competition in the Market;
- Full Competition in the Sector introduced in Feb 2005
- The Introduction of the Converged licensing framework is a key strategy addressing the technological, markets and service convergence.
- This provides migration from vertical to horizontal licensing regime.
- The expectation:
 - Increase in the number of operators, new technologies, products and services introduced;
 - accelerated investment and increased customer choices.

Communications Sector Policies

- Tanzania Development Vision 2025
- National Telecommunications Policy (1997)
- National ICT Policy (2003)
- National Postal Policy (2003)
- National Information and Broadcasting Policy (2003)

Legal & Regulatory Framework

COMMUNICATION SECTOR LEGISLATION

- Tanzania Communications Regulatory Authority Act No. 12/2003;
- Tanzania Communications Act No. 18/1993;
- Tanzania Broadcasting Services Act No. 6/1993

Legal & Regulatory Framework (cont...)

Communication Sector Regulations

1. The Tanzania Communications (Broadband Service) Regulations 2005
2. The Tanzania Communications (Consumer Protection) Regulations 2005
3. The Tanzania Broadcasting Services (Content) Regulations 2005
4. The Tanzania Communications (Licensing) Regulations 2005
5. The Tanzania Communications (Importation and Distribution) Regulations 2005
6. The Tanzania Communications (Installations and Maintenance) Regulations 2005
7. The Tanzania Communications (Interconnection) Regulations 2005
8. The Tanzania Communications (Telecommunication Numbering and Electronic address) Regulations 2005
9. The Tanzania Postal Regulations 2005
10. The Tanzania Communications (Radio Communications and Frequency Spectrum) Regulations 2005
11. The Tanzania Communications (Tariff) Regulations 2005
12. The Tanzania Communications (Type Approval of Electronic Communications Equipments) Regulations 2005
13. The Tanzania Communications (Quality of Service) Regulations 2005
14. The Tanzania Communications (Access and Facilities) Regulations 2005

Establishment of TCRA

- Tanzania Communications Regulatory Authority (TCRA) is an independent Body responsible for regulation of Postal, Broadcasting and Electronic Communications sectors in the United Republic of Tanzania.
- TCRA is a Converged Regulator established under the Tanzania Communications Regulatory Authority Act No.12 of 2003 which merged the Tanzania Communications Commission (TCC) and the Tanzania Broadcasting Commissions (TBC) both established in 1993.

Functions of TCRA

- Promotion of effective competition and economic efficiency;
- Protecting the interests of consumers;
- Promoting the availability of regulated services; Licensing and enforcing licence conditions of broadcasting, postal and telecommunication operators.
- Establishing standards for regulated goods and services
- Regulating rates and charges (tariffs);
- Managing the radio frequency spectrum;
- Monitoring the performance of the regulated sectors;
- Monitoring the implementation of ICT applications.

TCRA Vision

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

TCRA 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.

Essence of the Converged Licensing Framework

- An Instrument to exercise control over many variables to pursue policy objectives.
- Define the Market structure.
- Define Level of Competition.
- Define Pace of infrastructure expansion.
- Define Affordability and range of services available to consumers.

Introduction of the Converged Licensing Framework in Tanzania

- Tanzania became one of very few African countries to liberalize fully its communication sector following expiring of exclusivity rights given to incumbent telecommunication operators i.e. Tanzania Telecommunications Company Limited (TTCL) in 23rd February 2005.
- The Converged licensing framework is being used as a key strategy to implement the full liberalization policy.

Objectives of the Converged Licensing Framework



- To encourage the growth of new applications and services.
- To simplify existing licensing procedures to ease market entry and operations.
- To create a set of stand-alone regulations so that issues such as interconnection, QoS, UA/US, spectrum and number allocations can be addressed comprehensively.
- To ensure regulatory flexibility to address market and technological developments.
- To ensure efficient utilization of network resources, so that individual networks may be used to provide a broad range of ICT services
- To encourage market entry by a full range of operators, including large scale and micro entrepreneurs
- To ensure that the transition to a converged licensing framework fosters a level playing field among all operators.

The Converged Licensing Framework Principles

- Technological Neutrality

A licensee retains the ability to choose the technology and equipment to be used to provide the licensed service. The spirit is to have the best not to turn TZ a damping place

- Service Neutrality

Allows licensee to take signals from the market as to which services are most in demand or most cost- effective. Unban VoIP services.

- Licensees have to interconnect with networks outside their areas so that their customers could make national and international calls.

- In moving to a converged licensing framework Tanzania wants to achieve a technology-neutral and service-neutral framework. Based on this premise the converged licensing framework have four categories of licences as follows:-

Category of Licenses Under Converged Licensing Framework



1. Network Facility Licence (NFL)

Authorises ownership and control of electronic communication infrastructure including Earth Stations, Fixed links and cables, Public Payphone facilities, Radio communications transmitters and links, Satellite hubs, Satellite control station, Space station, Submarine cable landing centre, Switching centre, Tower, poles, ducts and pits used in conjunction with other network facilities.

Category of Licenses Under Converged Licensing Framework (cont...)

2. Network Service Licence (NSL)

Authorises the operator to establish electronic communication networks and deliver services. This category include Bandwidth services, Broadcasting distribution services, Cellular mobile services, Access applications service, Space Segment Services.

Category of Licenses Under Converged Licensing Framework (cont...)

3. Application Service Licence (ASL)

Authorises reselling or procurement of services from Network Service operators. The salient feature of this Licence is that the licensee does not own network infrastructure nor operate network. Examples are internet providers, virtual mobile provider, payphone services, Public cellular services, IP telephony, Public payphone service, Public switched data service.

Category of Licenses Under Converged Licensing Framework (cont...)

4. Content Service Licence (CSL)

Authorises the provision of content such as Satellite broadcasting, Terrestrial TV Broadcasting, Terrestrial radio broadcasting and other electronic media.

Other License Categories in the New Licensing Framework

- **Postal Services Licence:** Authorises the provision of postal services
- **Courier Service licence:** Give the authorization to provide courier services
- **Frequency Spectrum User Licence:** Authorizes the Licensee to use frequency spectrum resource and own radio communication station(s)
- **Installation and Maintenance Licence:** Authorises the installation and maintenance of electronic communication equipment and network.
- **Importation and Distribution Licence:** Authorises Importation and distribution of electronic communication equipment.
- **Type-Approval:** Authorizes the electronic communication equipment to operate in the United Republic of Tanzania.
- **Numbering:** Authorizes the use of scarce resources of numbers.

Market Segmentation



- The four licence categories mentioned in the converged licensing framework are further subdivided into four market segments to reflect and focus their corresponding markets as follows:
- **International Market Segment:** Licensee is authorized to offer services from one or more of the four category licences to International market.
- **National Market segment:** Licensee is authorized to provide services National wide.
- **Regional Market segment:** Licensee authorized to provider service in an administrative region.
- **District Market segment:** Licensee authorized to provide services in an administrative district.



Important Issues Considered in Implementing the licensing framework

1. License Fees

- Licence fees form an important aspect of regulation in the telecommunications, postal and broadcasting sector.

- They include:

Application fee: Paid by an applicant when applying for rendering a certain licensed service.

Initial Licence fee: Paid for an authority to render a certain licensed service.

Royalty fee: Charged for a right of using a certain licensed service.

- Licence fees have been set taking into consideration policy objectives, consumer affordability, operator profitability and the regulators revenue requirements.
- Royalty Fees are in compliance with the cap provided in the law of 1.5% of the gross revenue.

Important Issues Considered in Implementing the Licensing Framework (cont...)

2. The Migration Plan From The Old Into The New Licensing Framework

One of the main challenges in transforming into the new licensing framework is the migration from the old licenses to the new licenses. This task has taken into account among other things the existing telecommunication infrastructure and investment, the licence durations, existing licensees and the development of the market.

3. . Licensing Guidelines And Procedures

The licensing guidelines and procedures have also been reviewed to accommodate the converged licensing framework.



Important Issues Considered in Implementing the Licensing Framework (cont...)

4. Incentives For Licence Migration

- Migration from the old to the new Framework was made voluntary.
- 23rd February 2005 was the cut off date; licences based on the old framework were not issued or renewed.
- There was a grace period of 12 months later extended for six months from 23rd Feb 2005 to be eligible for the migration incentives.
- No additional Application fees paid during migration
- Guarantee was given to existing licensees to be not worse off if migrated into the new licensing framework

Lessons of Experience

1. Regulation of the Communications Industry is dynamic and ever changing. Objectivity should prevail.

- Eg. (i) TCRA enabling Act and Regulations made in 2005 need to be reviewed to accommodate changes in the sector.
- (ii) License conditions need to be periodically reviewed to facilitate rapid sector development

2. Convergence is a force to reckon and work with; it unifies services and technologies into uniform platform

3. All existing Operators have showed their desire to Migrate to the New Converged Licensing Framework. The process to grant new licences is continuing.

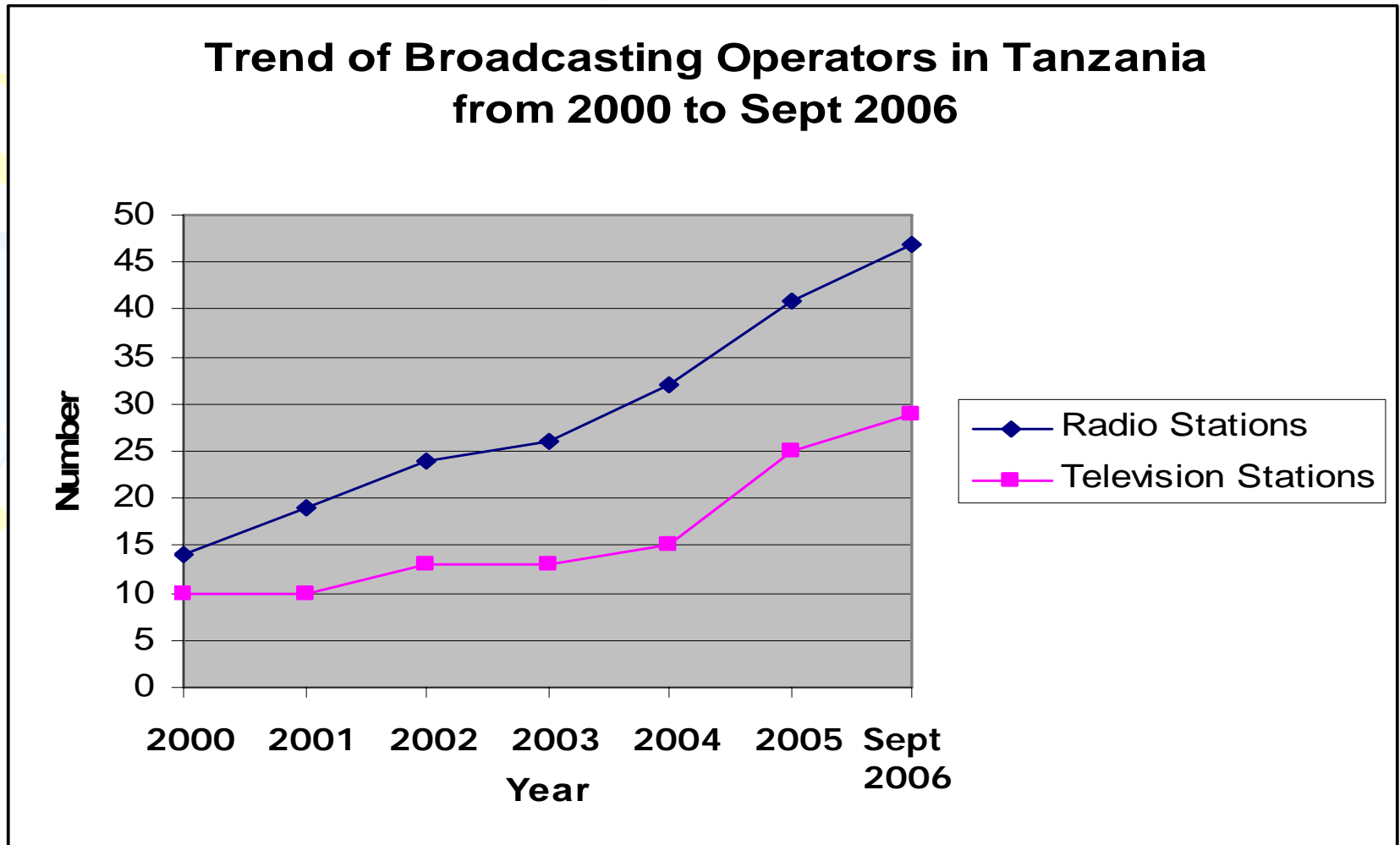
Lessons of Experience (cont...)

4. Competition for growth and efficiency

Eg. (i) Increased Number of Operators as at 30/9/2006

| S/N | Type of Licence | Market Segment | Number of Licence Issued |
|-----|---------------------|------------------------------|--------------------------|
| 1. | Network Facility | International | 3 |
| | | National | 3 |
| 2. | Network Services | International | 3 |
| | | National | 3 |
| 3. | Application Service | International | 6 |
| | | National | 17 |
| 4. | Content Service | National Television / Radio | 4 / 5 |
| | | Regional Television / Radio | 5 / 7 |
| | | District Television / Radio | 27 / 35 |
| | | Community Television / Radio | 2 / 6 |

Lessons of Experience (cont...)



Lessons of Experience (cont...)

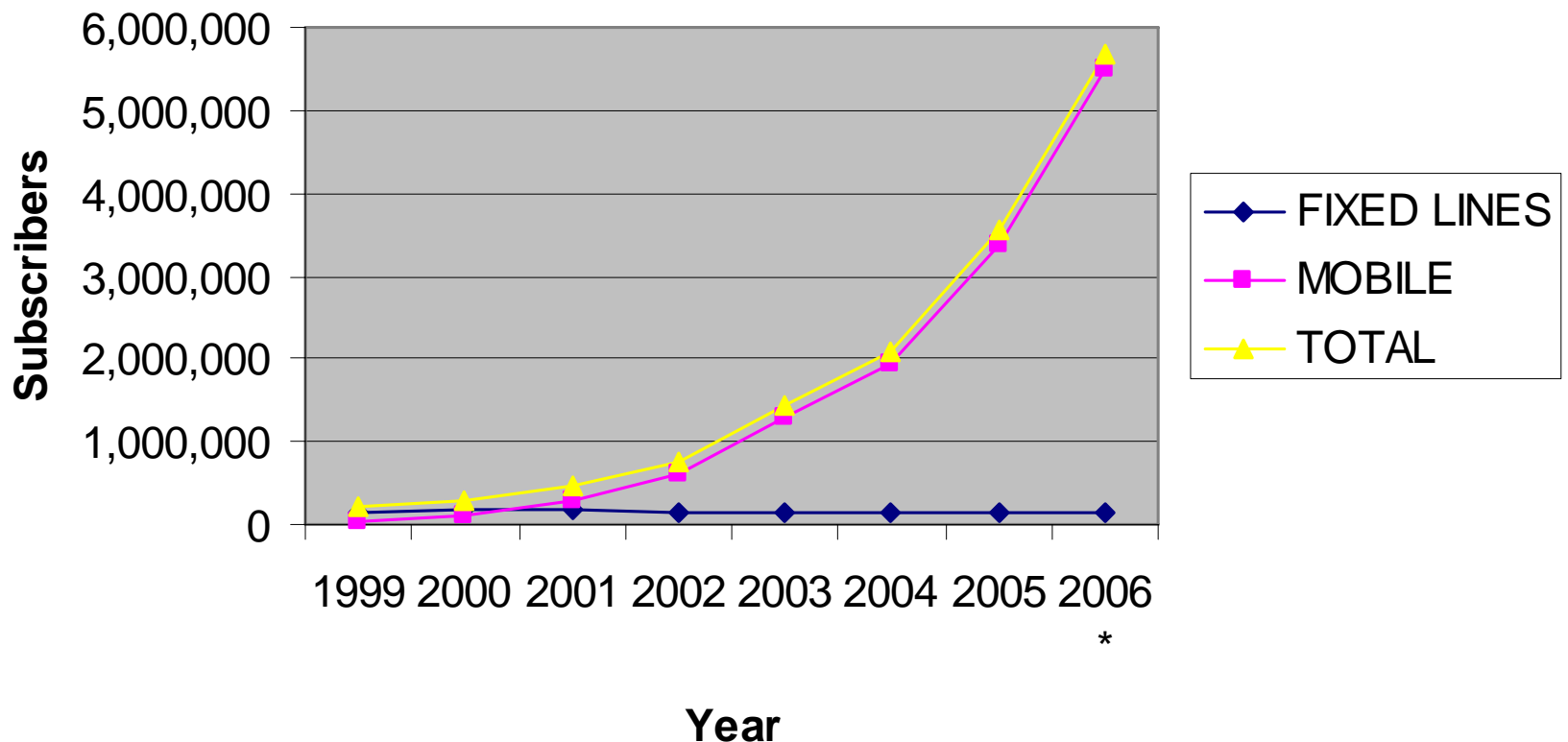
(ii) Growth in the number of Telecom Subscribers by Operators

| OPERATOR / YEAR | TTCL | ZANTEL | MIC | VODACOM | CELTEL | TOTAL |
|-----------------|---------|---------|---------|-----------|-----------|-----------|
| 2000 | 173,591 | 4,007 | 56,511 | 50,000 | - | 284,109 |
| 2001 | 177,802 | 6,501 | 89,059 | 180,000 | - | 453,362 |
| 2002 | 161,590 | 26,770 | 160,000 | 300,000 | 120,089 | 768,449 |
| 2003 | 147,006 | 68,000 | 210,000 | 700,000 | 320,000 | 1,445,006 |
| 2004 | 148,360 | 85,000 | 303,000 | 1,050,000 | 504,000 | 2,090,360 |
| 2005 | 154,420 | 96,109 | 422,500 | 1,562,435 | 882,693 | 3,118,157 |
| 2006 (31/3) | 145,000 | 230,000 | 590,000 | 2,082,500 | 952,690 | 4,000,190 |
| 2006 (30/9) | 145,000 | 230,000 | 940,000 | 2,583,441 | 1,800,000 | 5,698,441 |

Source: Individual Operators

Lessons of Experience (cont...)

Trend of Telephone Subscribers in Tanzania from 1999 to September 2006



Challenges for the New Licensing Framework.

Continuing and new challenges include:

- To lower prices of services that are out of line with costs and consumer's expectations.
- The need for a Balanced, Clear, Consistent, Predictable, Comprehensive and Transparent Licensing Framework.
- Consistent regulatory treatment of essentially similar services.
- Technology and platform neutral Licensing Framework
- To be pro-competitive.
- To be flexible enough to adapt to new developments to reflect different consumer's and provider's perspectives.

Overall Challenges in the Development of ICT Sector in Tanzania

- Development of the National ICT backbone.
- Number Portability to increase level of competition
- The Switching to the Digital Broadcasting
- Consumer Awareness and Education
- Demand for Frequency Spectrum

Concluding Remarks

- The Converged Licensing Framework principles of technology and service neutrality allow introduction of NGNs in the Tanzanian market.
- The NGNs are bringing forward a series of innovative opportunities but also a greater array of policy and regulatory challenges, touching upon fair competition, interconnection agreements and new business models.⁵

Appreciation

Asanteni kwa Kunisikiliza

Thank you for your Attention !

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