

Establishment of Harmonized Policies for the ICT Market in the ACP Countries

Regulatory accounting and cost modelling in Sub-Saharan Africa

**East Africa
Country assessment**

HIPSSA Harmonization of
ICT Policies in
Sub-Saharan Africa



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Foreword

Information and communication technologies (ICTs) are shaping the process of globalisation. Recognising their potential to accelerate Africa's economic integration and thereby its greater prosperity and social transformation, Ministers responsible for Communication and Information Technologies meeting under the auspices of the African Union (AU) adopted in May 2008 a reference framework for the harmonization of telecommunications/ICT policies and regulations, an initiative that had become especially necessary with the increasingly widespread adoption of policies to liberalise this sector.

Coordination across the region is essential if the policies, legislation, and practices resulting from each country's liberalization are not to be so various as to constitute an impediment to the development of competitive regional markets.

Our project to 'Support for Harmonization of the ICT Policies in Sub-Sahara Africa' (HIPSSA) has sought to address this potential impediment by bringing together and accompanying all Sub-Saharan countries in the Group of African, Caribbean and Pacific States (ACP) as they formulate and adopt harmonized ICT policies, legislation, and regulatory frameworks. Executed by the International Telecommunication Union (ITU), co-chaired by the AU, the project has been undertaken in close cooperation with the Regional Economic Communities (RECs) and regional associations of regulators which are members of the HIPSSA Steering Committee. A global steering committee composed of the representatives of the ACP Secretariat and the Development and Cooperation – EuropeAid (DEVCO, European Commission) oversees the overall implementation of the project.

This project is taking place within the framework of the ACP Information and Telecommunication Technologies (@CP-ICT) programme and is funded under the 9th European Development Fund (EDF), which is the main instrument for providing European aid for development cooperation in the ACP States, and co-financed by the ITU. The @CP-ICT aims to support ACP governments and institutions in the harmonization of their ICT policies in the sector by providing high-quality, globally-benchmarked but locally-relevant policy advice, training and related capacity building.

All projects that bring together multiple stakeholders face the dual challenge of creating a sense of shared ownership and ensuring optimum outcomes for all parties. HIPSSA has given special consideration to this issue from the very beginning of the project in December 2008. Having agreed upon shared priorities, stakeholder working groups were set up to address them. The specific needs of the regions were then identified and likewise potentially successful regional practices, which were then benchmarked against practices and standards established elsewhere.

These detailed assessments, which reflect sub-regional and country-specific particularities, served as the basis for the model policies and legislative texts that offer the prospect of a legislative landscape for which the whole region can be proud. The project is certain to become an example to follow for the stakeholders who seek to harness the catalytic force of ICTs to accelerate economic integration and social and economic development.

I take this opportunity to thank the European Commission and ACP Secretariat for their financial contribution. I also thank the Economic Community of West African States (ECOWAS), West African Economic and Monetary Union (UEMOA), Economic Community of Central African States (ECCAS), Economic and Monetary Community of Central Africa (CEMAC), East African Community (EAC), Common Market for Eastern and Southern Africa (COMESA), Common Market for Eastern and Southern Africa (COMESA), Southern African Development Community (SADC), Intergovernmental Authority on Development (IGAD), Communication Regulators' Association of Southern Africa (CRASA), Telecommunication Regulators' Association of Central Africa (ARTAC), United Nations Economic Commission for Africa (UNECA), and West Africa Telecommunications Regulators' Association (WATRA), for their contribution to this work. Without political will on the part of beneficiary countries, not much would have been achieved. For that, I express my profound thanks to all the ACP governments for their political will which has made this project a resounding success.

Brahima Sanou

BDT Director

Acknowledgements

The present document represents an achievement of a global activity carried out under the HIPSSA project (“Support to the Harmonization of ICT Policies in Sub-Sahara Africa”) officially launched in Addis Ababa in December 2008. Under this global activity, regional assessments were carried out and this is the report for East Africa Region.

In response to both the challenges and the opportunities of information and communication technologies’ (ICTs) contribution to political, social, economic and environmental development, the International Telecommunication Union (ITU) and the European Commission (EC) joined forces and signed an agreement aimed at providing “Support for the Establishment of Harmonized Policies for the ICT market in the ACP”, as a component of the Programme “ACP-Information and Communication Technologies (@CP-ICT)” within the framework of the 9th European Development Fund (EDF). i.e., ITU-EC-ACP Project.

This global ITU-EC-ACP project is being implemented through three separate sub-projects customized to the specific needs of each region: Sub-Saharan Africa (HIPSSA), the Caribbean (HIPCAR), and the Pacific Island Countries (ICB4PAC).

As members of the HIPSSA Steering Committee co-chaired by the African Union’s Commission (AUC) and the ITU, all the Regional economic communities (RECs) especially Economic Community of West African Countries (ECOWAS), Southern African Development Community (SADC), Economic Community of Central African States (ECCAS), and East African Community (EAC) provided guidance and support to the consultant, Mr Christopher Kipkoech Kemei, regional expert for East Africa who was responsible for the assessment and compilation of the regional report for East Africa under the guidance of Ms Saïda Ouederni.

ITU would like to thank all the Regional Regulatory associations in Africa and telecommunications ministries, regulators, academia, civil society, operators and the GSMA for their hard work and commitment in producing the contents of the final report.

Without the active involvement of all of these stakeholders, it would have been impossible to produce a document such as this, reflecting the overall requirements and conditions of the Sub-Sahara East Africa while also representing international best practice.

The activities have been implemented by Ms. Ida Jallow, responsible for the coordination of the activities in Sub-Saharan Africa (HIPSSA Senior Project Coordinator), and Mr. Sandro Bazzanella, responsible for the management of the whole project covering Sub-Saharan Africa, Caribbean and the Pacific (ITU-EC-ACP Project Manager) with the overall support of Ms. Hiwot Mulugeta, HIPSSA Project Assistant, and of Ms. Silvia Villar, ITU-EC-ACP Project Assistant. The work was carried out under the overall direction of Mr. Cosmas Zavazava, Chief, Project Support and Knowledge Management (PKM) Department. The document has further benefited from the comments of the ITU Telecommunication Development Bureau’s (BDT) Regulatory and Market Environment Division (RME), particularly Ms. Carmen Prado-Warner, Senior Programme Officer Economist. Support was provided by Mr Marcelino Tayob, Senior Advisor at the ITU Regional Office for Africa, and Mrs. Asenath Mpatwa, ITU Senior Adviser. The team at ITU’s Publication Composition Service was responsible for its publication.

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Introduction

This report contains results of the individual countries in East Africa Sub-Region based on the assessment of Cost Accounting and Regulatory Auditing under the ITU-EC joint project for “Harmonisation of ICT Policies in Sub-Sahara Africa” (HIPSSA) which aims at developing and promoting harmonized policies and regulatory guidelines for the ICT market as well as building human capacity in the field of ICT.

Within the framework of its joint project with the EU, ITU is responding to the needs of HIPSSA beneficiaries and its members by providing regional organization with an up-to-date review of regulatory practices regarding regulatory accounting and cost modeling in their respective regions identifying trends on which they could build a common approach on regulatory auditing and cost modeling.

The assessment study involved a review of the description of the cost models and data used by each country with the output being the individual country reports contained herein. These country reports were subsequently consolidated into a regional assessment report. The various regional reports shall subsequently be consolidated into a global assessment report for Sub-Saharan Africa.

The report contains relevant information pertaining to 13 countries namely; Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tanzania and Uganda

Based on this assessment, updated training material will be developed, delivered and embedded into the respective networks of regional associations of regulators and ITU Centers of Excellence to ensure a sustainable mechanism of delivery.

This consolidated report has been prepared by Mr. Christopher Kipkoech Kemei. Special thanks for the useful guidance, appropriate interventions and assistance provided throughout the assessment period goes to Ms. Saida Ouederni, and the HIPSSA Project Team members including Mr. Sandro Bazzanella, Ms. Carmen Prado-Wagner, Mr. Marcelino Tayob, Ms. Asenath Mpatwa, Ms. Ida Jallow and Ms. Hiwot Mulugeta among others.

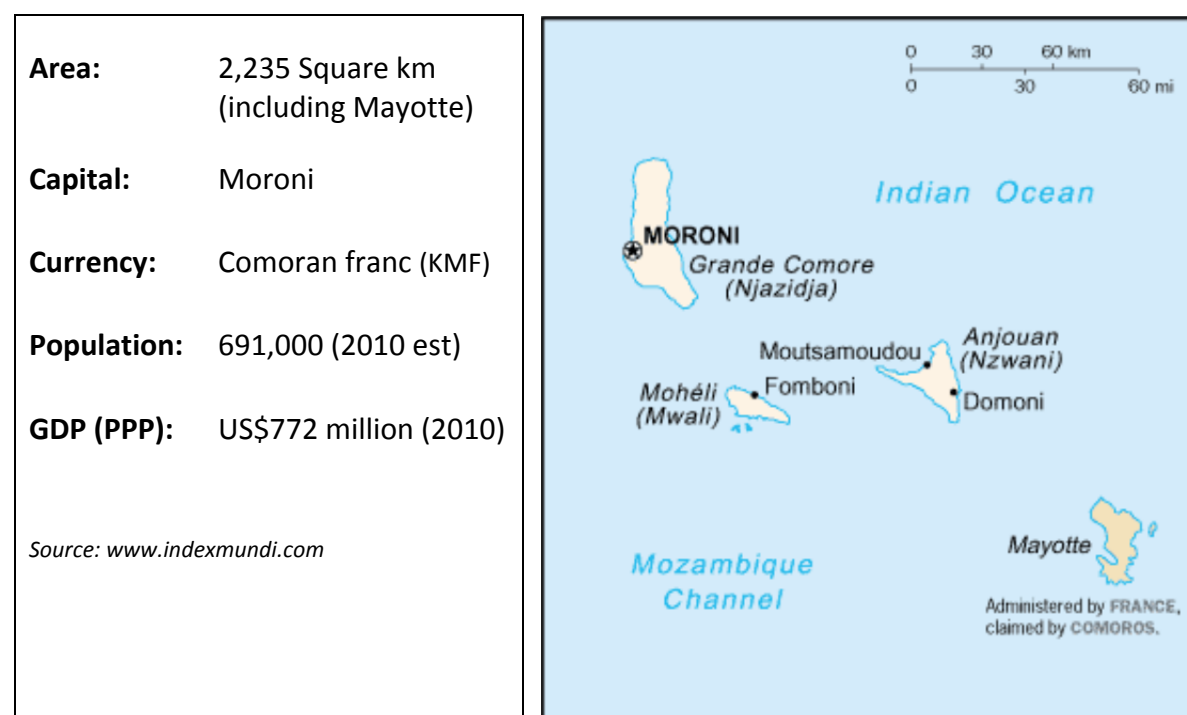
1. COMOROS

1.1 Comoros in Brief

The Union of Comoros consists of four islands namely; Njazidja (Main Island), Mwali, Nzwani and Mayotte (administered by France). It has an area of 2,235 Square km with an estimated population of 691,000 (2011 estimate). The capital city is Moroni. In 2010 GDP (PPP) was US\$772 million.

The local currency is Comoran franc (KMF). Comoros has been a member of the Common Market of Eastern and Southern Africa (COMESA) since 1994.

The country is one of the world's poorest with inadequate transportation links between the islands, a young and rapidly increasing population, and few natural resources. The educational level of the labour force is low, has high unemployment and a heavy dependence on foreign grants and technical assistance. Agriculture, including fishing, hunting, and forestry, contributes 40% to GDP, employs 80% of the labour force, and provides most of the exports. Export income is heavily reliant on the three main crops of vanilla, cloves, and ylang-ylang and Comoros' export earnings are easily disrupted by disasters such as fires.



1.1.1 ICT Sector Overview

Policy

The National ICT Policy which was adopted in 2004 is based on the following thematic areas:

- Using ICT as a tool for human development and to reduce poverty;
- Promoting good governance through ICT;
- Facilitating the process of reconciliation and reconstitution of national unity in;
- Encouraging social and cultural interaction in the society;
- Taking into account regional differences;

- Taking into account the gender aspect;
- Adopting the regional vision on ICT;
- Intensifying economic activities;
- Building capacities for firms;
- Promoting a new policy for cooperation and partnership;

Regulatory Framework

Autorité Nationale de Régulation des Technologies de l'Information et de la Communication (ANRTIC) is the Regulatory Authority for the ICT sector. The ANRTIC is responsible for ensuring the implementation of the ICT Act and hence the implementation of the ICT sector policy defined by the Government of the Union of Comoros.

The ANRTIC has a three-fold mission namely:

- **Economic Mission:**
It approves interconnection rates, controls rates for services offered by operators, enforces fair competition and monitors the development of a healthy economic environment and sector development. It promotes the socio-economic development by engaging the development of services in a competitive environment, promotes universal access and lowering of service costs and engages the industry towards liberalization, promotes the economic growth and employment through ICT.
- **Technical mission:**
Manage and monitor the frequencies and scarce resources, accredit equipment, manage the domain name.km, establish the national numbering plan and the frequency plan (allocation of frequencies and numbering), promote research and development of new technologies and training
- **Legal Mission:**
Ensuring performance of operators to the specifications and other rules established under the Act, ensure compliance with technical regulations in force in the ICT sector and radio, including broadcasting, protect the interests of consumers and citizens as users personal, professional, community and residential ICT services, mediate disputes between operators in accordance with procedures defined by decree.

Service Provision

Comores Telecom (formally part of Société Nationale des Postes et telecommunications (SNPT) is the sole provider of telecommunication and Internet services in Comoros. This situation remains the same despite the promulgation of several laws and decrees that facilitate liberalisation of the telecoms sectors. A law authorising the liberalisation of the telecom sector and the privatisation of SNTP or its daughter companies (Law nr 97-004 of the Federal Assembly, dated 24th of July 1997) was approved by Parliament in 1997 but is yet to be fully implemented.

By 2010 there were about 16,600 mobile service subscribers and about 21,000 fixed line subscribers in the Union of Comoros.

1.2 Main Findings

1.2.1 Legal and Regulatory Framework for Tariff Regulation

Decree No. 09-064/PR of May 23 2009 on the mode of application of Law No. 08-007/AU of January 15 2008 on areas of ICT differentiates between regulated and unregulated services on the basis of level of competition. Tariff regulation is based on price cap for regulated services. It also provides that the price cap methodology to be applied should be simple. The Decree also provides for a framework for Regulatory Auditing and approval.

The regulatory Authority of Comoros, Autorité Nationale de Régulation des Technologies de l'Information et de la Communication (ANRTIC) is therefore mandated to establish the principles and guidelines for determination and application of cost based prices for regulated services (i.e. those not subject to sufficient competition) based on price cap regulatory regime.

The relevant Articles of the aforementioned Decree read as follows:

ARTICLE 8: *All licenses granted subject to regular monitoring by the ANRTIC. To do this, operators are required to communicate to the ANRTIC the following:*

- *the financial statements (income statement and balance sheet) audited by a firm of established reputation;*
- *the number of regular customers by service type and geographic distribution;*
- *the total number of mobile assets with the distribution of prepaid and postpaid;*
- *the number of Internet subscribers by type of access and bandwidth;*
- *data traffic (including local, long distance, international) in volume and turnover;*
- *investments in the amount and nature;*
- *the progress of the program of service for fixed, mobile and Internet, and a comparison with the schedule attached to the specifications;*
- *rates of different segments of retail services;*
- *interconnection rates;*
- *the performance achieved quality of service with the indicators mentioned in the specifications.*

The ANRTIC establishes the forms used to collect the information mentioned in the previous paragraph by specifying the frequency (annual, quarterly or monthly) depending on the type of information. An update of the list data can be adapted to the needs of the situation so as not request that information useful to the needs of the moment. These forms will be published in the form of an ANRTIC decision.

The ANRTIC may require licensed operators to meet all the additional technical information, financial, legal relating to the licensed activity. It is authorized to conduct site visits and to nominate experts to carry out any checks as it deems necessary. Any refusal by an operator to communicate information relating to its business license, or refusal to permit visits to its facilities to duly authorized officials is punishable in accordance with Articles 31 of the Act on ICT.

Cost Modelling

ARTICLE 27: General principles of tariff control

1. *Network operators and providers of ICT services are free to set rates for services offered to the public in accordance with the principles established by this Order and any applicable regulatory rules.*
2. *The arrangements for monitoring rates are adapted to each category of service, to take account of the variety and complexity of the cost structures of services with new technologies. Flexibility of adaptation is necessary to take account of rapidly changing technologies, new business practices with the plans, service packages and frequent discounts.*
3. *Any class of service benefit from an exclusive right or a dominant position is subject to price control by the ANRTIC. When competition becomes effective for this type of service, price control measures are removed.*
4. *The ANRTIC shall each year give the list of categories of service subject to price controls and defines the method used to perform this check for each category.*
5. *The methods used to price caps should be simple not to be a workload whose cost would be disproportionate to the relevance of the results.*

2. DJIBOUTI

2.1 Djibouti in Brief

Djibouti (formally known as the French Territory of the Afars and the Issas until 1977) is located in eastern Africa, bordering the Gulf of Aden and the Red Sea, between Eritrea and Somalia. It has an area of about 23,200 Square km with a population of 818,159 (2009 census). The capital city is Djibouti. In 2010 GDP (PPP) was US\$1.128 billion. The local currency is Djibouti franc (DJF).

The economy is based on service activities connected with the country's strategic location and status as a free trade zone in the Horn of Africa. Two-thirds of Djibouti's inhabitants live in the capital city; the remainder are mostly nomadic herders. Djibouti provides services as both a transit port for the region and an international transshipment and refuelling centre. Imports and exports from landlocked neighbour Ethiopia represent 70% of port activity at Djibouti's container terminal.

While inflation is not a concern, due to the fixed tie of the Djiboutian franc to the US dollar, the artificially high value of the Djiboutian franc adversely affects Djibouti's balance of payments. Djibouti has experienced relatively minimal impact from the global economic downturn, but its reliance on diesel-generated electricity and imported food leave average consumers vulnerable to global price shocksⁱⁱ.

Area:	23,200 Square km
Capital:	Djibouti
Currency:	Djibouti franc (DJF)
Population:	818,159 (2009 census)
2010 GDP (PPP):	US\$ 1.128 billion
<i>Source: www.indexmundi.com</i>	



2.1.1 ICT Sector Overview

Policy

The Ministry of Communications and Culture remains the main driver for the development of the ICT sector. The development and implementation of an ICT policy is under way.

Regulatory Framework

A Regulatory Agency, 'Agence Djiboutienne de Regulation des Telecommunications (ADRT)' is being setup under the jurisdiction of the Ministry of Communication and Culture, which is currently in charge of the regulatory functions for both the postal and telecommunications subsectors. The regulator is yet to be fully functional.

Service Provision

The national state-owned operator, Djibouti Telecom, the former 'Société des Telecommunications Internationales de Djibouti (STID)', is the result of institutional reforms but still has the monopoly on the entire Djiboutian telecom business. It had 18,483 fixed lines and 171,511 mobile phone subscribers as at March 2011ⁱⁱⁱ.

2.2 Main Findings

2.2.1 Legal and Regulatory Framework for Tariff Regulation

Law No. 80/AN/04/5ème L Portant Réforme du Secteur des Technologies de l'Information et de la Communication provides for the application of reasonable and non-discriminatory tariffs. In case of interconnection it provides for an interconnection framework based on the principle of reasonable cost allocation.

The law also provides for a regulatory auditing of interconnection agreements. Dispute resolution with regard to interconnection include prescription of terms by the Agency guided by among others the cost of services. Tariff regulations forbids tariff that are below costs (predatory pricing). The law also provides for regulatory reporting and auditing.

A Regulatory Authority of Djibouti, 'Agence Djiboutienne de Regulation des Telecommunications (ADRT)', which is currently being setup under the jurisdiction of the Ministry of Communication and Culture, is therefore mandated to regulate MTRs based on cost accounting principles.

The relevant Articles of the law read as follows:

Article 32: Provision of services

- (1) *All licensees and those who provide services for which a license is not required, when asked and if the request is reasonable, provide telecommunications services and all practices and associated costs are reasonable and non-discriminatory.*
- (3) *providers of public communication services, when the agency request,*
 - a) *to establish physical connections with other public telecommunications services providers;*
 - b) *to share the signaling network and databases with other licensees or providers of value-added services for which a license may not be required, for the transport and termination of telecommunications and information;*
 - c) *to establish and provide the means and arrangements referred to in paragraphs a) and b);*
 - d) *to establish reasonable rates and a reasonable allocation of costs for equipment and arrangements referred to in paragraphs a) and b).*

Article 33: Interconnection agreements

- (1) *Public communications networks operators and public communication service providers can conclude between them and with suppliers of value-added services, agreements for the interconnection of their equipment, infrastructure sharing, numbering devices as well as other network management devices and other equipment which the Agency may consider that they are of public interest and this at reasonable and non-discriminatory conditions.*
- (3) *Copies of such agreements are submitted to the Agency with a summary of their main terms. The Agency shall publish in Official Journal.*
- (5) *Where the parties to a proposed agreement as described in paragraph (1) fail to agree on the terms of interconnection within a reasonable period (as may be prescribed by the Agency) one party or both parties may request the Agency to establish rates and conditions for interconnection requirements.*
- (7) *In the resolution of such dispute or disagreement relating to agreements or proposed agreements, the Agency is guided by the following principles:*
 - a) The procedures and practices for interconnection arrangements and other arrangements for access and sharing of resources should not discriminate (without justification) between users / applicants similar;*
 - b) The fee/rates to be paid for services and interconnection means should reflect the costs incurred by the licensee of public services for communication, the costs are defined in accordance with current tariffication principles.*

Article 45: Rates and Tariffs

- (1) *The Agency may regulate the rates and tariffs of all licensees of public telecommunications services, provided that no licensee provides services at rates lower than the rates or tariffs or duties which do not recover the incremental cost resulting from the provision of such services plus a reasonable income on the investment capital.*
- (2) *A licensee of public services of communication cannot provide services if it has not, prior to the provision of services, submitted rates and tariffs to the Agency and shall make no change of rates and costs after the submission of tariffs to the Agency.*

Article 48: Restriction of the rate change

No public licensee provider of communication service can impose or offer a rates or tariffs that is below the real cost (in accordance with guidelines accepted for the accounting principles established for the sector) to provide the services.

Article 50: Reporting requirements

- (1) *Any person who provides public service of communication submits to the Agency the annual reports and all the occasional reports produced from time to time.*
- (2) *The Agency may require that when annual and occasional reports are submitted, all providers of public telecommunications services or any class of service providers include in these reports:*
 - a) the amount paid in share capital;*
 - b) the amount and privileges of each class of shares;*
 - c) the amounts paid for each class of shares and method of payment;*
 - d) the dividends paid;*
 - e) any excess of capital;*

- f) the corporation's debts and the interest payable on those debts;*
 - g) the names and addresses of shareholders amounting to one percent or more;*
 - h) the names and addresses of directors and other officials as well as salaries and compensation paid to each, and*
 - i) Income and expenses from all sources and complete states of financial transactions.*
- (4) *Any person who fails to submit any document that was requested by the Agency under the provisions of this subsection is guilty of an offense and liable if found guilty to a fine of 500,000 FD*
- (5) *Where any person considers information as a trade secret or financial, commercial, scientific or technical information as confidential, that person may, by submitting information to the Agency, designate this information as confidentially.*

3. ERITREA

3.1 Eritrea in Brief

Eritrea is located in eastern Africa, bordering the Red Sea, between Djibouti and Sudan. It has an area of 117,600 Square km with a population of 5.1 million (2009). The capital city is Asmara. In 2010 GDP (PPP) was US\$3.6 billion. The local currency is Nakfa (ERN).

A large share of the population engages in subsistence farming. The Government continues to place its hope for additional revenue on the development of several international mining projects. Eritrea's economic future depends upon its ability to master social problems such as illiteracy, unemployment, and low skills, and more importantly, on the government's willingness to support a true market economy^{iv}.

Area:	117,600 Square km
Capital:	Asmara
Currency:	Nakfa (ERN)
Population (2009):	5.1 million
2010 GDP (PPP):	US\$ 3.6 billion
<i>Source: www.indexmundi.com</i>	



3.1.1 ICT Sector Overview

Policy & Regulation

The Ministry of Transport and Communications is vested with the regulatory authority of the communications sector. Its functions include supervision and promotion of the provision of communications services in Eritrea; and the authority to, issue, renew, revoke or transfer permits, equipment approvals, certificates, assignments of frequency and other regulatory documents in the communications sector on behalf of the Government of Eritrea.

Service Provision

The Eritrean Telecommunication Services Corporation (formerly the Telecommunications Service of Eritrea), more commonly known as EriTel, is the sole operator of land line telephone communication infrastructure in Eritrea. It is also the sole operator of the mobile telephone service, however, it is but one of several internet service providers in Eritrea^v.

3.2 Main findings

3.3.1 Legal and Regulatory Framework for Tariff Regulation

Proclamation No 102/1998 – Communications Proclamation provides for a framework for tariff formulation (calculation). The Ministry of Transport and Communications which is vested with the regulatory authority of the communications sector, is therefore mandated to formulate and regulate telecoms tariffs.

The relevant sections of the Proclamation read as follows:

4. The Regulatory Authority

(1) The Ministry of Transport and Communications shall be the only government agency vested with the regulatory authority of the communications sector pursuant to this Proclamation, including:

- (a) supervision and promotion of the provision of communications services in Eritrea; and*
- (b) the authority to, issue, renew, revoke or transfer permits, equipment approvals, certificates, assignments of frequency and other regulatory documents in the communications sector on behalf of the Government of Eritrea.*

(2) The Department shall be the body empowered to exercise the regulatory authority of the Ministry of Transport and Communications.

9. Management of the Department's Regulatory Functions

(1) The Department shall be responsible for the proper operation and administration of the communications regulatory functions.

(2) Without limiting the generality of the foregoing, the Department shall:

- (e) provide guidelines on tariffs chargeable for provision of communications services;*

12. Operator's Permit

(1) A person desiring:

- (a) to establish and/or operate a telecommunications network, and/or*
- (b) to provide a telecommunications service, must obtain an operator's permit.*

14. Permit Conditions

(1) A permit issued under Article 12 hereof shall be subject to such conditions as the Department may specify in the permit, or as may be specified in regulations referred to in the permit.

(2) Without limiting the generality of Article 13 and subarticle (1) of this Article a permit issued under Article 12 hereof may include conditions requiring:

- (f) use of specified methods of calculation of tariffs and prices imposed for services provided.*

4. ETHIOPIA

4.1 Ethiopia in Brief

Ethiopia is located in the eastern Africa between Eritrea to the north and northeast, Djibouti and Somalia to the east, Kenya to the south and Sudan to the west and southwest. It has an area of about 1.1 million square kilometres and a population estimated at 85 million in 2011. The capital city is Addis Ababa.

Ethiopian economy is mainly subsistence agriculture accounts for nearly half the country's Gross Domestic Product (GDP), 60% of its exports and 80% of total employment.

Area:	1.1 million Square km
Capital:	Addis Ababa
Currency:	Birr
Population:	85 million (2010 estimate)
2010 GDP (PPP):	US\$ 85 billion
<i>Source: www.indexmundi.com</i>	



4.1.1 Overview of the ICT Sector

Policy & Regulation

While ICT has become an integral part of Ethiopia's vision for development programmes over the last decade it is yet to harmonize this stated dependency on ICT with the appropriate policy and regulatory framework necessary for the sustainable development of the sector. ICT is one of the major components of the Sustainable Development and Poverty Reduction Program (SDPRP) of the Ethiopian government. The most consolidated and recent policy framework is the Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) that runs between 2005 and 2010. Five major initiatives were designed with regard to the ICT sector development in the PASDEP document namely:

- promoting human resource development in the ICT field;
- mainstreaming the use of ICT in all sectors of the economy, in the administration of government, and in the education system;
- developing the necessary telecommunications infrastructure;
- promoting research and development through ICT; and
- creating enabling legal and regulatory framework.

ICT Sector Regulation

In 1996 vide the adoption of a proclamation that provides for the regulation of telecommunications services (49/1996)⁷ (as amended), the government created the regulator, the Ethiopian Telecommunications Agency (ETA). The regulator was subsequently established in November 1996. However ETA is facing challenges including the lack of independence and the overwhelming powers vested with the minister, who allocates its budget, appoints the general manager and has powers to issue directives independently as provided for in the 1999 (proclamation 47/1999)⁹ without recourse to the regulator or the public.

Service Provision

The Ethiopian Telecommunication Corporation (ETC) holds the monopoly of fixed and mobile telephone services and is a state owned operator under the Ministry of Transport and Communications. However, downstream activities such as Telephone resale and maintenance of cables as well as Internet Services are open for private participation. In 2009 Ethiopia had 915,000 fixed line subscribers and about 4.1 million mobile phone subscribers.

4.1.2 Main Findings**4.3.1 Legal and Regulatory Framework for Tariff Regulation**

The sector legislation in Ethiopia, Council of Ministers Regulations No. 47/1999, provides for a framework for cost modelling for basic telecommunication services based on marginal cost and optimum System Planning. It also provides for regulatory auditing on the same. The Ethiopian regulatory authority, Ethiopian Telecommunications Agency (ETA) is therefore mandated to ensure the application of cost based tariffs.

Despite the requirement for basic telecommunications services to be cost oriented (reported as based on cost plus markup) and the existence of a legal/regulatory framework for regulatory auditing, it is reported that in practice, cost accounting obligations and regulatory auditing are yet to be fully institutionalized. It is also reported that whereas these are mandated activities, they are not carried out due to lack of sufficient implementation framework (i.e. the accounting system and cost separation per services is not properly implemented).

It is reported that Ethiopia has just completed the development of telecommunication Services tariff Regulatory framework with support from ITU and they have planned to start the development of Cost Models in 2012. It is anticipated that the development of the cost model will go a long way in institutionalizing the cost accounting requirement in Ethiopia.

There is therefore a need for Ethiopia to develop its cost accounting and regulatory audit framework and build its resource base in order to be able to effectively carry out these mandated functions.

The sector legislation in Ethiopia, Council of Ministers Regulations No. 47/1999, provides for a framework for cost modelling for basic telecommunication services based on marginal cost and optimum System Planning. It also provides for regulatory auditing on the same.

The relevant sections of the regulations read as follows:

PART THREE – Telecommunication Service Price and Tariffs

14) Scope of Application

- 1) *The provisions of this part shall apply to the price and tariff of Basic Telecommunication Service*
- 2) *The provisions of this part shall also serve as criteria for setting by the licensee, the price and tariff of telecommunication services other than Basic Telecommunication Service*

15) General Principles

- 1) *Telecommunication service pricing shall be based in the principles of economic efficiency, public interest and economic viability of the operation of the service*
- 2) *Costs shall be allocated to customers proportional to the burden they impose on the system with exception of costs incurred to provide Basic Telecommunication Services for under-served areas*
- 3) *The tariff level shall be sufficient enough to ensure the sustainability of the service provision and the attraction of fresh investment in the sector*
- 4) *The tariff structure shall consider differential rates induced by the elasticity of demand and the varying demand schedules of services*

16) General Pricing Approach

Telecommunication service prices shall be set on the basis of:

- 1) *The system's marginal cost; and*
- 2) *Optimum system planning.*

17) Telecommunication Access Service Pricing

- 1) *Telecommunications access services cost shall be determined on the basis of the cost attributed to network access components*
- 2) *The connection fee shall be computed on the basis of the marginal invested capital cost attributed to the access network, provided, however, that such cost shall not include the cost of customer premises equipment*
- 3) *The rental fee shall be computed on the basis of the marginal cost attributed to upkeep and maintain the access network*

18) Telecommunication Call Services Pricing

- 1) *The call service cost shall be determined on the basis of the cost attributed to network component*
- 2) *In cases where a given network is employed for the joint use of various call service groups the cost shall be proportioned on the basis of assigning a share of common capacity cost*
- 3) *A marginal call service cost shall be computed to each call service*
- 4) *Long distance and international call service rates shall be time and distance sensitive where distance is a factor*

19) Other Charges

Other charges applicable to Basic Telecommunications Service may be effected in accordance with a contractual agreement between the licensee and customer subject to the approval of the Agency.

20) Tariff Revision

Tariff revision shall be conducted whenever compelling circumstances occur, provided, however, that the maximum time between intervals may not exceed four years

21) Books of Accounts

- 1) *A licensee shall keep the books of accounts of its operation based on generally accepted principles and guidelines of the Agency*
- 2) *The licensee shall submit audited reports of its accounts to the Agency within six months from the end of the Government’s fiscal year*

Part Seven – Miscellaneous

56) Interconnection

- 4) *The Agency shall issue directives relating to interconnections. Such directives shall determine among others:*
 - a) *The time limit for interconnections;*
 - b) *The technical conditions and the quality of service to be provided through interconnection;*
 - c) *Fees and costs of interconnections*

4.1.4 Status of price regulation and underlying strategy

Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Ethiopia	CO	La	Pricing shall be based on economic efficiency, public interest and economic viability of the operation of the service. Ensure the sustainability of the service and the attraction of fresh investment in the sector.

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus

(2) Li: license, La: law, SMP: relevant market analysis...

4.1.5 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent ...	Basis: Li, La, SMP, other (specify) ⁽²⁾	Mandated: Yes, No, PI ⁽¹⁾	Basis:Li, La, SMP, other (specify) ⁽²⁾
Ethiopia	Y	Incumbent	La	Yes	La

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources
Ethiopia	N/A	There is lack of Audit Framework. The accounting system and cost separation per services not properly implemented.

4.1.6 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills ...
Ethiopia	PI		Incumbent	P	

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

4.1.7 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Ethiopia	0.6831 Birr/min	0.72 Birr/min at peak hour and 0.30Birr/Min at off-peak hour

(1) The average price for MTR as well as for retail is calculated as follows:

$$\frac{\text{Total cost of a 3 minute call during peak hours} \times \text{peak ratio} + \text{Total cost of a 3 minute call during off peak hours} \times \text{off peak ratio}}{3}$$

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

4.1.8 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Ethiopia	Yes		Difficulties for operator to provide relevant data in a timely manner

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

4.1.9 Price control regarding other services

Table 8 – Price control obligations of retail services

	Retail mobile voice		Retail fixed voice		Fixed data		Mobile data	
	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾
Ethiopia	No		P		P		P	

(1) CA: cost accounting

(2) N: No, BU: bottom-up, TD: top-down, B: benchmark

Table 9 –Price control obligations of wholesale services

	Fixed interconnection		Bitstream access		Local loop unbundling		Leased lines		Access to IGW		Access to IXP	
	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾
Ethiopia	P						P					

(1) CA: cost accounting

(2) CT: costing tool

(3) N: No, BU: bottom-up, TD: top-down, B: benchmark

4.1.10 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Ethiopia	Roaming	Yes		It will be determined by the cost model study planned to start in January 2012	-
	Broadband Infrastructure	Yes		It will be determined by the cost model study planned to start in January 2012	-
	NGN	Yes		It will be determined by the cost model study planned to start in January 2012	-
	Mobile Payment	Yes		It will be determined by the cost model study planned to start in January 2012	-

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

5. KENYA

5.1 Kenya in Brief

The Republic of Kenya is situated on the upraised part of the eastern portion of the African continent astride the equatorial Latitude. It has an area of about 580,367 square km and is located between Somalia to the east, Ethiopia to the north, South Sudan to the north-west Uganda to the west, Tanzania to the south and Indian Ocean to the south-east. Kenya’s population currently stands at about 40 million with a growth rate of about 2.5 percent per annum.

Area:	580,367 Square km
Capital:	Nairobi
Population:	40 million (2010 estimate)
Currency:	Kenya Shilling (KES)
GDP Per Capita:	US \$ 887

Source: www.indexmundi.com



5.1.1 ICT Sector Overview

Regulatory Framework for ICT

The Communications Commission of Kenya is the regulatory authority for the ICT sector in Kenya and was established in 1999 by what is now referred to as the Kenya Information and Communications Act Cap 411 following some amendments in 2009.

The Kenya Communications Regulations 2001 were reviewed in 2009/2010 to bring them up to date with technological developments and changes in the policy and law. The new Kenya Information and Communications Regulations, 2010 cover the following areas: Electronic Transactions, Universal Access and Service, Consumer Protection, Dispute Resolution, Radio Communications and Frequency Spectrum Management, Licensing and Quality of Service, Postal and Courier Services, Fair Competition and Equality of Treatment, Broadcasting, Compliance Monitoring, Inspection and Enforcement, Type Approval, Tariff, Interconnection and Provision of Fixed Links, Access and Numbering.

ICT Growth & Status

The telecommunications industry continues to post considerable growth spearheaded mainly by the mobile telephony segment which saw subscriber growth register a 15.9 percent increase in 2010. According to recently release statistics by the sector regulator Communications Commission of Kenya (CCK), there were an estimated 12.538 million internet users in the country as at 30th June 2011 up from 7.832 million the previous year.

The mobile subscriptions stood at 25.2 million subscribers in 2010 up from 20.1 million recorded the previous year, representing a growth of 25.6 per cent. Mobile penetration consequently increased from 51.2 percent in June 2010 to 63.6 percent as at 30th June 2011.

Following the regulators intervention in lowering mobile termination rates, the operators reduced both on-net and off-net tariffs in a bid to attract and retain customers on their respective networks.

5.2 Main findings

5.2.1 Legal and Regulatory Framework for Tariff Regulation

The sector legislation in Kenya, the Kenya Information and Communications Act Cap 411A, provides the Legal framework for regulating tariffs based on efficiency and economy. The specific legal provisions are contained under Section 23 of the said legislation. Under this section it is the duty of the regulator to protect the interest of users with respect to prices charged, promote competition in order to ensure efficient and economic provisioning of ICT services. In essence this legal provision broadly provides for the undertaking of all manner of activities relating to price control and economic efficiency which is presumed to also include cost modeling as well as regulatory auditing.

Further the supplementary legislation, the Kenya Information and Communications (Tariff Regulations) 2010, provides at Section 90 through 91, for the differentiation between regulated and unregulated services based on the level of competition prevailing in relation to a particular service. It further clarifies that the regulatory framework for tariff is based on price cap for the regulated service (i.e. those not subject to competition). Section 92 of the said supplementary legislation also provides for a framework for Regulatory Auditing.

The Kenya Information and Communications (Interconnection and Provision of Fixed Links, Access and Facilities) Regulations 2010, provides among others for: mandatory interconnection (Section 4), interconnection that promotes efficient systems and service, a framework for issuance of technical & costing guidelines, regulatory auditing of interconnection agreements (Sections 5 & 6), application of interconnection charges that are objective, independently verifiable, fair, based on the principle of causality, non-subsidy, below retail rates, and structured according to various cost streams e.g. fixed, variable, periodic, one off, etc. and a framework for issuance of guidelines on interconnection charging methodology (Section 12). These Regulations also provide for a framework for the application of a reference interconnection, access, and collocation offers for dominant operators (Sections 18, 19 & 20).

In addition all issued licenses have a requirement that a service provider must at least one month prior to offering a service or adjusting tariffs file the same for approval by the regulator. It also requires the licensee to publish the charges, terms and conditions of offering licensed services 30 days in advance. This in essence provides for a framework for detailed regulatory auditing as well as public disclosure of not only charges but also other terms and conditions for a particular service.

In summary therefore the legal and regulatory framework in Kenya is such that wholesale tariffs are required to be cost oriented and that such tariffs are meant to guide operators in negotiating interconnection agreements. It is however recognised that there is a positive correlation between wholesale prices and retail prices which are largely unregulated unless in the event of an operator having

a SMP and/or abusing its dominant market power. This situation is premised on the belief that competitive markets are the only proven methods for maintaining efficiency in the face of blistering technological change.

5.2.2 Cost Accounting and Regulatory Auditing

In the case of Kenya, despite the requirement for wholesale tariffs to be cost oriented, and the existence of a legal/regulatory framework for regulatory auditing, it is reported that in practice, cost accounting obligations and regulatory auditing are yet to be fully institutionalized. It is also reported that whereas these are mandated activities, they are not carried out due to lack of sufficient implementation framework as well as insufficient regulatory resources.

There is therefore a need for Kenya to further develop its cost accounting and regulatory audit framework and build its resource base in order to be able to effectively carry out these mandated functions.

It is further reported that there is no impending review of either the telecom law or regulatory framework that may impact on the regulation of MTR.

However on an ad hoc basis, cost studies have been undertaken in Kenya in 2006 and 2010 in which certain cost accounting principles were applied namely:

- The adoption of a pure Long Run Incremental Costs (pure LRIC) cost allocation methodology,
- The adoption of Current Costs Accounting (CCA) system,
- The adoption of Modern Equivalent Asset (MEA) valuation for network assets,
- The use of Operating Capital Maintenance (OCM) capital maintenance methodology,
- The use of Annuity depreciation methodology on assets lifetime,
- The use of Weighted Average Cost of Capital (WACC) in arriving at return on capital employed,
- The use of Capital Asset Pricing Model to derive cost of equity,
- Depreciation duration ranging between 6 to 20 years depending on the network component.

5.2.3 Costing Tools and Cost Model Development

In order to foster an even more effective regulatory framework that can support further competition and innovation in a converged environment, the National Regulatory Authority for Kenya, the Communications Commission of Kenya once again contracted Messrs. Analysys Mason Consulting Ltd to comprehensively review and update the Network Cost Study conducted in 2006. The specific objectives of the study were:

- Review of the current interconnection framework;
- Development and update of the cost models;
- Development of a new interconnection framework in a converged market;
- Development of a pricing models for infrastructure sharing and co-location;
- Development of a broadband interconnection model; and
- To conduct capacity building for the Commission's staff.

It is to be noted that the 2006 study used the long run average incremental cost (LRAIC+) approach for setting interconnection prices. However, it was noted that since 2006 there has been a significant industry debate especially in the European Union to shifting from LRAIC+ to pure long run incremental cost (LRIC) methodology as the most efficient pricing methodology. The LRAIC+ methodology was noted to be associated with high termination rates because it allows recovery of the Common Costs through a mark

up. Pure LRIC on the other hand is associated with lower terminations because it considers common costs as exogenous to the model and are therefore not recovered through the termination rates. Common costs are costs that an operator would incur even without providing termination services and the pure LRIC is therefore considered efficient as it sets the termination rates close to the incremental costs that an operator bears for providing termination services.

Based on the regulatory objectives of the Commission, the study therefore adopted the pure LRIC approach in modeling and determining interconnection prices in the mobile and fixed markets. This is because on balance, pure LRIC has a stronger case in Kenya than LRAIC costing standard adopted in the original 2006 study as it reduces barriers for switching between operators; and facilitates greater commercial flexibility in retail pricing.

The consultants therefore updated the cost models developed in 2006 and also developed new model based on a pure LRIC methodology. The models developed were based on:

- a) A hypothetical new entrant approach in order to bring about transparency and ensure that efficiency requirements are taken into account in cost allocation;
- b) Symmetric interconnection regulation that favours economic efficiency, mimics a perfectly competitive and contestable market, increases incentives to reach cost efficiency, and sends the right signals to market players;
- c) Market model and network assumptions that included a WACC of 14.14%;
- d) A regulatory framework that takes into consideration convergence between Mobile Termination Rates (MTR) and Fixed Termination Rates (FTR).
- e) An access pricing and forms of infrastructure sharing that include co-location at local exchanges for delivering fixed line services; sharing of duct infrastructure and mobile network sharing; and
- f) An understanding that the broadband market in Kenya is still nascent and therefore development of broadband interconnection model is required in order to promote access to broadband services.

Based on the findings and recommendations by the consultant, a number of action points arose. Some required immediate implementation while others require the Commission to first monitor the industry performance prior to interventions. Consequently the following recommendations were adopted and implemented:

- a) Imposition of a price cap on the Mobile Termination Rates (MTR) based on a glide path with a view to reach the pure LRIC cost in 3.5 years;
- b) Imposition of a price cap on the regulated fixed wholesale services (FTR) based on a glide path with a view to reach the pure LRIC and convergence between MTR and FTR;
- c) Introduction of caps for off-net call prices to the level of on-net prices on fixed and mobile SMP operators upon designation of dominance in line with the Act and Regulations;
- d) Directing operators to re-negotiate mobile and fixed SMS termination rates within three months;
- e) Engaging the Central Bank of Kenya on the overlapping regulatory oversight on the Mobile Money Transfers;
- f) Monitor the infrastructure market and allow agreements to be reached through commercial negotiation, and only intervening where necessary; and,
- g) Monitor development of the competitive landscape in the broadband market and only intervene when necessary.

The cost study that was concluded in 2010 based on pure LRIC resulted in MTR level of Ksh.0.87/Minute. However considering that the MTR then of Ksh.4.42/Minute was way above the pure LRIC level of Ksh.0.87/Minute, a glide path process was adopted to align the MTR to the derived MTR cost as shown in the table below.

The glide path sought to strike a balance between the regulatory objectives of reducing termination rates to the efficient level as quickly as possible while at the same time guarantee stability in the industry. Consequently a gradual reduction in MTR was effected starting with an immediate 50% reduction in 2010 to Ksh.2.21/Minute and then progressively lower the rates every year with a view to reaching the pure LRIC level of Ksh.0.99/Minute by January 2013.

MTR Implementation in Kenya

Nominal KES	1 st March 2010	1 st September 2010	1 st September 2011	1 st September 2012	1 st September 2013	1 st January 2014
MTR Price	4.42	2.21	1.44	1.15	0.99	0.99
Percentage Price Change (%)		(50.00)	(34.84)	(20.14)	(13.91)	0.00
Pure LRIC Cost	0.87	0.87	0.89	0.91	0.95	0.99
Percentage Change in Pure LRIC Cost (%)		0.00	2.30	2.25	4.40	4.21

The above mentioned model is reported to be used on all major operators. Arising from the application of this model and the other recommendations, mobile termination rates (MTR) is presently capped at KES 2.21 per minute and has resulted in a significant drop in retail prices with off-net national mobile voice services averaging at KES 3.75 per minute.

In summary the model developed by M/S Analysys Mason, which is not publicly available as it contains operators' specific sensitive data, has the following characteristics:

- Based on a hybrid model,
- Costed US\$ 693,622,
- Used data from operators based on specific request,
- Based on Hypothetical new efficient entrant,
- Assumes 10 years for cost recovery and 25% market share,
- Theoretical coverage based on efficient considerations, and
- Topology designed based on scorched node, among others.

5.3 Legal and regulatory framework for tariff regulation in detail

5.3.1 Legal Framework

The sector legislation in Kenya, the Kenya Information and Communications Act Cap 411A, provides the Legal framework for regulating tariffs based on efficiency and economy. The specific legal provisions are contained under Section 23 of the said legislation. Under this section it is the duty of the regulator

to protect the interest of users with respect prices charged, promote competition in order to ensure efficient and economic provisioning of ICT services. In essence this legal provision broadly provides for the undertaking of all manner of activities relating to price control and economic efficiency which is presumed to also include cost modeling as well as regulatory auditing.

The said section 23 reads as follows:

- 23. (1)** *The Commission shall, so far as is reasonably practicable, ensure there are provided throughout Kenya, such telecommunication services and in particular, emergency, public payphone and directory information services, as are reasonably necessary to satisfy the public demand thereof.*
- (2)** *Without prejudice to the generality of subsection (1), the Commission shall—*
- (a)** *protect the interests of all users of telecommunication services in Kenya with respect to the prices charged for and the quality and variety of such services;*
 - (b)** *maintain and promote effective competition between persons engaged in commercial activities connected with telecommunication services in Kenya in order to ensure efficiency and economy in the provision of such services*

5.3.2 Regulatory Framework

The supplementary legislations further elaborate the requirements and the application of the above said provision of the primary legislation.

The Kenya Information and Communications (Tariff Regulations) 2010, provides at Section 90 through 91, for the differentiation between regulated and unregulated services based on the level of competition prevailing in relation to a particular. It further clarifies that the regulatory framework for tariff is based on price cap for the regulated service (i.e. those not subject to competition). It also elaborates on the framework for Regulatory Auditing.

The said Sections read as follows:

- 90. (1)** *Except as provided in regulation 97, this Part shall apply to licensed services which are not open to competition and whose tariffs are subject to regulation by the Commission.*
- 91. (1)** *All licensees whose tariff rates are subject to review by the Commission pursuant to the price cap condition provided for in respective licences shall file with the Commission applications for the adjustment of such tariff rates.*
- (2)** *All licences for services that are subject to price cap condition shall contain the period in which such tariffs may be adjusted once a year.*
- (3)** *The obligation to comply with the terms and conditions of the price cap shall extend from the date on which a licence becomes effective up to the period when the services whose tariffs are regulated are open to competition as provided for in the relevant licences or as may be determined by the Commission.*

Section 92 of the said supplementary legislation also provides for a framework for Regulatory Auditing.

The said Section read as follows:

- 92.** *All applications for approval of tariffs shall be filed with the Commission and shall—*
- (a)** *conform to the methodology and formula defined in the relevant licence or such other terms as the commission may prescribe; and*
 - (b)** *contain relevant documentation, including all calculations and other information in support of the application.*

The Kenya Information and Communications (Interconnection and Provision of Fixed Links, Access and Facilities) Regulations 2010, provides among others for: mandatory interconnection (Section 4), interconnection that promotes efficient systems and service, framework for issuance of technical & costing guidelines, regulatory auditing of interconnection agreements (Sections 5 & 6), application of interconnection charges that are objective, independently verifiable, & fair, based on the principle of causality, non-subsidy, below retail rates, and structured according to various cost streams e.g. fixed, variable, periodic, one off, etc and a framework for issuance of guidelines on interconnection charging methodology (Section 12). These Regulations also provide for a framework for the application of a reference interconnection, access, and collocation offers for dominant operators (Sections 18, 19 & 20).

The said Sections read as follows:

4. Rights and obligations to interconnect.

(3) An interconnection licensee shall have the right and, when requested by an interconnecting licensee, an obligation, to negotiate the interconnection of its telecommunications system, facilities and equipment with the telecommunications system, facilities and equipment of the interconnecting licensee, in order to provide end-to-end connectivity and interoperability of services to all customers.

5. Negotiation of interconnection agreements.

(5) The terms and conditions for interconnection of telecommunications networks shall be based on the agreement reached between the parties to an interconnection agreement and promote increased access and efficient use of telecommunications systems services and facilities.

(10) The Commission may from time to time issue technical, costing and other relevant guidelines to guide licensees in negotiating interconnection agreements.

(11) Where a telecommunications service licensee—

(a) enters into an interconnection agreement with another telecommunications licensee, the Commission may review the agreement to ensure that it conforms with the Act, Regulations and any guidelines on interconnection of telecommunications networks issued by the Commission; or

(b) has not interconnected its facilities upon request by another licensee, the Commission shall require the licensee concerned to interconnect its facilities in order to protect essential public interests and may set the terms and conditions of the interconnection.

6. Approval of Interconnection Agreements.

(1) Parties to an interconnection agreement shall file with the Commission an application for approval of the proposed interconnection agreement at least fourteen days before the date of implementation of the interconnection agreement.

(2) Parties to an interconnection agreement shall file with the Commission an application for approval of the renewal or extension of an existing interconnection agreement at least fourteen days prior to the expiry of the agreement.

(3) The Commission may request for information from the parties to an interconnection agreement that it considers necessary to evaluate the terms and conditions and the charges set forth in the agreement, and request that the interconnection agreement be modified in the manner specified by the Commission, in writing.

12. Interconnection charges structure.

(1) All charges for interconnection services shall—

(a) be objective, independently verifiable and fair;

- (b) be charged for each type of telecommunications service related to interconnection;*
 - (c) not be designed to facilitate cross-subsidies by an interconnect provider of its network;*
 - (d) be below the retail charges levied by the interconnect provider for the provision of any retail service that makes similar use of those network elements that are required by both the retail and interconnection service; and*
 - (e) be sufficiently below retail service charges to allow for recovery of the incremental retail costs associated with provision of the retail service supported by the interconnection service that the interconnect service provider would have to incur in order to compete effectively with the interconnect provider at the retail level.*
- (2) All charges for interconnection shall be structured to distinguish and separately price—*
- (a) fixed charges for the establishment and implementation of physical interconnection;*
 - (b) periodic rental charges for use of facilities, equipment and resources including interconnect and switching capacity; and*
 - (c) variable charges for telecommunications services and supplementary services.*
- (4) The Commission shall prescribe guidelines on interconnection charging methodology from time to time.*
- 18. Reference interconnection offer and reference access offer obligations.**
- (1) Where the Commission issues an order requiring a dominant telecommunications service licensee to publish a reference interconnection offer or a reference access offer, the licensee shall, unless otherwise determined by the Commission—*
- (a) submit a proposed reference interconnection or reference access offer, as the case may be, to the Commission for review and approval within three months after the issuance of the order by the Commission; and*
 - (b) be subject to the terms and conditions of the approved reference interconnection or reference access offer approved by the Commission, subject to any amendments considered appropriate by the Commission, within three months after the issuance of the order by the Commission.*
- (2) Prior to approving any reference interconnection or reference access offer or any amendments thereto, the Commission may—*
- (a) request for additional information or clarification from the dominant telecommunications service licensee with regard to the proposed reference interconnection or reference access offer; or*
 - (b) consult with the industry and public on the proposed reference interconnection or reference access offer.*
- (3) The Commission may publish guidelines or models for the uniform sector-wide application of reference interconnection or reference access offers, which shall be used by all dominant telecommunications service licensees.*
- (4) The reference interconnection offers shall be sufficiently unbundled to ensure that the interconnecting operators do not pay for network elements or facilities which are not necessary and shall contain a description of the components of the offer, associated terms and conditions, including the structure and level of prices.*
- (5) The reference access offers shall be sufficiently unbundled to ensure that the access seekers do not pay for network elements or facilities which are not necessary and shall contain a description of the components of the offer, associated terms and conditions, including the structure and level of prices.*

(6) Where applicable, the reference access offers shall, where applicable, include detailed information related to access to—

- (a) network elements and associated facilities, which may involve the connection of equipment, by fixed or non-fixed means;*
- (b) physical infrastructure including buildings, ducts and masts;*
- (c) relevant software systems including operational support systems, access to number translation or systems offering equivalent functionality;*
- (d) fixed and mobile networks, in particular for roaming, access to conditional access systems for digital television services; and*
- (e) access to virtual network services.*

19. Co-location.

(1) Where a licensee has the right to install facilities on, over or under private land or take advantage of a procedure for the expropriation or use of property, the Commission shall encourage the sharing of such facilities and property with other licensees, in particular, where other licensees do not have access to viable alternatives.

(2) A service provider providing such co-location shall—

- (a) file with the Commission a schedule of fees charged for co-location;*
- (b) agree on a meet-point with another licensee seeking interconnection and designating location for interconnecting the network;*
- (c) provide reasonable, just, and non-discriminatory rates, terms and conditions for physical collocation of equipment necessary for interconnection or for providing access to the unbundled network elements at the licensee's premises;*
- (d) resort to virtual co-location, requiring interconnection at a place outside the licensee's usual premises such as switching, transmission, or main distribution door frame room if it is demonstrated that physical co-location is not practical for technical reasons or for space limitations;*
- (e) agree with a licensee seeking interconnection on a facility that is based in the central office of either party to complete the transmission; and*
- (f) charge a fee according to filed tariffs.*

(3) The terms and conditions for co-location or sharing of facilities shall be subject to commercial and technical agreements between the parties concerned and the Commission may intervene to resolve disputes arising from such agreements.

5.3.3 Licensing Framework

In addition all issued licenses have a requirement that a service provider must at least one month prior to offering a service or adjusting tariffs file the same for approval by the regulator. It also requires the licensee to publish the charges, terms and conditions of offering licensed services 30 days in advance. This in essence provides for a framework for detailed regulatory auditing as well as public disclosure of not only charges but also other terms and conditions for a particular service.

The condition reads as follows:

At least one month prior to offering a Licensed Service or adjusting the charges, terms and conditions of an existing service, the Licensee shall file the following for approval, with the Commission:

- *the description and scope of the service,*
- *terms and conditions of the service,*
- *dispute resolution mechanisms, and*
- *charges, (excluding special offers) upon which it proposes to offer the Licensed Services*

The Licensee shall provide the Licensed Services on Charges, Terms and Conditions approved in accordance with 7.1 [the section above]. A copy of the current version of the Charges, Terms and Conditions shall be published and provided to any person who reasonably requests.

5.4 Strategy for regulatory intervention

5.4.1 Status of price regulation and underlying strategy

Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Kenya	Cost orientation (Cost accounting approaches)	Under Kenya Information and Communications (interconnection and provision of fixed links, access and facilities) regulations, 2010-5(10)-The Commission may from time to time issue technical, costing and other relevant guidelines to guide licensees in negotiating interconnection agreements.	The Commission only regulates wholesale prices with the primary purpose of guiding the licensees in negotiating interconnection agreements. However, there has been a positive correlation between wholesale prices and retail prices

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus...

(2) Li: license, La: law, SMP: relevant market analysis...

5.4.2 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent	Basis: Li, La, SMP, other (specify) ⁽²⁾	Mandated: yes, No, PI ⁽¹⁾	Basis: Li, La, SMP, other (specify) ⁽²⁾
Kenya	Yes	All	La	Yes	Regulations and License

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources,...
Kenya	Mandated but not carried out due to lack of sufficient framework and resources	Mandated but not carried out due to lack of sufficient audit framework and resources

5.4.2 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent ...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills...
Kenya	Yes	Hybrid	All	Existing	N/A

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

5.4.4 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Kenya	KES 2.21	KES 3.75

(1) The average price for MTR as well as for retail is calculated as follows:

*Total cost of a 3 minute call during peak hours *peak ratio+ Total cost of a 3 minute call during offpeak hours *offpeak ratio*

3

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

5.4.5 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Kenya	No	N/A	N/A

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

No. However, some operators contested the implementation of the glide path which led to the regulator suspending the glide path in the second year of implementation.

5.4.6 Disputes

Table 7 – Legal disputes

	Occurred: Yes, No	Nature of the dispute	Date	Object of the dispute	Outcome	Impacts, if any, on tariff regulation or cost modeling
Kenya	No	N/A	N/A	N/A	N/A	N/A

5.4.7 Price control regarding other services

Table 8 – Price control obligations of retail services

	Retail mobile voice		Retail fixed voice		Fixed data		Mobile data	
	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾
Kenya	No	No	No	No	No	No	No	No

(1) CA: cost accounting

(2) N: No, BU: bottom-up, TD: top-down, B: benchmark

Table 9 – Price control obligations of wholesale services

	Fixed interconnection		Bitstream access		Local loop unbundling		Leased lines		Access to IGW		Access to IXP	
	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾
Kenya	Yes	No	No	No	Yes	No	Yes	No	No	No	No	No

(1) CA: cost accounting

(2) CT: costing tool

(3) N: No, BU: bottom-up, TD: top-down, B: benchmark

5.4.8 Foreseen changes in regulatory framework

Table 10 – Telecom law or regulatory framework review

	Status: No, Pl, Uw ⁽¹⁾	Target date	Main objectives
Kenya	No	N/A	N/A

(1) No: no, Pl: planned, Uw: under way

5.4.9 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Kenya	Roaming	No	N/A	N/A	N/A
	Broadband Infrastructure	No	N/A	N/A	N/A
	NGN	Yes		Not Yet defined. To be considered once most players in the market have adopted the NGN	N/A
	Mobile Payment	No		This is considered in the same manner as SMS service for now.	Central bank of Kenya regulates operations of mobile payments while the communication Commission of Kenya only regulates the infrastructure used

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

5.4.10 Data collection process
Table 12 – Cost accounting – data collection process

	Process				Implementation	
	Frequency	Deadline	Actual (present and past) figures and period covered	Forecasted figures and period covered	Number of occurrences	Latest collection
Kenya	One off	Given 5 weeks	Data was collected using a questionnaire: Mobile operators provided bottom-up unit capital cost data for the radio network (radio sites, BTS, TRX, related electronics). The available unit capital cost data was combined with the total gross book values and capital expenditure in the fixed asset register (FAR) and actual network deployment, and compared against international benchmarks to derive a unit cost for the relevant cost categories	Network coverage information and the Split of traffic by genotype: 5 years	Twice	March 2010

5.4.11 Scope of costs and cost preparation
Table 13 – Cost accounting – Degree of regulatory prescription regarding cost preparation

	Costs & revenues nomenclature: Yes, No	Specifications imposed: Yes, No	When specifications are imposed, please specify the specs (please delete the non relevant specifications and add any complementary specification):
Kenya	Yes	Yes	Cost preparation methodologies e.g. reference to cost base and standards, valuation and allocation methodologies, identification and treatment of shared and common costs... Basis on which assets are valued: asset lives and depreciation methods

5.4.12 Valuation and allocation methodologies
Table 14 – Main principles used to allocate costs categories between voice and data

	Network costs	License cost	Other costs (please specify)
Kenya	Routing Factors		

Table 15 – Accounting system/allocation methodology used and relevant increment size

	Allocation methodology: LRIC, FDC, other (please specify)	Size of the relevant increment: Marginal, Service increment, Average increment, other (please specify)
Kenya	Pure LRIC	Service increment

Table 16 – Cost base and assets valuation methodology

	Cost base: HCA, CCA, other (please specify)	Capital maintenance concept used: OCM, FCM	Please specify per type of asset (building/civil works, telecom equipments ...) the valuation methodology used: Absolute valuation, indexation or MEA
Kenya	CCA	OCM	Modern Equivalent Asset (MEA) for network assets

Table 17 – Depreciation method and assets lifetime

	Depreciation method: SL, TSL, AN, TAN, other (please specify) ⁽¹⁾	Lifetime (in years)					
		Civil works	Power equipments	Access equipts	Core network	Backhaul/backbone	License
Kenya	AN	20	8	8	8	8	15

SL: Straight-line, TSL: Titled straight line, AN: Annuity, TAN: Titled annuity

5.4.13 Cost of capital

Table 18 – Cost of capital allowed and calculation methodology

	Rate of return (value in %)	Methodology: WACC, other	Cost of equity estimation: CPAM, other
Kenya	14.14	Weighted Average Cost of Capital (WACC)	Capital Asset Pricing Model (CAPM)

5.4.14 Scope of regulatory audit and issues addressed**Table 19 – Scope of regulatory audit**

	Reconciliation with statutory accounts	Scope of costs & costs allocated	Cost valuation and allocation	Cost capitalization, assets valuation and amortization	Transfer charges	Other (please specify)
Kenya	N/A	N/A	N/A	N/A	N/A	N/A

5.4.15 Operators obligations**Table 20 – Regulatory auditing–Operators obligation and legal/regulatory basis**

	Access all internal supporting data and	Respond in a predefined timeframe to any question	Other	Legal/regulatory Basis
Kenya	N/A	N/A	N/A	N/A

5.4.16 Overall regulatory auditing process**Table 21 – Regulatory auditing implementation**

	Implementation rules		
	Occurrence	Body in charge of conducting the audit:	Who pays?
Kenya	N/A	N/A	N/A

Table 22 – Outcome and cost of the latest audit conducted

	Date of	Outcome and corrective actions taken	Cost	Who paid?	NRA internal human
Kenya	N/A	N/A	N/A	N/A	N/A

5.4.17 Costing tools and cost model development

In 2006 the National Regulatory Authority for Kenya, the Communications Commission of Kenya engaged the services of Messrs. Analysys Mason Consulting Ltd and McCarthy Tetraut LLP to carry out a Network Cost Study on Wholesale and Retail Prices in the Telecommunications Market in Kenya. The overall objective of the study was to determine the efficient costs and prices for various telecommunication services in the country through a costing exercise.

The study covered mobile and fixed telecommunication services and the interconnection charges envisaged therein and three models; namely market, cost and price models were developed based on the Long Run Average Incremental Cost (LRAIC) approach.

Based on the findings of the aforementioned study, the Commission issued the Interconnection Determination No. 1 of 2007 which was implemented on a three year glide path starting on 1st March 2007 to 28th February, 2010. The Interconnection Rates in the Third Phase of the glide path was extended to 31st August 2010 to allow the Commission to conclude the review of the Network Cost Study and enable the issuance of a new Determination before 1st September 2010. The implementation of the Determination spurred increased competition, investment, innovation and affordable communication services to a majority of Kenyans.

In order to come up with a new Determination and foster an even more effective regulatory framework that can support further competition and innovation in a converged environment, the Commission once again contracted Messrs. Analysys Mason Consulting Ltd in March 2010 to comprehensively review and update the Network Cost Study conducted in 2006. The specific objectives of the study were:

- Review of the current interconnection framework;
- Development and update of the cost models;
- Development of a new interconnection framework in a converged market;
- Development of a pricing models for infrastructure sharing and co-location;
- Development of a broadband interconnection model; and
- To conduct capacity building for the Commission's staff.

It is to be noted that the 2006 study used the long run average incremental cost (LRAIC+) approach for setting interconnection prices. However, it was noted that since 2006 there has been a significant industry debate especially in the European Union to shifting from LRAIC+ to pure long run incremental cost (LRIC) methodology as the most efficient pricing methodology. The LRAIC+ methodology is noted to be associated with high termination rates because it allows recovery of the Common Costs through a mark up. Pure LRIC on the other hand is associated with lower terminations because it considers common costs as exogenous to the model and are therefore not recovered through the termination rates. Common costs are costs that an operator would incur even without providing termination services and the pure LRIC is therefore considered efficient as it sets the termination rates close to the incremental costs that an operator bears for providing termination services.

Based on the regulatory objectives of the Commission, the study therefore adopted the pure LRIC approach in modeling and determining interconnection prices in the mobile and fixed markets. This is because on balance, pure LRIC has a stronger case in Kenya than LRAIC costing standard adopted in the original 2006 study as it reduces barriers for switching between operators; and facilitates greater commercial flexibility in retail pricing.

The consultants therefore updated the cost models developed in 2006 and also developed new model based on a pure LRIC methodology. The models developed were based on:

- a) A hypothetical new entrant approach in order to bring about transparency and ensure that efficiency requirements are taken into account in cost allocation;
- b) Symmetric interconnection regulation that favours economic efficiency, mimics a perfectly competitive and contestable market, increases incentives to reach cost efficiency, and sends the right signals to market players;
- c) Market model and network assumptions that included a WACC of 14.14%;
- d) A regulatory framework that takes into consideration convergence between Mobile Termination Rates (MTR) and Fixed Termination Rates (FTR).
- e) An access pricing and forms of infrastructure sharing that include co-location at local exchanges for delivering fixed line services; sharing of duct infrastructure and mobile network sharing; and
- f) An understanding that the broadband market in Kenya is still nascent and therefore development of broadband interconnection model is required in order to promote access to broadband services.

Taking into account the reviewed framework, the new cost models developed, market model and network assumptions; the study recommended relevant regulatory interventions in the various market segments. The recommendations are founded on the basis that effective competition is the best mechanism for maximising consumer and producer welfare. In markets where effective competition has not been realised, three broad approaches to regulatory intervention were proposed in the study, namely;

- a) Encouraging effective competition in those markets in which effective competition is possible, but not currently realised;
- b) Imposing regulatory interventions in those markets in which effective competition is not possible; and
- c) Evaluating the benefits of intervention to ascertain that they outweigh the costs burden and the risk of error of intervention and/or non-intervention.

Based on the findings and recommendations by the consultant, a number of action points arose. Some required immediate implementation while others require the Commission to first monitor the industry performance prior to interventions. Consequently the following recommendations were adopted and implemented:

- a) Imposition of a price cap on the Mobile Termination Rates (MTR) based on a glide path with a view to reach the pure LRIC cost in 3.5 years;
- b) Imposition of a price cap on the regulated fixed wholesale services (FTR) based on a glide path with a view to reach the pure LRIC and convergence between MTR and FTR;
- c) Introduction of caps for off-net call prices to the level of on-net prices on fixed and mobile SMP operators upon designation of dominance in line with the Act and Regulations;
- d) Directing operators to re-negotiate mobile and fixed SMS termination rates within three months;
- e) Engaging the Central Bank of Kenya on the overlapping regulatory oversight on the Mobile Money Transfers;
- f) Monitor the infrastructure market and allow agreements to be reached through commercial negotiation, and only intervening where necessary; and,
- g) Monitor development of the competitive landscape in the broadband market and only intervene when necessary.

The cost study that was concluded in 2010 based on pure LRIC resulted in MTR level of Ksh.0.87/Minute. However considering that the MTR then of Ksh.4.42/Minute was way above the pure LRIC level of Ksh.0.87/Minute, a glide path process was adopted to align the MTR to the derived MTR cost as shown in the table below.

The glide path sought to strike a balance between the regulatory objectives of reducing termination rates to the efficient level as quickly as possible while at the same time guarantee stability in the industry. Consequently a gradual reduction in MTR was effected starting with an immediate 50% reduction in 2010 to Ksh.2.21/Minute and then progressively lower the rates every year with a view to reaching the pure LRIC level of Ksh.0.99/Minute by January 2013.

The above mentioned model is reported to be applicable to all major operators. Arising from the application of this model and the other recommendations, mobile termination rates (MTR) is presently capped at KES 2.21 per minute and has resulted in a significant drop in retail prices with off-net national mobile voice services averaging at KES 3.75 per minute.

The adoption and implementation of the aforementioned interventions sparked a vigorous price war among the operators for both on-net and off-net calls in a bid to attract and retain customers on their respective networks. This price war was so severe that it attracted the attention of the political system with one side fearing for the possible collapse of the industry while others expressed concern in anticipation of lower returns from their investments in shares of the publicly listed incumbent mobile operator with SMP, Safaricom.

At this point both incumbent mobile and fixed network operators campaigned for a halt in the implementation of the glide path in the subsequent year sighting heavy losers in their businesses and recommending a review of the impact of the interventions in the sector. The campaign resulted in the suspension on further implementation of the glide path pending the requested review.

In summary the model developed by M/S Analysys Mason, which is not publicly available as it contains operators’ specific sensitive data, has the following characteristics:

- Based on a hybrid model,
- Costed US\$ 693,622,
- Used data from operators based on specific request,
- Based on Hypothetical new efficient entrant,
- Assumes 10 years for cost recovery and 25% market share,
- Theoretical coverage based on efficient considerations, and
- Topology designed based on scorched node, among others.

5.4.18 Strategy for implementation

Table 23 – Public availability of the model and of its input dataset

	Publicly available: Yes, No?	If the model is not publicly available:		
		Please explain why	Shared with operators or for internal use	Planned to be made public: Yes+date, No
Kenya	No	It contains Operator specific sensitive information	No. Operators are given their specific models	No

Table 24 – Strategy of implementation and data used

	Strategy of implementation: Sh, Co, EE, DI, other (please specify) ⁽²⁾	Did you use data from operators: Yes, No?	If operators' data are used, how did you collect them: CA, SR, Cn, other (please specify)? ⁽¹⁾
Kenya	Consultant developed a bespoke one	Yes	Specific Request

(1) CA: Data from cost accounting obligation, SR: Specific request, Cn: Consultation

(2) Sh: From the shelf (ITU, WBG, etc.), Co: Consultants to develop a bespoke one, EE: Evolution of an existing model, DI: Developed internally (from scratch)

Table 25 – Experience on latest audit conducted

	The model was implanted internally (from scratch of evolution of an existing model)	Consultants were commissioned to implement the model		
	Internal human resources required (number of people and duration)	Consultant fees	Name of the consultant	Internal human resources required (number of people and duration)
Kenya	N/A	US \$ 693,622	Analysis Mason	% people fro 12 weeks

5.4.19 Model assumptions and parameters

Table 26 – Assumptions of the model

	Modeled operator: EO, HE? ⁽¹⁾	Time horizon applied for recovering costs		Level of demand used: CL, FL, other (please specify) ⁽²⁾	Market share assumed	
		Value (nb of years)	Why (rationale)?		Value (%)	Why (rationale)?
Kenya	HE	10		Demand is forecast using combination of top-down and bottom-up algorithms Top-down algorithms – e.g. segmenting total revenues from voice traffic on-net, incoming and outgoing. Bottom-up algorithms – e.g. forecasting total traffic volumes by multiplying forecast number of subscribers and forecast usage per subscriber, extrapolated from historical usage per subscriber	25	More conservative with regard to the risk of setting a too low MTR

(1) EO: Existing one, HE: hypothetical efficient operator, if other please specify

(2) CL: current level, FL: future level based on extrapolation, if other please specify

Table 27 – Parameters of the model

	Key cost drivers: Yes, No				Coverage assumed		
	Nb of subs	Traffic	Coverage	Other (please specify)	Basis: AE, CC, TC, PC, other (please specify) ⁽¹⁾	In % of population?	In % of territory?
Kenya	Yes	Yes	Yes	Gross additions	TC	Urban 80% Rural 25% Road 21 %	

(1) AE: Average of current coverage of existing networks, CC: Current coverage of largest network, TC: Theoretical coverage (as derived from efficiency considerations), PC: Prescribed coverage (as specified in the licenses), if other please specify

5.4.20 Methodology used to design network and to model OPEX

Table 28 – Strategy of implementation and data used

	Network design		Operational expenditure		
	Methodology: SN, SE ⁽¹⁾	Rationale behind the choice of scorched node or scorched earth	Modeling approach: MU, other (please specify) ⁽²⁾	If a mark-up is used, please specify if it is SA, DA, DT ⁽³⁾	How was the figures used to calculate OPEX derived: B, OD, VD, other (please specify) ⁽⁴⁾
Kenya	SN	Scorched node gives the best results for the market as it encourages the network operator to make investments that are efficient given the actual configuration of the network	Other & MU. Network opex: is calculated based on unit operating costs. Cost trends then assumed and these finally multiplied by the number of units in each year to give the total operating cost for each network cost category in each year. Retail opex: calculations based on cost driver calculations, e.g. gross additions, subscribers, etc.	DA. Business overhead opex category is marked up onto wholesale and retail service cost results	OD

(1) SN: scorched node, SE: scorched earth

(2) MU: mark up on network assets, if other please specify

(3) SA: same mark-up for all network assets, DA: different mark-up depending on the type of asset, DT: different mark-up depending on technology i.e. 2G or 3G

(4) B: benchmark, OD: operators' data, VD: vendors' data, if other please specify

6. MADAGASCAR

6.1 Madagascar in Brief

The Republic of Madagascar formally known as Malagasy Republic is an island country located in the Indian Ocean off the south-eastern coast of Africa. It comprises the island of Madagascar and other smaller islands.

Madagascar's economy is based mainly on tourism, textile and light manufacturing exports, agricultural products, and mining. Tourism targets the niche eco-tourism market, capitalizing on Madagascar's unique biodiversity, unspoiled natural habitats, national parks and lemur species. Exports comprise of garment manufacture. Agricultural exports consist of low-volume high-value products like vanilla, lychees and essential oils. A small but growing part of the economy is based on mining of ilmenite, with investments emerging in recent years, particularly near Tulear and Fort Dauphin.

Area:	587,040 Square km
Capital:	Antananarivo
Population:	20.6 million (2009 est)
GDP (PPP):	US\$ 19.3 billion
<i>Source: www.indexmundi.com</i>	



6.1.1 Overview of the ICT Sector

ICT Sector Regulation

Madagascar has in the recent times taken steps towards promoting ICTs for development with the adoption of two policies namely; the national ICT policy in 2004 and the economic and social development policy, the Madagascar Action Plan for 2007-2012, which promotes the expansion of ICT infrastructure and access in the country including the establishment of ICT centres in schools.

A new law was enacted in 2005 (law No 2005-023 of 17th October 2005) which provides for the liberalization of the sector. The law also provides for the replacement of OMERT (Office Malgache d'Etudes et de Régulation des Télécommunications) with a new 'Autorité de Régulation des Technologies et de la Communication (ARTC)' which is mandated to regulate the sector.

Service provision

The telecommunications industry in Madagascar has continued to grow especially in the mobile telephony segment. By 2010 there were about 172,000 fixed line subscribers and over 6 million mobile subscribers. There are also several licensed service providers offering various forms of ICT services.

6.2 Main findings**5.2.1 Legal and Regulatory Framework for Tariff Regulation**

The sector legislation, ACT No. 2005-023 of 17 October 2005 recasting the Law No 96-034 of 27 January 1997 provides for a framework for public disclosure, fair competition, and regulatory auditing in general terms. It further states that interconnection must be non-discriminatory and is subject to commercial negotiations; cost shared equally and may be subject to international standards. Interconnection agreement is filed with the Regulatory agency presumably for auditing and approval. The Act also provides for benchmarking of interconnection rates.

6.2.2 Cost Accounting and Regulatory Auditing

In Madagascar cost accounting is reported to be implemented with a view to ensure prices of services are costs based taking into account the need for efficient management and elimination of subsidies of one service by another. The regulatory authority performs the analysis of the costs of services and determines the ceiling of price on the basis of the cost structure and sales of services by operators

6.2.3 Costing Tools and Cost Model Development

It is reported that the costing modeling tools exist but are not being used due to lack of technical skills. No further details on the nature of the modeling tools were given.

Whereas it is reported that cost accounting is implemented with a view to ensure prices of services are costs based and that the regulatory authority performs the analysis of the costs of services and determines the ceiling of price on the basis of the cost structure, the effectiveness of these procedures and systems are not stated. It is also reported that the modeling tools exist but are not being used due to lack of technical skills.

6.2.4 Legal and regulatory framework for tariff regulation in detail

The sector legislation, ACT No. 2005-023 of 17 October 2005 recasting the Law No 96-034 of 27 January 1997 provides for a framework for public disclosure, fair competition, and regulatory auditing in general. It further states that interconnection must be non-discriminatory and is subject to commercial negotiations; cost shared equally and may be subject to international standards. Interconnection agreement is filed with the Regulatory agency. The Act also provides for benchmarking of interconnection rates.

The relevant sections read as follows:

CHAPTER V: TERMS OF OFFER SERVICES TO THE PUBLIC

ART. 20 – Each operator must comply with the following obligations:

- a) Perform the service in accordance with the principle of equal treatment of users. This equality of treatment including access to services and their pricing;
- b) Make available to users, in an accurate and accessible, all relevant information on conditions for access to its services, including their supply, their mode employment, rates and billing arrangements;

- c) Comply with any decision of the Regulatory Agency to ensure fair competition and reduce the effects of all forms of monopoly;*
- d) Comply with any law relating to public communication, access to information, encryption, the law on competition and consumer protection and respect for the right to information individuals;*
- e) Provide any information requested by the regulatory agencies necessary to carry the mission of the Regulatory Agency as defined by this Act.*

ART. 21

(1) Every network operator or service provider open to the public is required to offer interconnection to other telecommunications operator. Interconnection agreements are subject to commercial negotiations between operators and subject to the following principles:

- (a) the interconnection agreement must allow each operator to offer its customers access to each other to all public telecommunications networks or telecommunications services interconnected national and international;*
- (b) subject to the following paragraph, the interconnection is established on the basis of a technical standard (Multiplexing, connectivity, code signaling, routing, accounting) each accepted and recognized by international standardization bodies;*
- (c) Regulatory Agency may require the application of interconnection standards provided that, these are recommended by international standardization bodies;*
- (d) the cost of implementation is shared equally between players;*
- (e) revenue sharing is negotiated between the various stakeholders involved in the interconnection;*
- (f) the sharing of facilities associated with the physical connection is provided to networks of non-discriminatory terms.*

(2) Any operator of telecommunications services using IP networks open to the public must to ensure its interconnection with the point or points of interconnection of regional and national Internet, when are available locally. The objective is to reduce the costs of international bandwidth and to further cost and quality of the Internet for the benefit of users and e-governance.

(3) The interconnection agreement was filed with the Regulatory Agency.

(4) The conditions and procedures applicable in the case of refusal to interconnect, fail negotiations or agree with the conclusion of an interconnection agreement are set by decree.

Arbitration of a dispute:

(5) In the event of disagreement about the execution of an interconnection agreement, it is for the Regulatory Agency to award the dispute within a period fixed by decree, and to make an administrative decision based on the following principles:

- a) interconnection conditions shall be non-discriminatory, including vis-à-vis their own services, subsidiaries or partners, operators of telecommunications networks, that is to say not to favour one telecommunications network operator, provider of telecommunication services, a service, a subsidiary or a partner in relation to one another, and transparent, that is to say, based on sound objective and verifiable;*
- b) the conditions of interconnection should not lead to the imposition of undue burdens excessive network operators or telecommunications service providers using telecommunication interconnection.*

(6) *The Regulatory Agency;*

- Sets out the basic principles set out in paragraph 5) above by regulatory appropriate;
- Can impose obligations relating to cost recovery and price controls and obligations concerning cost accounting of the costs for the provision of types particular interconnection where the operator concerned might, in the absence of competition effectively sustain prices at an excessively high level, or price squeeze, to the detriment of end users. The Regulatory Agency shall take into account the investments made by the operator and allows a reasonable return on adequate capital employed;
- Ensure that all cost recovery mechanisms or methodologies pricing that is mandated serves to promote economic efficiency, sustainable competition and protect consumer interests. In this regard, Regulatory Agency may also take into account the prevailing prices in the markets comparable competitive throughout the Republic;
- May, where necessary to ensure compliance with fair competition or interoperability of services, automatically or at the request of an interested party, ask after investigation pursuant to this Act, changing conventions interconnection already concluded.

6.2.5 Status of price regulation and underlying strategy

Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Madagascar	CO	La	Strategy is to direct the prices of services to their costs based on efficient management and to eliminate subsidies of one service by another

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus...

(2) Li: license, La: law, SMP: relevant market analysis...

6.2.6 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent	Basis: Li, La, SMP, other (specify) ⁽²⁾	Mandated: yes, No, PI ⁽¹⁾	Basis: Li, La, SMP, other (specify) ⁽²⁾
Madagascar	Yes	All	La	Yes	La. The regulatory authority performs the analysis of the costs of services. It determined ceiling of price on the basis of the cost structure and sales of services made by operators.

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources,...
Madagascar	N/A	N/A

6.2.7 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills...
Madagascar	No		(SMP) Operator provides services under monopoly	Tools are available, but not applied	The cost model is not used due to lack of technical skills

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

6.2.8 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Madagascar		Ar 280/min

(1) The average price for MTR as well as for retail is calculated as follows:

$\frac{\text{Total cost of a 3 minute call during peak hours} \times \text{peak ratio} + \text{Total cost of a 3 minute call during offpeak hours} \times \text{offpeak ratio}}{3}$

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

6.2.9 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Madagascar	No	N/A	N/A

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

6.2.10 Disputes

Table 7 – Legal disputes

	Occurred: Yes, No	Nature of the dispute	Date	Object of the dispute	Outcome	Impacts, if any, on tariff regulation or cost modeling
Madagascar	No	N/A	N/A	N/A	N/A	N/A

6.2.11 Price control regarding other services

Table 8 – Price control obligations of retail services

	Retail mobile voice		Retail fixed voice		Fixed data		Mobile data	
	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾
Madagascar	No	N/A	No	N/A	No	N/A	No	N/A

(1) CA: cost accounting

(2) N: No, BU: bottom-up, TD: top-down, B: benchmark

Table 9 – Price control obligations of wholesale services

	Fixed interconnection		Bitstream access		Local loop unbundling		Leased lines		Access to IGW		Access to IXP	
	CA ⁽¹⁾ Yes/ No	CT ⁽²⁾ N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ Yes/ No	CT ⁽²⁾ N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ Yes/ No	CT ⁽²⁾ N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ Yes/ No	CT ⁽²⁾ N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ Yes/ No	CT ⁽²⁾ N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ Yes/ No	CT ⁽²⁾ N, BU, TD, B ⁽³⁾
Madagascar	NO	N/A	NO	N/A	NO	N/A	NO	N/A	NO	N/A	NO	N/A

(1) CA: cost accounting

(2) CT: costing tool

(3) N: No, BU: bottom-up, TD: top-down, B: benchmark

6.2.12 Foreseen changes in regulatory framework

Table 10 – Telecom law or regulatory framework review

	Status: No, PI, Uw ⁽¹⁾	Target date	Main objectives
Madagascar	No	N/A	N/A

(1) No: no, PI: planned, Uw: under way

6.2.13 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Madagascar	Roaming	No		–	–
	Broadband Infrastructure	No		–	–
	NGN	No		–	–
	Mobile Payment	No			

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

6.2.14 Data collection process

Table 12 – Cost accounting – data collection process

	Process				Implementation	
	Frequency	Deadline	Actual (present and past) figures and period covered	Forecasted figures and period covered	Number of occurrences	Latest collection
Madagascar	On application of a new pricing or change	N/A				

6.2.15 Scope of costs and cost preparation

Table 15 – Accounting system/allocation methodology used and relevant increment size

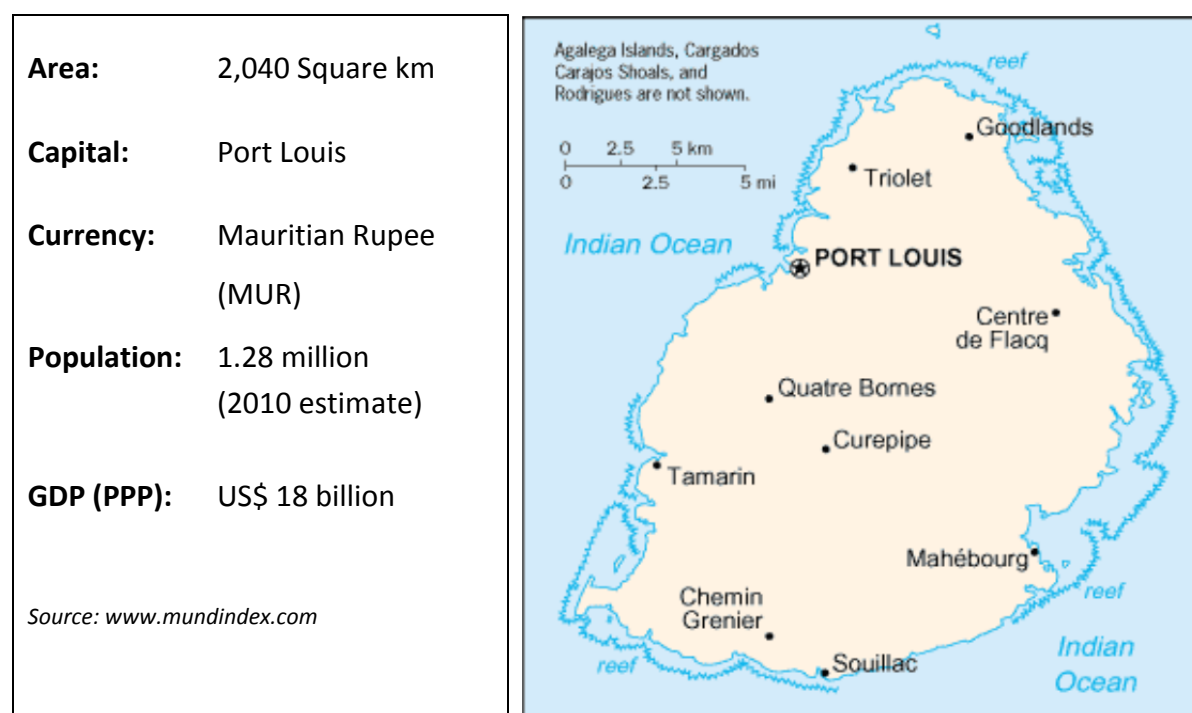
	Allocation methodology: LRIC, FDC, other (please specify)	Size of the relevant increment: Marginal, Service increment, Average increment, other (please specify)
Madagascar		Marginal

7. MAURITIUS

7.1 Mauritius in Brief

The Republic of Mauritius is an island nation off the southeast coast of the African continent in the southwest Indian Ocean, about 900 kilometres east of Madagascar. In addition to the island of Mauritius, the Republic includes the islands of Cargados Carajos, Rodrigues and the Agalega Islands. The area of Mauritius is 2040 km²; its capital city is Port Louis.

Mauritius is a member of the Southern African Development Community (SADC), the Common Market for Eastern and Southern Africa (COMESA). Mauritius has an upper middle income economy^{vi}.



7.1.1 ICT Sector Overview

ICT Sector Policy/Regulation

The Mauritius vision is to make ICT the major pillar of the economy and transform Mauritius into a Regional Hub. Mauritius is coming with various initiatives to support the growth of the sector, such as setting up infrastructure parks, increasing the pool of talents by making ICT as a preferred career choice, and developing policies to build an investor-friendly environment. Government is also enabling an ICT-ready environment through the increase usage and adoption of ICT by inculcating a 'technology temper' among the citizens. The government has set the following targets to be achieved by 2011^{vii}.

- A 8% contribution of the GDP
- 29,000 jobs to be created in the ICT sector
- Employment of at least 90% of those graduated in ICT
- Doubling the number of foreign investors in the ICT sector in Mauritius
- The ICT Sector contributed 6.4% of the Gross Domestic Product (GDP) in 2010 and is projected to go up to 8% of the GDP by 2011

Mauritius Parliament passed the Information and Communication Technologies Authority Act in late 2001, effectively creating the ICT Authority (ICTA) as the regulatory authority for the sector. The ICT Authority is also responsible for licensing, managing the Mauritian numbering plan and radio frequency. The ICT Authority also acts as the Controller of Certification Authorities (CCA) licensed to issue Digital Signature Certificates and is also responsible for protecting consumers of telecommunication services.

Service Provision

The Telecommunications sector was liberalised at the end of 2002. This has enabled the emergence of new operators in the market and allowed for more competitive rates in the telecommunications sector.

The fixed telephone line subscriptions have been increasing from 357,300 subscribers in 2006 to 387,700 subscribers in 2010 with an annual average increase of 2.1%. An increase of 3.4% in fixed telephone subscriptions has been noted from 2009 to 2010.

The number of mobile phones subscriptions has reached 1,190,900 in 2010; a 9.6% rise compared to 2009. The number of mobile phone subscription per 100 inhabitants (Mobidensity) has reached 92.8% in 2010^{viii}.

7.2 Main findings

7.2.1 Legal and regulatory framework for tariff regulation

The sector legislation in Mauritius, the Information and Communication Technologies Act 2001, Act 44/2001 provides for a framework for regulating tariffs based on cost and also for regulatory auditing of tariff formulation and public disclosure.

The sector legislation, the Information and Communication Technologies Act 2001, Act 44/2001 provides for a framework for regulating tariffs based on cost and also for regulatory auditing of tariff formulation and public disclosure.

In implementation of its statutory mandate and in exercising of the powers conferred upon it under the above mentioned Act, the Mauritian ICT regulator, the Information & Communication Technologies Authority, (ICTA) often issues Directives to determine the rates for interconnection, referred to as the Interconnection Usage Charges (IUC). The latest issue of such Directive was on 26th May 2011 and the same took effective from 1st July 2011.

As a consequence of such directives and given the envisaged effect on retail tariffs ICTA subsequently invite operators to submit proposals, in accordance with Section 31 of the Act, to revise their retail tariffs in order for consumers to benefit from the reduction of the interconnection rates. In the event of insufficient response from the operators, the Authority may intervene in public interest.

In 2009 the ICTA initiated the process for the computation of cost-based interconnection rates for mobile operators. At this point ICTA decided to determine the cost-based interconnection rates based on historical cost using the Fully Distributed Costing (FDC) methodology.

This was in consideration of the ICTA that the preferred forward looking, Long Run Incremental Cost (LRIC) methodology would have taken a longer period of time due to its complexity. It also notes that the change over to LRIC methodology requires further consultation with the stakeholders. As such, the NRA has proceeded with the present cost determination exercise based on FDC which they consider as a step towards the LRIC based MTR determination for which consultations will be launched at a later stage.

It is further noted that the cost determination for purposes of the present exercise is based on the annual accounts of the relevant operators (Emtel and Cellplus) for the year 2008 as these were the latest audited accounts available when the said exercise was initiated.

7.3 Legal and regulatory framework for tariff regulation in detail

The Mauritius sector legislation, the Information and Communication Technologies Act 2001, Act 44/2001 provides for a framework for regulating tariffs based on cost and also for regulatory auditing of tariff formulation and public disclosure.

The relevant provisions of the act read as follows:

31. Tariffs

- (1) *Every public operator shall provide the Authority with a tariff of its charges for every information and communication service including telecommunication service which he proposes to supply and of every intended alteration of those charges in a form approved by the Authority, and in compliance with the requirements of this section.*
- (2) *Every tariff shall include information relating to –*
 - (a) *the term during which the tariff is to apply;*
 - (b) *the description of the service;*
 - (c) *the amount of the charges payable for each service including the amount of any surcharge that may be imposed as a result of non-payment of fees or charges and the cost-related computation thereof;*
 - (d) *the quantity in which the service is supplied;*
 - (e) *the transmission capacity needed to supply the service;*
 - (f) *the performance characteristics for the service supplied; and*
 - (g) *the terms and conditions on which the service is supplied.*
- (3)
 - (a) *On receipt of a tariff in accordance with subsection (1), the Authority shall within 180 days or such shorter period that may be prescribed, determine whether to allow, or to disallow, or to amend the tariff and shall, in so doing, have regard, inter alia, to the just and reasonable nature of the charges set out therein.*
 - (b) *The Authority shall forthwith give public notification in 2 daily newspapers of every determination made pursuant to paragraph (a).*
- (4) *Every public operator shall supply to the Authority such information relating to the proposed tariff as the Authority considers necessary or desirable to enable the Authority to monitor compliance with this Act.*
- (5) *Every public operator shall, at each of his business offices, make available for inspection and purchase a copy of every tariff.*
- (6) *The Authority may, by notice in writing to a public operator, disallow any tariff which does not comply with this Act or with any condition of his licence.*
- (7)
 - (a) *Where the Authority is of opinion that the operation of a tariff by a dominant operator would have an anti-competitive effect in any market for any information and communication service, including telecommunication service, it shall, by notice in writing, inform the dominant operator that it is disallowing the tariff, and of the reasons for which it does so.*

(b) For the purposes of paragraph (a), the operation of a tariff shall be deemed to have an anti-competitive effect in a market if, and only if, the operation or continued operation of the tariff, whether or not in conjunction with other tariffs or commercial arrangements, has, or is likely to have, the effect of materially and adversely affecting the development or maintenance of commercially sustainable competition in that market.

(8) No public operator shall demand or receive from any person payment of any fee or charge for the supply of a service which-

(a) exceeds the fee or charge payable under the appropriate tariff;

(b) is not worked out or computed in accordance with the appropriate tariff, or

(c) is worked out or computed in accordance with a tariff which has been disallowed pursuant to subsection (6) or (7).

8. RWANDA

8.1 Rwanda in Brief

Rwanda is a small, landlocked country, located in the Great Lakes region in East Africa. Rwanda is one of the more densely populated countries in Africa with a growth rate of about 3%.

Rwanda’s economy is largely agricultural, accounting for about 46% of GDP while the input of industry and services are 20% and 34% respectively. The main export products are tea and coffee. The illiteracy rate is estimated at about 50% among adults living in rural areas. 83% of the population lives in rural Rwanda. The emerging private sector is rapidly growing, particularly in the fields of construction, telecommunications infrastructure, and ICT^{ix}.

Area:	26,338 Square km
Capital:	Kigali
Currency:	Rwanda Franc (RWF)
Population:	8.16 million (2010 estimate)
GDP (PPP):	USD 11.3 billion
GDP per Capita:	US 1,148
<i>Source: mundindex.com</i>	



8.1.1 ICT Sector Overview

ICT Sector Policy / Regulation

The ICT sector in Rwanda is considered as one of the main economic pillar to support economic growth. A series of policy and regulatory changes in the ICT sector have been undertaken in the past few years aimed at transforming Rwanda from an agro-based to a service-based economy within the next few years.

The ICT policy sets out the government’s ICT targets and strategies within the context of the Government’s broad socio-economic development objectives under the Vision 2020 plan. Consequently the implementation plan of the ICT Policy will be over a period of 20 years in four phases. The first, second and third phase emphasises on the exploitation and utilisation of ICT products and services to support the delivery of government services and the activities of various sectors of the economy. The fourth phase emphasises on the production, development and delivery of ICT products and services.

This Vision envisages fundamental transformation of Rwanda such that by the year 2020 will be:

- A middle-income economy dominated by the trading in ICT products and services;
- An economy characterised by a large commercial service sector with a reasonably large and vibrant ICT service sub-sector and industry;
- An economy in which the majority of the working population is either directly or indirectly involved in information and communications related activities;
- An economy in which a reasonably large proportion of the population has access to information and communications technology products and services.

Rwanda Utilities Regulatory Agency (RURA) was created by law n° 39/2001 of 13th September 2001 and was published in the Government Gazette n° 20 of 15th October 2001 with the mission to regulate certain public Utilities, namely:

1. Telecommunications network and/or Telecommunications services
2. Electricity;
3. Water;
4. Removal of waste products from residential or business premises;
5. Extraction and distribution of Gas;
6. Transport of goods and persons;

Service Provision

The fixed telephone line subscriptions in 2009 were about 33,500 subscribers while mobile subscribers were 2.43 million subscribers in the same period.

8.2 Main findings

8.2.1 Legal and Regulatory Framework for Tariff Regulation

The sector legislation, Law No. 44/2001 of 30/11/2001 governing the telecommunications sector in Rwanda, provides for a framework for derivation and filing tariffs as well as public disclosure of the same. In accordance with the said legislation, tariffs for the dominant operator are to be based on objective criteria and cost of provisioning. Tariffs for access network are independent of usage volume. The act also provides for unbundling of network elements and mandatory interconnection upon request. The regulator, Rwanda Utilities Regulatory Agency (RURA), is therefore mandated to regulate tariffs, particularly for dominant operators (with SMP), based on objective and cost based criteria.

8.2.2 Cost Accounting and Regulatory Auditing

In Rwanda wholesale tariffs for the non dominant operators are regulated, while both wholesale and retail tariff are regulated for dominant operators. For the wholesale tariff, the cost accounting approaches using cost based methodology is used while the retail tariff is not yet regulated as the dominant operator is not yet determined. The main objectives include the need for further growth of subscriber base, affordable communications services and efficiency in infrastructure management.

However, despite the requirement for wholesale tariffs for all operators to be cost oriented, in practice, cost accounting obligations are not imposed. Further the dominant operator is yet to be determined while the regulatory auditing is not carried out for lack of audit framework (i.e. elaboration of the detail implementation modalities of Article 48 of the Law is yet to be done). It is also thought that there may be lack of sufficient implementation framework as well as insufficient regulatory resources. It is also reported

that there are challenges due to reluctance of operators in providing information. This is a pointer to a probable insufficient regulatory audit framework.

There is therefore a need for Rwanda to further develop its cost accounting and regulatory audit framework and build its resource base in order to be able to effectively carry out these mandated functions.

It is further reported that there is an impending review of the telecom law to reflect the changes within the Sector since 2001.

8.2.3 Costing Tools and Cost Model Development

It was reported that Rwanda is developing, through a consultant (PWC) and which is not publicly available as it contains operators' specific sensitive data, a bottom up bespoke cost model. Some of the characteristics of the model include:

- Cost UK Pounds 151,627
- Used data from operators based on specific request,
- Based on Hypothetical efficient operators,
- Assumes 10 years for cost recovery and average market share,
- Key cost drivers include subscribers, traffic, coverage, level of inflation, etc,
- Coverage modeled on current coverage of largest operator,
- OPEX modeled using different markup on different network assets based on operator data.

8.3 Legal and regulatory framework for tariff regulation in detail

8.3.1 Legal Framework

The sector legislation, Law No. 44/2001 of 30/11/2001 governing the telecommunications sector in Rwanda, provides for a framework for derivation and filing tariffs as well as public disclosure of the same. In accordance with the said legislation, tariffs for the dominant operator are to be based on objective criteria and cost of provisioning. Tariffs for access network are independent of usage volume. The act also provides for unbundling of network elements and mandatory interconnection upon request.

The relevant sections of the said legislation read as follows:

CHAPTER V. TARIFFS

Article 29

Suppliers of networks and telephone services in general determine and publish tariffs for the supply and use of their networks and telecommunication services. A copy of each tariff (including all changes made to these at any time) is, at the same time as these are published, provided to the Regulatory Board. Tariffs are also provided to any other natural person or organization which requests them.

Tariffs clearly show the telecommunications networks and services which are offered, how tariffs are calculated for each network and service, and the actual tariffs for the network or telecommunications service or for each unit of time for which the telecommunications services are offered.

Tariffs for dominant organizations are based on objective criteria and on the costs of providing the public telecommunications network and service together with a reasonable rate of return.

Tariffs for access to and use of public networks are independent of the use to which the user puts the network except in cases where different services or facilities are required.

Tariffs are set out in clear and sufficient details and are sufficiently unbundled, such that a user of public networks or public telephone services is [not] obliged to take or pay for any facilities that are not required.

Article 30

The Regulatory Board may impose tariff control schemes for dominant organizations when necessary and amend their license in accordance with Article 9 of this law.

Dominant organizations must within 14 days of notification of any tariff control scheme, adjust their tariffs in accordance with the approved scheme. The new tariffs are submitted to the Regulatory Board which verifies compliance with the scheme prior to their implementation.

Any users who are charged in excess of the amounts allowed by any tariff control scheme receive from the dominant organization an immediate refund of the excess amount or receive credit on their next telephone bill.

CHAPTER VIII. INTERCONNECTION

Article 39

All public telecommunications operators should, if requested in writing by other public telecommunications operators, interconnect their networks with those of the other operators.

The Minister, by Ministerial decree, sets out the general conditions and pricing principles which an interconnection agreement must satisfy.

Discrimination by public telecommunications operators in matters of interconnection is forbidden. A public telecommunications operator shall apply similar conditions in similar circumstances to organizations with which it is interconnected and which are providing similar services.

Article 40

Each dominant organization must provide to the Regulatory Board details of standard reference interconnection offers which will be made to public telecommunications operators. These shall itemize each interconnection facility offered together with the associated terms and conditions within agreement including tariffs.

Charges for interconnection cover the effective cost of using the network and is sufficiently unbundled so that the applicant is not required to take or pay for any facility not strictly related to the service requested.

Article 41

The Regulatory Board must:

- 1° ensure that any differentials in charges, terms and conditions offered by a public telecommunications operator do not result in distortion of competition;*
- 2° ensure that all public telecommunications operators apply the same charges terms and conditions to their own subsidiary or affiliated companies as they offer to other public telecommunications operators;*
- 3° ensure that all dominant organizations operate a cost accounting system to enable them to identify the costs associated with interconnection;*

8.4 Strategy for regulatory intervention

8.4.1 Status of price regulation and underlying strategy

Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Rwanda	CO	La & Li	<p>Only wholesale tariff is regulated for the non dominant operators, while both wholesale and retail tariff are regulated for dominant operators. For the wholesale tariff, the cost accounting approaches using cost based methodology is used while the retail tariff is not yet regulated as the dominant operator is not yet determined.</p> <p>As far as the wholesale tariff regulation is concerned, further growth of subscriber base, affordable communications services and efficiency in infrastructure management are the main outcomes and achievements up to now.</p>

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus...

(2) Li: license, La: law, SMP: relevant market analysis...

8.4.2 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent	Basis: Li, La, SMP, other (specify) ⁽²⁾	Mandated: yes, No, PI ⁽¹⁾	Basis: Li, La, SMP, other (specify) ⁽²⁾
Rwanda	No	SMP (Dominant Operator)	Telecom Law and License. (it is not yet imposed but it is allowed by the Law) This is due to unjustified market conditions, since the dominant operator is yet to be determined	Yes	La. (Article 48 [30] of the Law establishing RURA)

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources,...
Rwanda	This is due to unjustified market conditions, since the dominant operator is yet to be determined	N/A

8.4.3 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent ...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills...
Rwanda	Yes	H	All	E	N/A

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

8.4.4 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Rwanda	Rwf 45	Rwf 90

(1) The average price for MTR as well as for retail is calculated as follows:

$\frac{\text{Total cost of a 3 minute call during peak hours} \times \text{peak ratio} + \text{Total cost of a 3 minute call during offpeak hours} \times \text{offpeak ratio}}{3}$

3

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

8.4.5 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Rwanda	Yes		Delay or reluctance for the operator to provide all the requested information

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

8.4.6 Disputes

Table 7 – Legal disputes

	Occurred: Yes, No	Nature of the dispute	Date	Object of the dispute	Outcome	Impacts, if any, on tariff regulation or cost modeling
Rwanda	No	N/A	N/A	N/A	N/A	N/A

8.4.7 Price control regarding other services

Table 8 – Price control obligations of retail services

	Retail mobile voice		Retail fixed voice		Fixed data		Mobile data	
	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾
Rwanda	No	N/A	No	N/A	No	N/A	No	N/A

(1) CA: cost accounting

(2) N: No, BU: bottom-up, TD: top-down, B: benchmark

Table 9 – Price control obligations of wholesale services

	Fixed interconnection		Bitstream access		Local loop unbundling		Leased lines		Access to IGW		Access to IXP	
	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾
Rwanda	No	N/A	No	N/A	No	N/A	No	N/A			No	N/A

(1) CA: cost accounting

(2) CT: costing tool

(3) N: No, BU: bottom-up, TD: top-down, B: benchmark

8.4.8 Foreseen changes in regulatory framework

Table 10 – Telecom law or regulatory framework review

	Status: No, Pl, Uw ⁽¹⁾	Target date	Main objectives
Rwanda	Uw		The main objective was to reflect the major changes that occurred in ICT sector since 2001. The draft ICT bill is now in Parliament.

(1) No: no, Pl: planned, Uw: under way

8.4.9 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Rwanda	Roaming			The retails services tariffs are not regulated	
	Broadband Infrastructure			The retails services tariffs are not regulated	
	NGN			The retails services tariffs are not regulated	
	Mobile Payment				

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

8.4.10 Costing tools and cost model development

Table 23 – Public availability of the model and of its input dataset

	Publicly available: Yes, No?	If the model is not publicly available:		
		Please explain why	Shared with operators or for internal use	Planned to be made public: Yes+date, No
Rwanda	No	It contains individual operators' information which is strictly confidential	It is only for internal use	No

Table 24 – Strategy of implementation and data used

	Strategy of implementation: Sh, Co, EE, DI, other (please specify) ⁽²⁾	Did you use data from operators: Yes, No?	If operators' data are used, how did you collect them: CA, SR, Cn, other (please specify)? ⁽¹⁾
Rwanda	Consultants to develop a bespoke one	Yes	Specific request

(1) CA: Data from cost accounting obligation, SR: Specific request, Cn: Consultation

(2) Sh: From the shelf (ITU, WBG, etc.), Co: Consultants to develop a bespoke one, EE: Evolution of an existing model, DI: Developed internally (from scratch)

Table 25 – Experience on latest audit conducted

	The model was implanted internally (from scratch of evolution of an existing model)	Consultants were commissioned to implement the model		
	Internal human resources required (number of people and duration)	Consultant fees	Name of the consultant	Internal human resources required (number of people and duration)
Rwanda	N/A	British Pounds 151,627	Price Water House Coopers (PWC)	

5.4.19 Model assumptions and parameters

Table 26 – Assumptions of the model

	Modeled operator: EO, HE? ⁽¹⁾	Time horizon applied for recovering costs		Level of demand used: CL, FL, other (please specify) ⁽²⁾	Market share assumed	
		Value (nb of years)	Why (rationale)?		Value (%)	Why (rationale)?
Rwanda	HE	10		Average (hypothetical efficient operator)	Average (hypothetical efficient operator)	

(1) EO: Existing one, HE: hypothetical efficient operator, if other please specify

(2) CL: current level, FL: future level based on extrapolation, if other please specify

Table 27 – Parameters of the model

	Key cost drivers: Yes, No				Coverage assumed		
	Nb of subs	Traffic	Coverage	Other (please specify)	Basis: AE, CC, TC, PC, other (please specify) ⁽¹⁾	In % of population?	In % of territory?
Rwanda	Yes	Yes	Yes	Level of inflation in Rwanda	CC (Current coverage of largest network)	100% in Kigali, 94% in Provinces	

(1) AE: Average of current coverage of existing networks, CC: Current coverage of largest network, TC: Theoretical coverage (as derived from efficiency considerations), PC: Prescribed coverage (as specified in the licenses), if other please specify

8.4.11 Methodology used to design network and to model OPEX

Table 28 – Strategy of implementation and data used

	Network design		Operational expenditure		
	Methodology: SN, SE ⁽¹⁾	Rationale behind the choice of scorched node or scorched earth	Modeling approach: MU, other (please specify) ⁽²⁾	If a mark-up is used, please specify if it is SA, DA, DT ⁽³⁾	How was the figures used to calculate OPEX derived: B, OD, VD, other (please specify) ⁽⁴⁾
Rwanda			MU	DA	OD

(1) SN: scorched node, SE: scorched earth

(2) MU: mark up on network assets, if other please specify

(3) SA: same mark-up for all network assets, DA: different mark-up depending on the type of asset, DT: different mark-up depending on technology i.e. 2G or 3G

(4) B: benchmark, OD: operators' data, VD: vendors' data, if other please specify

9. SEYCHELLES

9.1 Seychelles in Brief

Seychelles comprises 115 islands and islets scattered over the Indian Ocean, 75 of which are uninhabited and volcanic. It has the smallest population of any sovereign state in Africa with 88% being accommodated in Mahé, the largest island.

The main economic activities are tourism and marine fishing, along with some agriculture and small-scale manufacturing. Tourism employs 30% of the workforce and provides more than 70% of hard currency earnings. Seychelles is a member of the Southern African Development Community (SADC), the Indian Ocean Commission and the Common Market for Eastern and Southern African States (COMESA).

Location:	451 Square km
Capital:	Victoria
Currency:	Seychellois Rupee (SCR)
Population:	84,000 (2009 estimate)
GDP (PPP):	USD 2.13 billion (2010)
<i>Source: www.mundindex.com</i>	



9.1.1 Overview of the ICT Sector

The Department of Information Communications Technology in the Office of the Vice President is in charge of policy, legal and regulatory aspects of the ICT sector in Seychelles.

According to the recently adopted ICT policy, the Government of Seychelles recognizes “the fundamental importance of ICT in any policy for stimulation of national development, in particular, modernization and globalisation of the economy, and creating the conditions for the fullest participation by all sections of the population”.

The policy is aimed to guide the ICT development, accessibility and its utilisation on a national scale to meet the challenges of the information age and will lay the foundation for the development of a comprehensive National ICT Strategic Plan (NICTP). The NICTP is based on five guiding principles: ICT Infrastructure, Legal and Regulatory Framework, Human Resource Development, ICT Industry and Government.

Service Provision

The telecommunications sector in the Seychelles is privatized. The fixed telephone line subscriptions in 2009 stood at 33,500 subscribers while mobile subscribers were 2.43 million. Cable and Wireless (Seychelles) Ltd., a branch of Cable and Wireless, UK, is the national telecom operator. Two GSM operators namely; Cable and Wireless (Seychelles) Ltd and Telecom Seychelles (Airtel) share the mobile telephony market.

9.2 Main findings**9.2.1 Legal and Regulatory Framework for Tariff Regulation**

The sector legislation, the Broadcasting and Telecommunication Act, 2000 mandates the Minister in charge of ICT to regulate tariffs in public interest bearing in mind the need to promote efficiency and economy in the provision of ICT services. The Act also provides for a framework for regulatory auditing through inspections.

Section 30 of the above mentioned Act provides for a regulatory framework for interconnection with prices required to be based on incremental costs (additional cost accruing). Section 38 empowers the minister to in addition make regulations including those related to charges/tariffs. It is however not clear if such regulations have been promulgated.

9.2.2 Cost Accounting and Regulatory Auditing

In the case of Seychelles, despite the requirement for interconnection rates to be cost oriented, neither is cost accounting nor regulatory auditing requirements imposed. It is reported that these mandated activities are not carried out due to lack of resources. It is also reported that at times difficulties are being faced with regard to data collection from operators and that this precipitate the need for follow-up with certain operators.

There is therefore a need for Seychelles to further develop its cost accounting and regulatory audit framework and build its resource base in order to be able to effectively carry out these mandated functions.

It is further reported that there is no impending review of either the telecom law or regulatory framework that may impact on the regulation of MTR.

It is reported that differential between on-net and off-net tariff should not exceed 70%. It is thought that this requirement is aimed at curtailing operators from “clubbing” their customers using tariff differential thereby frustrating competition

9.2.3 Costing Tools and Cost Model Development

It is reported that due to lack of resources no costing tool is being used, developed or planned.

There is need for Seychelles to further develop its cost accounting and regulatory audit framework and build its resource base in order to be able to effectively carry out these mandated functions.

Consideration be made for the development and/ adoption of a costing tool some of which are reasonably priced such as COSITU and get staff trained to use it.

9.3 Legal and regulatory framework for tariff regulation in detail

The sector legislation, the Broadcasting and Telecommunication Act, 2000 mandates the Minister in charge of ICT to regulate tariffs in public interest bearing in mind the need to promote efficiency and economy in the provision of ICT services. The Act also provides for a framework for regulatory auditing through inspections.

Section 30 of the above mentioned Act provides for a regulatory framework for interconnection with prices required to be based on incremental costs (additional cost accruing). Section 38 empowers the minister to in addition make regulations including those related to charges/tariffs.

The relevant sections read as follows:

PART III – ADMINISTRATION OF THE ACT

12.

(1) The Minister shall be responsible for the general superintendence and supervision of all matters relating to broadcasting and telecommunication and shall carry the provisions of this Act into execution.

(2) The Minister, in exercising the powers conferred by this Act, shall-

(a) take all reasonable measures to provide throughout Seychelles, such broadcasting and telecommunication services as will satisfy all reasonable demands for such services, including emergency services, public pay phone services and directory information services;

(b) promote the interests of consumers, purchasers and other users of broadcasting and telecommunication services in respect of the prices charged for, and the quality and variety of, such services and equipment supplied in connection with such services;-

(c) promote and maintain competition among persons engaged in commercial activities for, or in connection with, the provision of broadcasting and telecommunication services and promote efficiency and economy on the part of such persons; and

(d) promote the goals of universal service.

14.

(1) Any public officer authorised in writing by the Minister may, for the purpose of ensuring that the provisions of this Act are complied with, at any reasonable time

(i) enter any building or place or go on board a ship or aircraft;

(ii) inspect any broadcasting apparatus or telecommunication apparatus installed or used in any building, place, ship or aircraft;

(iii) call for and inspect any licence granted in accordance with this Act.

(2) Any person for the time being in charge of any building, place, ship or aircraft in respect of which any powers are exercised under subsection (1) shall afford all reasonable facilities for entry and inspection under that subsection.

PART V – MISCELLANEOUS**30.**

(1) A person who desires to connect his telecommunication network, system or equipment to the network, system or equipment as the case may be, of another person, shall seek the consent of that other person to so connect the first mentioned person's network, system or equipment.

(2) Subject to section 32, a person whose consent is sought under subsection (1), may withhold such consent if the proposed interconnection would materially restrict his ability to exploit the network capacity at his disposal in his own operations.

(3) A person who has obtained the consent referred to in subsection (1) may, thereafter seek the approval of the Minister for the proposed interconnection.

(4) An interconnection referred to in this section may be made only in accordance with the preceding provisions of this section.

(5) Subject to section 32, the charges in respect of the interconnection and the use of the connected network shall be agreed upon by the persons concerned and shall be fair and reasonable having regard to the service provided by one person and the additional cost accruing to the other person as a result of the interconnection.

38.

(1) The Minister may make regulations for carrying into effect the purposes and provisions of this Act.

(2) Without prejudice to the generality of subsection (1), the regulations may provide for-
(i) charges levied from the public or any person for the use of any broadcasting service, telecommunication service, radio communication network, any broadcasting installation, broadcasting apparatus, telecommunication installation or telecommunication apparatus;

9.4 Strategy for regulatory intervention**9.4.1 Status of price regulation and underlying strategy****Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy**

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Seychelles	CO	Under section (Interconnection) of the Broadcasting & Telecommunication Act 2000	Regulate Interconnection traffic rates

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus...

(2) Li: license, La: law, SMP: relevant market analysis...

9.4.2 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent	Basis: Li, La, SMP, other (specify) ⁽²⁾	Mandated: yes, No, PI ⁽¹⁾	Basis: Li, La, SMP, other (specify) ⁽²⁾
Seychelles	PI			No	

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources,...
Seychelles	Lack of Resources	Lack of resources

9.4.3 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent ...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills...
Seychelles	No	N/A	N/A	N/A	Lack of Resources

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

9.4.4 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Seychelles	Interconnection Rate (11.0 cents peak and 7.0 cents off-peak)	On and off-net differential should not be more than 70%.

(1) The average price for MTR as well as for retail is calculated as follows:

$$\frac{\text{Total cost of a 3 minute call during peak hours} \times \text{peak ratio} + \text{Total cost of a 3 minute call during offpeak hours} \times \text{offpeak ratio}}{3}$$

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

9.4.5 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Seychelles	No		

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

9.4.6 Foreseen changes in regulatory framework

Table 10 – Telecom law or regulatory framework review

	Status: No, Pl, Uw ⁽¹⁾	Target date	Main objectives
Seychelles	No	N/A	N/A

(1) No: no, Pl: planned, Uw: under way

9.4.7 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Seychelles	Roaming			–	–
	Broadband			–	–
	NGN			–	–
	Mobile Payment				

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

9.4.8 Costing tools and cost model development

Table 33 – Strategy of implementation and data used

	Purpose of the benchmark: PT, CT, other (please specify) (1)	Nb of countries included in the benchmark
Seychelles	We consider benchmarking as a reference in determining interconnection rates	5 – 8 Countries

(1) PT: primary costing tool, CT: complementary tool to check the outcome of another costing tool, if other please specify

Table 34 – Basis/methodology used to select the benchmarked countries

	'Similar' countries					Only countries using a cost model (yes, no)	Other selection criteria/ methodology (please specify)
	Population size (yes, no)	Population density (yes, no)	Topography (yes, no)	Similar market (yes, no)	Other similarity criteria (please specify)		
Seychelles	Yes	Yes	Yes	Yes			

9.4.9 Methodology used to set price

Table 35 – Methodology used to derive the level of price

	On what basis is the price set?				Currency conversion
	Average of some prices: all, best 5, ... (please specify) ⁽¹⁾	Best rank 'n' price: please specify 'n'	Other (please specify)	Rationale behind the chosen basis used to set the price	Method used to convert to national currency ⁽²⁾
Seychelles		Best rank 'n'			Average for last one year

(1) Please specify which prices are selected to calculate the average: all, best 5, best 3 excluding rank 1 (1st) price...

(2) L: latest, A1: average over 1 year, A3: average over 3 year, if other please specif

10. SOMALIA

10.1 Somalia in Brief

Somalia is a country located on the eastern seaboard of Africa bordering Kenya and Ethiopia to the west, the Indian Ocean to the East and the Gulf of Aden and Djibouti to the North. Somalia has gone through a long drawn civil war since 1991 when the government was overthrown. Currently there is a Transitional Federal Government (TFG) which continues to struggle to exert its influence throughout the country, including the breakaway autonomous Republic of Somaliland which is not officially recognized by any country, without much success.

Despite the lack of effective national governance, Somalia has maintained a healthy informal economy, largely based on livestock, remittance/money transfer companies, and telecommunications. Agriculture is the most important sector with livestock normally accounting for about 40% of GDP and more than 50% of export earnings.

Somalia's service sector seems to be growing with telecommunication firms providing wireless services in most major cities and offer the lowest international call rates on the continent. Other economic activities include marine fishing, along with some agriculture and small-scale manufacturing.

Area:	637,657 Square km
Capital:	Mogadishu
Currency:	Somalia Shilling (SOS)
Population:	9.4 million (2010 est)
GDP (PPP):	US\$5.7 billion (2009)

Source: www.indexmundi.com



10.1.1 ICT Sector Overview

ICT Sector Policy/Regulation

From the onset of independent Somalia on 1st July 1960, the Ministry of Posts and Telecommunication was in charge of telecommunication services. The sector was dominated by a State owned monopoly operator providing mainly basic fixed services.

By 1991 the total number of landlines was about 29,000 concentrated mainly in urban areas. Telecommunications systems were however virtually destroyed during the civil war that has lasted from 1991. Despite the war and hence the absence of a formal regulatory environment, the

telecommunications sector witnessed, albeit in a haphazard way, the emergence of private telecommunications companies mainly in urban areas such as Mogadishu, Hargeysa, Gaalkacyo and Boosaaso.

The formation of a Somalia Telecommunication Association (STA) in 1999 offered the much needed regulatory functions of some kind. For example through Somalia Telecommunications Association (STA) some forms of interconnection arrangements between operators have been achieved.

Service Provision

The telecommunications sector in Somalia is surprisingly flourishing, and this is said to be mainly because of the incoming funds from the Diaspora. Somalia mainly has mobile networks and there were approximately 650,000 mobile subscribers in Somalia in 2009. Some of the operators include Al-Barakaat, Hormud Telecom Somalia, Nationlink and Aerolite Somalia among many others.

10.2 Main findings

10.2.1 Legal and regulatory framework for tariff regulation

No framework exists. However within the framework of the ITU project on the reconstruction of Somalia telecommunications sector after years of civil war the ITU has in the past been assisting Somalia in terms of expertise with a view to establishing a legal and regulatory framework.

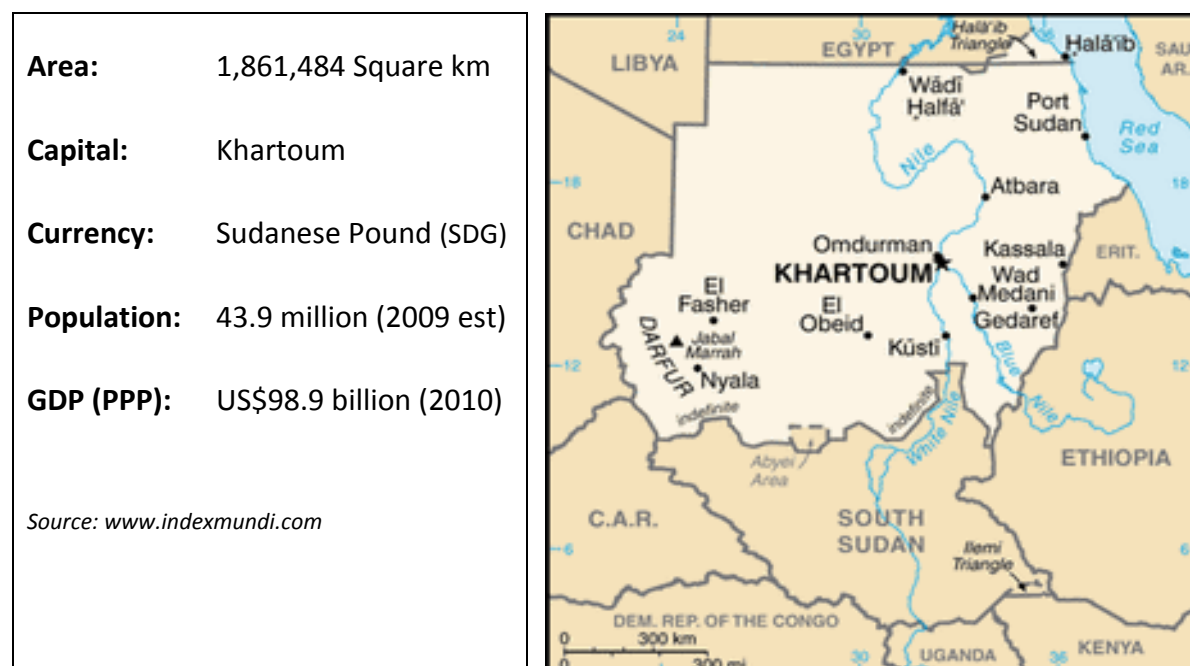
11. SUDAN

11.1 Sudan in Brief

Sudan is located in the north eastern part of Africa bordering Egypt and Libya to the north, Chad, and Central African Republic to west, South Sudan to the South, Ethiopia and Eritrea to the east. Since independence from the UK in 1956 Sudan was embroiled in two prolonged civil wars during most of the remainder of the 20th century. The first civil war ended in 1972 but broke out again in 1983. Peace talks gained momentum in 2002-04 with the signing of several accords.

The final North/South Comprehensive Peace Agreement (CPA), signed in January 2005, granted the southern part autonomy for six years followed by a referendum on independence for Southern Sudan. The referendum was held in January 2011 and indicated overwhelming support for independence.

Sudan exports crude oil which has helped grow the economy especially on the back of increases in oil production, high oil prices, and significant inflows of foreign direct investment until the second half of 2008. While the oil sector continues to drive growth, services and utilities play an increasingly important role in the economy with agriculture production remaining important as it employs 80% of the work force and contributes a third of GDP.



11.1.1 ICT Sector Overview

ICT Sector Policy / Regulation

The Ministry of Information and Communication is the overall responsible for the ICT sector and is supported by among others the National Telecom Corporation (NTC) as the regulator, the Public Post and Telegram Corporation, and the Sudanese Radio and Television Corporation among others. The National Telecom Corporation was established in 2001 in order to replace the national telecom council. A telecom Act was issued in 2001 with the purpose of improving the telecom sector.

Service Provision

The fixed telephone line subscriptions in 2009 stood at 370,400 subscribers while mobile subscribers were 15.34 million.

11.2 Main findings**11.2.1 Legal and Regulatory Framework for Tariff Regulation**

The sector legislation in Sudan, The Telecommunication Act 2001, provides for the establishment of the NRA with the mandate to approve the methods and costing of telecommunication services. It also provides for a framework for regulatory auditing and also for the issuance of By-Laws including those related to tariff regulation.

The National Telecom Corporation (NTC) as the regulator is therefore mandated to regulate tariffs including the methodology of costing of services.

11.3 Legal and Regulatory Framework for Tariff Regulation in Detail**11.3.1 Legal Framework**

The sector legislation in Sudan, The Telecommunication Act 2001, provides for the establishment of the NRA with the mandate to approve the methods and costing of telecommunication services. It also provides for a framework for regulatory auditing and also for the issuance of By-Laws including those related to tariff regulation.

The relevant chapters read as follows:

Chapter II: The Corporation Establishment, Headquarters and Supervision of the Corporation**6.**

(1) There shall be established a public corporation to be known as “The National Telecommunication Corporation” and shall have corporate personality, and the right to litigate in its own name.

8. *The Corporation shall have the following functions and powers namely to:*

(b) approve the methods and cost of telecommunication services and regulate the tariffs of the services in coordination with entities providing such services and supervise them thereafter.

Chapter VI: Public Telecommunication Services**Submission of Reports**

31. *The Licensee of a Public Telecommunication Service shall submit an annual report to the Director General showing therein the technical, administrative and financial matters that guarantee the provision of services in the required standard and shall provide the Director General with any other information and data relating to the services in a periodic or exceptional manner at the time specified by the Director General.*

Chapter VIII—Power to Issue By-laws and Orders

46.

(1) The Board with the approval of the competent Minister shall issue the necessary By-laws and orders for the enforcement of the provisions of this Act

Notwithstanding the generality of the foregoing, such By-laws and orders may include:

- (a) licence applications*
- (b) licensing conditions*
- (c) obligations of the licensee*
- (d) regulation of the use of frequencies and their allocation..*
- (e) procedures of inspection and submission of reports.*
- (f) forms of licences.*
- (g) fees in return of services rendered in accordance with provisions of this Act.*
- (h) penalties to be imposed for the contravention of the provisions of this Act or its ensuing By-laws.*

12. TANZANIA

12.1 Tanzania in Brief

Tanzania is located in Eastern Africa, bordering the Indian Ocean and Kenya on the east and north east, Mozambique and Malawi to the south, Zambia, DRC, Burundi and Rwanda to the west and Uganda to the north-west.

Tanzanian economy depends heavily on agriculture, which accounts for more than 40% of GDP, provides 85% of exports, and employs about 80% of the work force.

Tanzania is a member of the Southern African Development Community (SADC), the East African Community (EAC). It reported to have recently pulled out of the Common Market for Eastern and Southern African States (COMESA).

Tanzania's telecommunications sector was the fastest growing sector of the economy in 2009, recording 21.9% growth, up from 20.5% in 2008. The sector contributed 2.1 % to the GDP in 2009, up from 2.5% in 2008 (Tanzania Budget Speech 2010/11).

Area:	947,300 Square km
Capital:	Dar es Salaam
Currency:	Tanzania Shilling (TZS)
Population:	43,739,000 (2009 est)
GDP (PPP):	US\$57.4 billion (2009)
<i>Source: www.indexmundi.com</i>	



12.1.1 ICT Sector Overview

ICT Sector Policy / Regulation

In Tanzania ICT falls under the Ministry of Communications, Science and Technology which provides policy guidelines for the sector. The policy guides are contained in, among others, the National ICT Policy of 2003 and the National Telecommunications Policy of 1997.

The legal framework is contained in the Tanzania Communications Act of 1993, the Tanzania Broadcasting Services Act of 1993, the Tanzania Communications Regulatory Authority Act of 2003, and the Universal Communications Service Access Act of 2006.

Tanzania Communications Regulatory Authority (TCRA) is the regulatory agency. TCRA is mandated to promote competition and economic efficiency, protect consumer interests, grant licenses and enforce license conditions, regulate tariffs, and monitor performance.

Service Provision

Fixed-line subscriber stood at 172,922 in 2009 while the mobile subscribers stood at 17.5 million in the same period. There are two fixed-line operators (TTCL and Zantel), while there are seven mobile operators.

12.2 Main findings

12.2.1 Legal and Regulatory Framework for Tariff Regulation

The ICT sector legislation in Tanzania, the Electronic and Postal Communications Act, 2010, provides for broad principles that guide operators in setting tariffs while reserving the right to carry out reviews of tariffs to ensure compliance with the set principles. It also provides for the filing of tariffs and public disclosure of the same.

The supplementary legislation, the Tanzania Communications (Tariff) Regulations, 2005, provide for cost oriented tariffs. They also provide for a framework for tariff auditing and approval based on set criteria.

The Electronic and Postal Regulations 2011 which is expected to be operational soon, under Accounting Separation Regulation 2011, empowers the National Regulatory Authority to demand accounting separation and undertakes regulatory auditing.

12.2.2 Cost Accounting and Regulatory Auditing

Despite the requirement for MTRs to be cost oriented, and the existence of a legal/regulatory framework for regulatory auditing, it is reported that in practice cost accounting obligations are not imposed. Similarly regulatory auditing while being imposed difficulties are being experienced with regard to collection of data due to what is reported as lack of sufficient legal and regulatory framework.

It is however reported that the development of new regulations (the Electronic and Postal Regulations 2011) has been finalized and will soon come into effect. These regulations provide for guidelines for the preparation and auditing of regulatory accounts. It is also reported that whereas these are mandated activities, they are not carried out due to lack of sufficient implementation framework as well as insufficient regulatory resources.

There is therefore a need for Tanzania to finalise the development of its cost accounting and regulatory audit framework and build its resource base in order to be able to effectively carry out these mandated functions.

In terms of challenges Tanzania is reported to have been faced with a legal dispute in the past over MTR determination where one of the operators disputed the process used in the determination. The dispute ran for 2 years between 2008 and 2010. The outcome of the dispute as determined by the Court was in favour of the Regulator. It therefore did not have any impact on the regulatory strategy going forward.

12.2.3 Costing Tools and Cost Model Development

Whereas it was reported that there is no model existing presently, it is noted that in 2007 the Regulatory Authority contracted a consultant to carryout Cost Study based on a bottom-up. All operator s were involved and led to issuance of a determination on MTR.

The consultant developed a cost model based on the following:

- Based on a bottom-up model,
- Used data from operators based on specific request,
- Based on Hypothetical efficient operator,
- Assumes 25 years for cost recovery,
- Market share of existing operators,
- Coverage – average of existing operator, 50% of population and 70% of territory,
- Topology designed based on scorched node, among others,
- OPEX modelled on mark up on network assets with different rates for different assets, and from a mixture of operators and vendors data.
- In terms of methodology used to calculate the allowed rate of return, Tanzania used the Weighted Average Cost of Capital (WACC) methodology. This resulted in the allowable level of the rate of return of 22% for Tanzania.

12.3 Legal and Regulatory Framework for Tariff Regulation in Detail

The ICT sector legislation in Tanzania, the Electronic and Postal Communications Act, 2010, provides for broad principles that guide operators in setting tariffs while reserving the right to carry out reviews of tariffs to ensure compliance with the set principles. It also provides for the filing of tariffs and public disclosure of the same.

The relevant sections of the legislation read as follows:

PART II – ELECTRONIC COMMUNICATIONS

Prices for services to the public

31. –

(1) Subject to the provisions of this Act and any regulations or declarations made under this Act, electronic communications licensees may, for the applications services and content services which they provide to the public, set and revise such prices as they deem appropriate.

(2) The prices so determined by an electronic communications licensee shall respect the following principles -

(a) be transparent, based on objective criteria, and non-discriminatory;

(b) not contain discounts that unreasonably prejudice the competitive opportunities of other licensees providing applications services and content services to the public; and

(c) take account the regulations and recommendations of the international organizations of which the United Republic is a member.

(3) Each electronic communications licensee shall-

(a) file with the Authority the prices so determined at least two weeks prior to their introduction; and

(b) publish the prices at its own expense in the public media at least one week prior to their introduction.

(4) An electronic communications licensee shall provide all its application services and content services in accordance with the prices filed with the Authority.

- (5) *The Authority shall be entitled to carry out reviews of the prices referred to in this section in order to ensure that they respect the principles set forth in sub-section (2).*
- (6) *Electronic communications licensees shall, for the application services or content services which they provide to the public, make sufficient detailed billing information to enable customers to verify whether or not they have been billed correctly.*
- (7) *The Authority shall have powers from time to time to carry out reviews of rates and charges applied by electronic communications service licensees in provision of the licensed services.*

The supplementary legislation, the Tanzania Communications (Tariff) Regulations, 2005, provide for cost oriented tariffs. They also provide for a framework for tariff auditing and approval based on set criteria.

PART II – DETERMINATION OF TARIFFS

4. –

- (1) *Setting of Tariffs for services shall be cost oriented made on the objective criteria.*
- (2) *Tariff shall be sufficiently clear as to allow the end-user to determine the description of the service and the details of the nature of the service as well as the amounts and charges payable for such service.*
- (3) *Tariffs shall be non-discriminatory and shall guarantee equality of treatment.*
- (4) *The communications service provider may offer discounts schemes on tariffs and shall inform the Authority of any such scheme available to customers.*
- (5) *The communications service provider shall provide accurate billing information on tariffs and usage in order for customers to verify whether or not they are billed correctly.*
- (6) *A dominant communications service provider shall not apply tariffs that prevent market entry or distant competition by applying tariffs below the underlying cost of providing the service.*

5. *The communications service provider other than dominant operators shall inform the Authority in advance of any intended change in tariff by submitting notifications to the proposed changes.*

7. *A Communications Service Provider shall upon approval by the Authority ensure that the tariffs or charges are published in the public media within a reasonable period before they are effected.*

8. *The communications service provider shall comply with any directive issued by the Authority on tariff rebalancing.*

9. *Where the Authority and the communication service provider fail to reach agreement on the proposed tariff and counter proposal, the Authority may make decision on the proposed tariff basing on the best information available in accordance with Act.*

10. –

- (1) *Where the communication service provider is not satisfied with the decision of the Authority pursuant to regulation 10, may within thirty days appeal to the Fair Competition Tribunal established under the Fair Competition Act, 2003.*
- (2) *The communication service provider who fails to lodge an appeal against the decision of the Authority within thirty days of the said decision shall be deemed to have accepted the counter proposal of the Authority.*

The Electronic and Postal Regulations 2011 which is expected to be operational soon, under Accounting Separation Regulation 2011, empowers the National Regulatory Authority to demand accounting separation and undertakes regulatory auditing.

12.4 Strategy for regulatory intervention

12.4.1 Status of price regulation and underlying strategy

Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Tanzania	CO	Law (Electronic and Postal Communication Act, 2010)	The strategy is to determine the cost incurred by operators on MTR and the expected outcome is to minimize the cost of interconnection across networks by ensuring that operators recovers only the cost of providing MTR services. Interconnection is essential service that should not be used as a source of revenue/generating profit.

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus...

(2) Li: license, La: law, SMP: relevant market analysis...

12.4.2 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent	Basis: Li, La, SMP, other (specify) ⁽²⁾	Mandated: yes, No, PI ⁽¹⁾	Basis: Li, La, SMP, other (specify) ⁽²⁾
Tanzania	No	Operators with SMP or any other operator as may be required to provide cost breakdown by the Authority	Currently cost accounting is not imposed to an operator. However the new Electronic and Postal Communications Act, 2010 and their regulations of 2011 which are expected to be operational soon obliged an SMP operator to provide cost base tariffs for approval before use	No	N/A

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources,...
Tanzania	Cost accounting will be imposed to an SMP operator or any other operator as may be required by the regulator once new regulations come into effect.	Lack of legal basis. The Electronic and Postal Regulations 2011 which will be operational soon (Accounting Separation Regulation 2011) empowers the Authority to demand accounting separation undertakes regulatory auditing.

12.4.3 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent ...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills...
Tanzania	Yes	Bu. The costing tool used in previous determination of MTR is LRIC-Bottom-up model, developed by the consultant who undertook the study	All	Existing/Planned	

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

12.4.4 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Tanzania	TShs 103/-	TShs 135/-

(1) The average price for MTR as well as for retail is calculated as follows:

$$\frac{\text{Total cost of a 3 minute call during peak hours} \times \text{peak ratio} + \text{Total cost of a 3 minute call during offpeak hours} \times \text{offpeak ratio}}{3}$$

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

12.4.5 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Tanzania	Yes		Lack of legal basis is the major reason, after developing regulations to address this, there will be some difficult for operators to provide these data because the accounting guidelines on preparation of regulatory accounting and accounting separation not yet issued, also there is a lack of will from operators because it involve disclosing sensitive information and cost considerations.

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

12.4.6 Disputes

Table 7 – Legal disputes

	Occurred: Yes, No	Nature of the dispute	Date	Object of the dispute	Outcome	Impacts, if any, on tariff regulation or cost modeling
Tanzania	Yes	A court case regarding a dispute over MTR determination No 2 of 2007, One of the operators disputed the process used in determination of MTR	2007	(i) Complained that he was not availed sufficient time to provide inputs to during the exercise of determining MTR. (ii) The regulator was supposed to facilitate negotiation of MTR between operators by developing Interconnection Negotiation Guidelines – that will allow operators to negotiate and agree in MTR. The regulator can interfere and set MTR only when operators fail to reach an agreement. Date of the dispute 2 years from 2008 – 2010	The judgment was in favor of the Regulator	No

12.4.7 Price control regarding other services

Table 8 – Price control obligations of retail services

	Retail mobile voice		Retail fixed voice		Fixed data		Mobile data	
	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾
Tanzania	No		No		No		No	

(1) CA: cost accounting

(2) N: No, BU: bottom-up, TD: top-down, B: benchmark

Table 9 – Price control obligations of wholesale services

	Fixed interconnection		Bitstream access		Local loop unbundling		Leased lines		Access to IGW		Access to IXP	
	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾
Tanzania	Yes	Hybrid (BU & TD)	No		No		Planned		Planned		Planned	

(1) CA: cost accounting

(2) CT: costing tool

(3) N: No, BU: bottom-up, TD: top-down, B: benchmark

12.4.8 Foreseen changes in regulatory framework

Table 10 – Telecom law or regulatory framework review

	Status: No, Pl, Uw ⁽¹⁾	Target date	Main objectives
Tanzania	Uw	2012	New Interconnection regulations 2011 after introduction of Electronic and Postal Communications Act 2010 with the objective to address some shortcoming in previous regulations, it is awaiting final endorsement and possibly will come into effect in 2012.

(1) No: no, Pl: planned, Uw: under way

12.4.9 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Tanzania	Roaming	Yes		Under consideration through regional approach (SADC)	Do not exist
	Broadband Infrastructure	Yes	Regulating prices of the National ICT Backbone (NICTBB) through SMP remedial regulations such as Accounting Separation and tariffs approval based on cost of providing services.		Do not exist
	NGN	No		Early stage of introduction	Do not exist
	Mobile Payment	No	N/A	Regulated by the Central Bank of Tanzania	Do not exist

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

12.5 Costing tools and cost model development

12.5.1 Strategy for implementation

Table 23 – Public availability of the model and of its input dataset

	Publicly available: Yes, No?	If the model is not publicly available:		
		Please explain why	Shared with operators or for internal use	Planned to be made public: Yes+date, No
Tanzania	No	No model is currently in place	No model is currently in place	No model is currently in place

Table 24 – Strategy of implementation and data used

	Strategy of implementation: Sh, Co, EE, DI, other (please specify) ⁽²⁾	Did you use data from operators: Yes, No?	If operators' data are used, how did you collect them: CA, SR, Cn, other (please specify)? ⁽¹⁾
Tanzania	TCRA engaged a lead consultant to develop the model	Yes	SR

(1) CA: Data from cost accounting obligation, SR: Specific request, Cn: Consultation

(2) Sh: From the shelf (ITU, WBG, etc.), Co: Consultants to develop a bespoke one, EE: Evolution of an existing model, DI: Developed internally (from scratch)

12.5.2 Model assumptions and parameters

Table 26 – Assumptions of the model

	Modeled operator: EO, HE? ⁽¹⁾	Time horizon applied for recovering costs		Level of demand used: CL, FL, other (please specify) ⁽²⁾	Market share assumed	
		Value (nb of years)	Why (rationale)?		Value (%)	Why (rationale)?
Tanzania	HE	25	License duration	FL	Market share of existing operators	

(1) EO: Existing one, HE: hypothetical efficient operator, if other please specify

(2) CL: current level, FL: future level based on extrapolation, if other please specify

Table 27 – Parameters of the model

	Key cost drivers: Yes, No				Coverage assumed		
	Nb of subs	Traffic	Coverage	Other (please specify)	Basis: AE, CC, TC, PC, other (please specify) ⁽¹⁾	In % of population?	In % of territory?
Tanzania	Yes	Yes	Yes		AE	50	70

(1) AE: Average of current coverage of existing networks, CC: Current coverage of largest network, TC: Theoretical coverage (as derived from efficiency considerations), PC: Prescribed coverage (as specified in the licenses), if other please specify

12.5.3 Methodology used to design network and to model OPEX

Table 28 – Strategy of implementation and data used

	Network design		Operational expenditure		
	Methodology: SN, SE ⁽¹⁾	Rationale behind the choice of scorched node or scorched earth	Modeling approach: MU, other (please specify) ⁽²⁾	If a mark-up is used, please specify if it is SA, DA, DT ⁽³⁾	How was the figures used to calculate OPEX derived: B, OD, VD, other (please specify) ⁽⁴⁾
Tanzania	SN	Scorched node is more practical	MU	DA. (Different mark up depending on the type of asset)	Mixture of operator and vendor data

(1) SN: scorched node, SE: scorched earth

(2) MU: mark up on network assets, if other please specify

(3) SA: same mark-up for all network assets, DA: different mark-up depending on the type of asset, DT: different mark-up depending on technology i.e. 2G or 3G

(4) B: benchmark, OD: operators' data, VD: vendors' data, if other please specify

13. UGANDA

13.1 Uganda in Brief

Uganda borders Democratic Republic of the Congo to the west, Kenya to the east, Rwanda and Tanzania to the south and South Sudan to the north.

Uganda has substantial natural resources, including fertile soils, regular rainfall, small deposits of copper, gold, and other minerals, and recently discovered oil. Agriculture is the most important sector of the economy, employing over 80% of the work force. Coffee accounts for the bulk of export revenues. Oil revenues and taxes will become a larger source of government funding as oil comes on line in the next few years. Uganda is a member of the Common Market for Eastern and Southern African States (COMESA) and the East African Community (EAC).

Area:	236,040 Square km
Capital:	Kampala
Population:	32,369,558 (2009 estimate)
Currency:	Uganda Shilling (UGX)
GDP Per Capita:	US \$ 1,228

Source: www.indexmundi.com



13.1.1 Overview of the ICT Sector

ICT Sector Policy / Regulation

Uganda's ICT sector is fully liberalised and the Ministry of ICT and the regulator have been putting in place the necessary environment to foster healthy competition in the sector. These include a decision by the regulator to establish a cost-based price control on interconnection rates.

Service provision

By 2010 there were reportedly 12.8 million mobile subscribers in Uganda. Tariffs of services have also declined substantially in view of the highly competitive environment.

13.2 Main findings

13.2.1 Legal and Regulatory Framework for Tariff Regulation

The sector legislation, Uganda Communications Act Chapter 106, provides for a framework to among others make regulations including those related to tariffs.

The subsidiary legislation, the Telecommunications (Tariffs and Accounting) Regulations, 2005 issued under section 94 of the Uganda Communications Act, Cap 106, provides for the tariffs setting principles which include cost orientation, causality and the implementation is vide a price cap regime. It also provides for a framework for regulatory auditing and the use of price-cap based on baskets.

13.2.2 Cost Accounting and Regulatory Auditing

In addition to the framework provided for under the sector legislation and the supplementary legislation Uganda has also developed Regulatory Reporting Guidelines which provides for a clear framework for regulatory reporting and/or auditing.

The guidelines have been issued pursuant to the mandate of the regulator (UCC) as provided for under sub sections 4 (b) and 4 (e) of the Uganda Communications Act (i.e. to monitor, inspect, license and regulate communication services and to supervise and enforce license conditions). Section 48 of the same Act prescribes annual reporting requirements for licensees in a manner determined by the UCC.

The guidelines prescribe the minimum reporting requirements necessary to achieve the UCC's regulatory and policy advisory functions. They seek to ensure that licensees provide detailed and consistent records that easily translate into useful information for the execution of the UCC's functions and obligations.

In Uganda price control with regard to MTR is based on the requirement that they should be cost oriented and this applies to all operators based on the consideration that all operators have SMP in relation to mobile termination market. Consequently cost accounting obligation is imposed on all operators in this regard. This requirement is articulated in the sector legislation, regulations as well as in the licenses. Operators with SMP are also required to separate accounts for wholesale and retail especially in the infrastructure market.

Regulatory auditing is reported to be applicable to all operators based on the Tariff and Account Regulations 2005 and that there has not been any difficulty in data collection. It is however reported that there is insufficient resources for carrying out regulatory auditing.

There is therefore a need for Uganda to further develop its regulatory audit resource base in order to be able to effectively carry out this mandated function more effectively.

It is reported that in January 2010 there arose a legal dispute regarding the mandate of the regulator who had intervened on MTR when there was no dispute. Apparently the law states that MTR is a matter of negotiations and any regulatory intervention may only kick-in in the event of a dispute between the parties. Consequent to this legal dispute the regulator set reference MTR rates to be applied during negotiations.

It is further reported that dispute the fact that this did not have a significant impact on tariff regulation in Uganda, there is a move to review the telecom law and/or regulatory framework in order to give the regulator discrete powers to set termination rates with or without a dispute.

In terms of evolving strategies being considered in respect of new services, UCC is considering plans to allow national roaming with rates expected to be subject to negotiations based on guidelines to be given. Broadband infrastructure will have rates regulated based on retail minus for wholesale providers with

SMP (retail minus 20%). The tariff regulatory framework for NGN and mobile payment services are not yet under consideration.

Some of the cost accounting principles being applied include the following:

- The adoption of a LRIC cost allocation methodology,
- The adoption of Current Costs Accounting (CCA) system,
- The adoption of Modern Equivalent Asset (MEA) valuation for network assets,
- The use of Financial Capital Maintenance (FCM) methodology,
- The use of straight line depreciation methodology on assets lifetime,
- The use of Weighted Average Cost of Capital (WACC) in arriving at return on capital employed,
- The use of Capital Asset Pricing Model to derive cost of equity,
- Depreciation duration ranging between 3 to 15 years depending on the network component.

13.2.3 Costing Tools and Cost Model Development

It was reported that Uganda has contracted a consultant to develop a cost model among other terms of reference. The cost of the consultancy is estimated at US\$ 700,000.

The cost model based on the following:

- Based on a bottom-up model,
- Used data from operators based on specific request,
- Based on Hypothetical efficient operator,
- Assumes 15 years for cost recovery,
- 30% Market share,
- Theoretical Coverage – 90% of population and 65% of territory,
- Topology designed based on scorched earth,
- OPEX modelled on 30% mark up on network assets.

13.3 Legal and regulatory framework for tariff regulation in detail

The sector legislation, Uganda Communications Act Chapter 106, provides for a framework to among others make regulations including those related to tariffs.

The relevant sections of the said legislation read as follows:

PART II – ESTABLISHMENT OF THE UGANDA COMMUNICATION COMMISSION

3. Establishment of the Commission

(1) There is established a body to be known as the Uganda Communications Commission.

94. Regulations

(1) The Commission may, by statutory instrument, make regulations pertaining to communications services, including but not limited to the following:-

(k) the way the consumer will be informed about the range of commercial services and the conditions under which they are provided;

The subsidiary legislation, the Telecommunications (Tariffs and Accounting) Regulations, 2005 issued under section 94 of the Uganda Communications Act, Cap 106, provides for the tariffs setting principles which include cost orientation, causality and the implementation is vide a price cap regime. It also provides for a framework for regulatory auditing and the use of price-cap based on baskets.

The relevant sections of the said subsidiary legislation read as follows:

5. Regulation of rates

(1) Charges offered to or payable by a consumer to an operator for telecommunications services provided under a licence issued under the Act, shall be derived from the cost of providing the services, based on a cost causation and oriented approach, as shall be defined by the Commission.

(2) The rates of telecommunications services shall be subject to a rate mechanism of price-caps and price-capping formulae and where the rates are specified as a ceiling, no tariff shall be fixed in excess of the ceiling.

(3) Where a tariff is specified as a floor, no tariff shall be fixed below the floor.

(4) A licensed operator shall offer a standard package to all subscribers, in a non-discriminatory manner.

(5) The Commission shall determine whether the tariffs to be charged are just, reasonable and non-discriminatory.

(6) The rate structures as cost justification shall comply with the following guidelines—

(a) rates for the same or comparable services shall be integrated;

(b) rate structures for the same or comparable services shall be integrated;

(c) rate structures for the same or comparable services shall be consistent with one another;

(d) rate elements shall be selected to reflect market demand, pricing convenience for the operator and customers, and cost characteristics;

(e) rate elements which appear separately in one rate structure shall appear separately in all other rate structures;

(f) rate elements shall be consistently defined with respect to underlying service functions and shall be consistently employed through all rate structures; and

(g) rate structures shall be simple and easy to understand.

6. Price-caps

(1) Every licensee of telecommunications services specified by the Commission shall file a price-cap tariff for the services provided by that licensee.

(2) The price-cap tariff filed by the licensees under this regulation shall comply with the price regulations under these Regulations.

(3) The price-cap tariff filed under this regulation shall comply with a pricing system of telecommunications services that is cost-based, applying the long run incremental cost principle.

(4) A licensee, subject to price-cap tariff, shall file with the Commission for its approval, price adjustment applications for any tariff rates the licensee may seek to have adjusted.

7. Price-cap baskets

(1) The Commission shall authorise licensees to establish baskets which shall be subject to price-cap regulation, including but not limited to—

(a) local services and domestic long distance basket;

(b) international or long distance services to the East African Community and the Common Market for East and South Africa (COMESA) and any other similar regional basket; and

(c) international long distance services to all other countries baskets.

8. Price-cap formula calculation

(1) Licensed telecommunications operators shall file initial price-cap tariffs, for all the price-cap baskets prescribed in regulation 8, on a date the Commission shall determine.

(2) Each price-cap tariff filed under subregulation (1) shall be assigned an initial value prior to adjustment of one hundred, corresponding to the costs and rates in effect, at a date determined by the Commission.

(3) An operator shall justify the initial price-cap tariffs basing on the concepts of cost based, cost causation and long run incremental costs.

(4) Tariffs that do not satisfy the concepts under this regulation shall not be adopted as base year tariffs and shall not be used in the calculation of the price-cap index, average price index, or service band index.

(5) Every licensed telecommunications operator shall adjust existing tariffs for all the price-cap baskets specified in regulation 8, on a date prescribed by the Commission, to reflect the principles of cost based and cost causation.

(6) Every telecommunications operator shall adjust its books of accounts by a date specified by the Commission, to reflect the accounting regulations under these Regulations to enable the development of a uniform system of accounts.

(7) A telecommunication operator shall file initial price-cap tariffs, for interconnection charges between the different operators, by a date the Commission may specify.

(8) The Commission shall not accept interconnection charges that do not reflect the cost based and cost causation principles.

9. Annual price-cap filings

Every public operator company shall submit annual price-cap tariff filings that—

(a) propose rates for the following year;

(b) make appropriate adjustments to its price-cap index, average price index, service band index and service price index values; and

(c) incorporate the costs and rates of new services into the price-cap index, average price index or service band index calculations.

10. Supporting information for tariffs filing

(1) Each price-cap tariff filing shall be accompanied by supporting materials, sufficient to calculate the required adjustments to each price-cap index, actual cap index, and service band index, in accordance with the methodologies prescribed in these Regulations.

(2) Each price-cap tariff filing that proposes rates that are within applicable bands established and that result in an actual price index value that is equal to or less than the applicable price-cap index value, shall be accompanied by supporting materials, sufficient to establish compliance with the applicable bands and to calculate the necessary adjustment to the affected actual price indexes and service band indexes.

(3) Each price-cap tariff filing that proposes rates above the applicable band limits established or above the limit on composite average rates, shall be accompanied by supporting materials establishing substantial cause for the proposed rates.

- (4) Each price-cap filing that proposes service category rates below applicable band limits shall be accompanied by supporting materials establishing that the rates cover the service category's average variable cost and that the service category's net additional revenue resulting from the price change exceeds additional costs.
- (5) Each price-cap tariff filing that proposes rates that are likely to result in an actual price index value that exceeds the applicable price-cap index value shall be accompanied by—
- (a) an explanation of the manner in which all costs have been allocated among baskets; and
 - (b) within the affected basket, a cost assignment showing down to the lowest possible level of desegregation, including a detailed explanation of the reasons for the prices of all rate elements to which costs are not assigned.
- (6) Each price-cap tariff filing that proposes restructuring of existing rates shall be accompanied by supporting materials sufficient to make the adjustments to each affected actual price index and service band index.
- (7) Each tariff filing by an operator that introduces a new service that is likely to be included in a basket at a later date, shall be accompanied by cost data, sufficient to establish the new service and each unbundled element shall generate a net revenue increase measured against revenue generated from all services subject to price-cap regulation, and calculated based upon the present value, within the lesser of a twenty four month period after an annual price-cap tariff of the new service takes effect, or thirty six months from the date the new service becomes effective.
- (8) Each company making a tariff filing shall, at the time the new service is incorporated into the price-cap index, submit data sufficient to make the actual price index and price-cap index calculations required to make the service band index calculations.
- (9) Each telecommunications operator shall file the costs and basis of allocating the various costs to the different price-cap baskets to warrant the different rates to be introduced.
- (10) The costs filed under this regulation shall reflect how the following costs are distributed or allocated on a minute basis to the various services offered by an operator—
- (a) direct costs;
 - (b) exchange costs to the various services provided by an operator;
 - (c) the benefits of economies of network expansion between consumers and the operator;
 - (d) proportion and basis of the share of the indirect costs allocated to the various services offered by the operator; and
 - (e) the effect of interconnection charges on the final tariff of the services offered by an operator.

12. Records

- (1) Every licensee under the Act shall keep its financial records in accordance with the generally accepted accounting principles.
- (2) A licensee's financial records shall be kept with sufficient particularity to show fully the facts pertaining to all entries in the accounts, and the detailed records shall be filed in a manner that is readily accessible for examination by the Commission.
- (3) A licensee's records and accounts shall be adjusted to apply the new accounting standards in a manner consistent with generally accepted accounting principles.

13. Accounts separation

(1) Every licensed operator shall keep separate accounts which identify all elements of cost and revenue, the basis of calculation of the cost and revenue and the detailed attribution methods used, related to the licensee's telecommunications activities including an itemised breakdown of fixed asset and structure costs, or a structural separation for the telecommunications activities.

(2) The Commission shall aggregate or desegregate telecommunications activities into the separate businesses identified or attributed in terms of costs, revenue and assets.

(3) Every telecommunications operator shall prepare and keep separate records for each business aggregated or disaggregated.

14. Financial statements

(1) Every licensed operator shall prepare and publish financial statements in accordance with the International Accounting Standards (IAS), in operation at the time the accounts are prepared.

(2) A licensed operator shall prepare and publish financial statements to reflect the true and fair view of its financial position and performance and the cash flow of its activities.

(3) Every licenced operator shall recognise the elements of financial statements in accordance with the International Accounting Standards criteria.

(4) Every licenced operator shall disclose the following information in the financial statements—

(a) telecommunications plant in-service account;

(b) customer deposits;

(c) revenues from the different categories, including—

(i) service fee revenue;

(ii) local service and domestic long distance revenue;

(iii) international and long distance revenue from the East African Community and the Common Market for East and South Africa (COMESA) and any other similar regional basket;

(iv) international revenue; and

(v) network access service revenue;

(d) expenses including—

(i) plant specific expenses;

(ii) plant non-specific expenses;

(iii) customer operating expenses; and

(iv) corporate operations expenses.

In addition to the framework provided for under the sector legislation and the supplementary legislation as indicated above Uganda has also developed **Regulatory Reporting Guidelines** which provides for a clear framework for regulatory reporting and/or auditing. The guidelines have been issued pursuant to the mandate of the regulator (UCC) as provided for under sub sections 4 (b) and 4 (e) of the Uganda Communications Act (i.e. to monitor, inspect, license and regulate communication services and to supervise and enforce license conditions). Section 48 of the same Act prescribes annual reporting requirements for licensees in a manner determined by the UCC.

The guidelines prescribe the minimum reporting requirements necessary to achieve the UCC’s regulatory and policy advisory functions. They seek to ensure that licensees provide detailed and consistent records that easily translate into useful information for the execution of the UCC’s functions and obligations.

The relevant sections of the guidelines read as follows:

1.3 Reporting Time Lines

1.3.1 Quarterly Operational Report

All licensees under these guidelines shall be required to submit operational reports on a quarterly basis by the 25th day of the month following a given quarter.

1.3.2 Annual Operational Report

The information specified herein for annual reporting, covering the period January to December should be submitted by the 25th February of the following calendar each year.

1.3.3 Financial reports

Licensees shall be obliged to submit their annual financial report and audited books of account **at most four (4) calendar months after end of the declared end of their financial year.**

13.4 Strategy for regulatory intervention

13.4.1 Status of price regulation and underlying strategy

Table 1 – Type of regulatory intervention, legal basis and underlying regulatory strategy

	Type: CO, B, PC, RM ⁽¹⁾	Basis: Li, La, SMP ⁽²⁾	Underlying strategy: purpose, goal, outcome and achievements...
Uganda	CO	Contained in the Parent Law and Operators licenses – SMP finding is that all operators have SMP in the MOBILE TERMINATION MARKET	Independent cost study run involving wide industry consultations. Cost oriented rates are derived and applicable in the market. The initial cost review resulted in a decline in tariff for mobile services in the country.

(1) CO: cost orientation (cost accounting approaches), B: benchmark, PC: price cap, RM: retail minus...

(2) Li: license, La: law, SMP: relevant market analysis...

13.4.2 Cost accounting and regulatory auditing framework

Table 2 – Status on cost accounting obligation and regulatory auditing

	Cost accounting			Regulatory auditing	
	Mandated: Yes, No, PI ⁽¹⁾	Operators: all, SMP, incumbent	Basis:Li, La, SMP, other (specify) ⁽²⁾	Mandated: yes, No, PI ⁽¹⁾	Basis: Li, La, SMP, other (specify) ⁽²⁾
Uganda	Yes	SMP operators are required to separate accounts for wholesale and retail especially in the infrastructure market; Other cost accounting obligations imposed on all operators	Contained in the communications act and respective regulations as well as license	Yes	Tariff and Accounting Regulations 2005. Applies to all Operators

(1) PI: Planned

(2) Li: license, La: law, SMP: relevant market analysis, if other please specify

Table 3 – Reasons for which cost accounting and/or regulatory auditing are not implemented or foreseen

	Cost accounting not mandated or foreseen	Regulatory auditing not mandated or foreseen
	Please specify the reasons: lack of legal basis, insufficient resources...	Please specify the reasons: lack of legal basis, lack of audit framework, insufficient resources,...
Uganda	N/A	N/A

13.4.3 Status and development stage of costing tools

Table 4 – Costing tools

	Use of a costing tool: Yes, No, PI ⁽¹⁾	Which one: BU, TD, H, B ⁽²⁾	Operators: all, SMP, incumbent ...	Level of development of the tool: E, U, P ⁽³⁾	If no costing tool is used, please indicate why: lack of resources, lack of skills...
Uganda	Yes	BU	All. All operator data is considered in building / designing a hypothetical network	E	N/A

(1) PI: Planned

(2) BU: bottom-Up, TD: top-Down, H: Hybrid, B: benchmark

(3) E: existing, U: under development, P: Planned

13.4.4 Level of MTR and retail price

Table 5 – Level of MTR and retail price

	Lowest average level of regulated MTR (per minute in local currency) ⁽¹⁾	Retail price: lowest average national off-net price (per minute in local currency) ⁽¹⁾
Uganda	Ugs 131	Ugs

(1) The average price for MTR as well as for retail is calculated as follows:

$$\frac{\text{Total cost of a 3 minute call during peak hours} \times \text{peak ratio} + \text{Total cost of a 3 minute call during off peak hours} \times \text{off peak ratio}}{3}$$

Where:

Peak ratio is the proportion of calls passed during peak hours.

Offpeak ratio is the proportion of call passed during offpeak hours. Offpeak ratio = 1 – peak ratio

In case the the peak/off peak ratio is not known please use the following: peak ratio = 70% and off peak ratio = 30%

13.4.5 Data collection

Table 6 – Issues in data collection

	Occurred: Yes, No	If yes, at which stage of the collection process	If yes, what were the reasons? ⁽¹⁾
Uganda	No	N/A	N/A

(1) For instance: lack of legal basis, difficulties for operators to provide relevant data, lack of will from operators...

13.4.6 Disputes

Table 7 – Legal disputes

	Occurred: Yes, No	Nature of the dispute	Date	Object of the dispute	Outcome	Impacts, if any, on tariff regulation or cost modeling
Uganda	Yes	Challenge on the NRA's mandate where there is no dispute	January 2010	Termination according to the law is requires to be a matter of negotiation, so should the Commission intervene especially if there is no dispute related to termination rates?	Commission set reference rates which should be used during negotiations. The reference rates became defacto for all users	No

13.4.7 Price control regarding other services

Table 8 – Price control obligations of retail services

	Retail mobile voice		Retail fixed voice		Fixed data		Mobile data	
	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾	CA ⁽¹⁾ : Yes/No	Costing tool: N, BU, TD, B ⁽²⁾
Uganda	Yes	BU	Yes	BU	Yes	Bu	Yes	Bu

(1) CA: cost accounting

(2) N: No, BU: bottom-up, TD: top-down, B: benchmark

Table 9 – Price control obligations of wholesale services

	Fixed interconnection		Bitstream access		Local loop unbundling		Leased lines		Access to IGW		Access to IXP	
	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾	CA ⁽¹⁾ : Yes/ No	CT ⁽²⁾ : N, BU, TD, B ⁽³⁾
Uganda	Yes	BU	Yes	BU	Yes	BU	Yes	BU	No	BU	No	

(1) CA: cost accounting

(2) CT: costing tool

(3) N: No, BU: bottom-up, TD: top-down, B: benchmark

13.4.8 Foreseen changes in regulatory framework

Table 10 – Telecom law or regulatory framework review

	Status: No, PI, Uw ⁽¹⁾	Target date	Main objectives
Uganda	PI		Law to give UCC discrete powers to set termination rates with or without a dispute

(1) No: no, PI: planned, Uw: under way

13.4.9 Regulatory strategies for new services and associated challenges

Table 11 – Anticipated regulatory strategies for new services and associated challenges

	Service ⁽¹⁾	Considered: Yes/No	Legal / regulatory basis	Regulatory models / strategies being considered	Challenges
Uganda	Roaming	Yes		Plan to allow national roaming. Rates to be negotiated in line with UCC requirements	–
	Broadband Infrastructure	Yes		Retail minus for wholesale providers with SMP (Retail minus 20%)	–
	NGN	No		N/A	–
	Mobile Payment	Yes		May consider interconnection of mobile payment services	–

(1) Roaming, broadband infrastructure, NGN/NGA, mobile payment, if other please specify

13.5 Cost accounting and regulatory auditing

13.5.1 Data collection process

Table 12 – Cost accounting – data collection process

	Process				Implementation	
	Frequency	Deadline	Actual (present and past) figures and period covered	Forecasted figures and period covered	Number of occurrences	Latest collection
Uganda	Quarterly & Annually	Jan-March deadline of submission 26th April Annual – FY deadline is three months from the closure of each FY				2010 December for annual and 2011 September for quarterly data

13.5.2 Scope of costs and cost preparation

Table 13 – Cost accounting – Degree of regulatory prescription regarding cost preparation

	Costs & revenues nomenclature: Yes, No	Specifications imposed: Yes, No	When specifications are imposed, please specify the specs (please delete the non relevant specifications and add any complementary specification):
Uganda	Yes	Yes	–

13.5.3 Valuation and allocation methodologies

Table 14 – Main principles used to allocate costs categories between voice and data

	Network costs	License cost	Other costs (please specify)
Uganda	Cost causation allocation, routing table	Annualized for license period	

Table 15 – Accounting system/allocation methodology used and relevant increment size

	Allocation methodology: LRIC, FDC, other (please specify)	Size of the relevant increment: Marginal, Service increment, Average increment, other (please specify)
Uganda	LRIC	Marginal

Table 16 – Cost base and assets valuation methodology

	Cost base: HCA, CCA, other (please specify)	Capital maintenance concept used: OCM, FCM	Please specify per type of asset (building/civil works, telecom equipments ...) the valuation methodology used: Absolute valuation, indexation or MEA
Uganda	CCA	FCM	Switching – Absolute (Current Purchase Price). Transmission and Access- MEA (Modern Equivalent Asset)

Table 17 – Depreciation method and assets lifetime

	Depreciation method: SL, TSL, AN, TAN, other (please specify) ⁽¹⁾	Lifetime (in years)					
		Civil works	Power equipments	Access equipts	Core network	Backhaul/backbone	License
Uganda	SL	10	3	10	10	15	

SL: Straight-line, TSL: Titled straight line, AN: Annuity, TAN: Titled annuity

13.5.4 Cost of capital

Table 18 – Cost of capital allowed and calculation methodology

	Rate of return (value in %)	Methodology: WACC, other	Cost of equity estimation: CPAM, other
Uganda	25	WACC	Other. Derived from national statistics and data from central bank- benchmarked with international values

13.5.5 Scope of regulatory audit and issues addressed

Table 19 – Scope of regulatory audit

	Reconciliation with statutory accounts	Scope of costs & costs allocated	Cost valuation and allocation	Cost capitalization, assets valuation and amortization	Transfer charges	Other (please specify)
Uganda	Yes	Yes	Yes	Yes	Yes	Yes

13.5.6 Operators obligations

Table 20 – Regulatory auditing–Operators obligation and legal/regulatory basis

	Access all internal supporting data and	Respond in a predefined timeframe to any question	Other	Legal/regulatory Basis
Uganda	No	Yes		

13.5.7 Overall regulatory auditing process

Table 21 – Regulatory auditing implementation

	Implementation rules		
	Occurrence	Body in charge of conducting the audit:	Who pays?
Uganda	On demand and annually during cost modeling exercise	NRA – UCC with powers to engage an independent auditor	NRA

Table 22 – Outcome and cost of the latest audit conducted

	Date of	Outcome and corrective actions taken	Cost	Who paid?	NRA internal human
Uganda					

13.5.8 Costing tools and cost model development
13.5.9 Strategy for implementation
Table 23 – Public availability of the model and of its input dataset

	Publicly available: Yes, No?	If the model is not publicly available:		
		Please explain why	Shared with operators or for internal use	Planned to be made public: Yes+date, No
Uganda	No	Only available to operators- Also during consultation review processes	Shared with Operators	Not planned-But can be provided at request

Table 24 – Strategy of implementation and data used

	Strategy of implementation: Sh, Co, EE, DI, other (please specify) ⁽²⁾	Did you use data from operators: Yes, No?	If operators' data are used, how did you collect them: CA, SR, Cn, other (please specify)? ⁽¹⁾
Uganda	Developed by the consultant and evolving	Yes	CA, SR and Cn

(1) CA: Data from cost accounting obligation, SR: Specific request, Cn: Consultation

(2) Sh: From the shelf (ITU, WBG, etc.), Co: Consultants to develop a bespoke one, EE: Evolution of an existing model, DI: Developed internally (from scratch)

Table 25 – Experience on latest audit conducted

	The model was implanted internally (from scratch of evolution of an existing model)	Consultants were commissioned to implement the model		
	Internal human resources required (number of people and duration)	Consultant fees	Name of the consultant	Internal human resources required (number of people and duration)
Uganda	N/A	US\$ 700,000	PwC UK	6

13.5.10 Model assumptions and parameters

Table 26 – Assumptions of the model

	Modeled operator: EO, HE? ⁽¹⁾	Time horizon applied for recovering costs		Level of demand used: CL, FL, other (please specify) ⁽²⁾	Market share assumed	
		Value (nb of years)	Why (rationale)?		Value (%)	Why (rationale)?
Uganda	HE		10/15	Projections based on actual current data and previous performance	30%	We have 5 operators in the market, but we take between 30% of market share

(1) EO: Existing one, HE: hypothetical efficient operator, if other please specify

(2) CL: current level, FL: future level based on extrapolation, if other please specify

Table 27 – Parameters of the model

	Key cost drivers: Yes, No				Coverage assumed		
	Nb of subs	Traffic	Coverage	Other (please specify)	Basis: AE, CC, TC, PC, other (please specify) ⁽¹⁾	In % of population?	In % of territory?
Uganda		Yes – Very Sensitive		No. of Towers, Asset life	TC (efficiency considerations) benchmarked with actual coverage- Population coverage for GSM is close to 90% and geographical is 65% most of the reminder water bodies and or forests	90	65

(1) AE: Average of current coverage of existing networks, CC: Current coverage of largest network, TC: Theoretical coverage (as derived from efficiency considerations), PC: Prescribed coverage (as specified in the licenses), if other please specify

13.5.11 Methodology used to design network and to model OPEX

Table 28 – Strategy of implementation and data used

	Network design		Operational expenditure		
	Methodology: SN, SE ⁽¹⁾	Rationale behind the choice of scorched node or scorched earth	Modeling approach: MU, other (please specify) ⁽²⁾	If a mark-up is used, please specify if it is SA, DA, DT ⁽³⁾	How was the figures used to calculate OPEX derived: B, OD, VD, other (please specify) ⁽⁴⁾
Uganda	SE	To take into consideration current network topology of existing operators. It Is More realistic	MU. Mark up of capital (Opex is 30% of capex)	No market- up used for capex	Opex costs are provided which justify the mark-up used and international benchmarks

(1) SN: scorched node, SE: scorched earth

(2) MU: mark up on network assets, if other please specify

(3) SA: same mark-up for all network assets, DA: different mark-up depending on the type of asset, DT: different mark-up depending on technology i.e. 2G or 3G

(4) B: benchmark, OD: operators' data, VD: vendors' data, if other please specify

Glossary

CAPEX	Capital expenditure
CAPM	Capital asset pricing model
CCA	Current cost accounting
CVR	Cost/volume relationships
FCM	Financial capital maintenance
FDC	Fully Distributed Costs (also referred to as Fully Allocated Costs – FAC)
HCA	Historical cost accounting
IGW	International gateway
IXP	Internet exchange point
LRIC	Long run incremental costs
MEA	Modern equivalent asset
MNO	Mobile network operator
MTR	Mobile termination rate
N/A	Not Applicable
NRA	National regulatory authority
OCM	Operational capital maintenance
OPEX	Operating expenditure
PPP	Purchasing Power Parity
SMP	Significant market power
WACC	Weighted Average Cost of Capital

Annex: Analysis of Telecoms Legislative Framework per Country

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Comoros	Decree No. 09-064/PR of May 23 2009 on the mode of application of Law No. 08-007/AU of January 15 2008 on areas of ICT	<p>ARTICLE 27 – General principles of tariff control</p> <ol style="list-style-type: none"> 1. Network operators and providers of ICT services are free to set rates for services offered to the public in accordance with the principles established by this Order and any applicable regulatory rules. 2. The arrangements for monitoring rates are adapted to each category of service, to take account of the variety and complexity of the cost structures of services with new technologies. Flexibility of adaptation is necessary to take account of rapidly changing technologies, new business practices with the plans, service packages and frequent discounts. 3. Any class of service benefit from an exclusive right or a dominant position is subject to price control by the ANRTIC. When competition becomes effective for this type of service, price control measures are removed. 4. The ANRTIC shall each year give the list of categories of service subject to price controls and defines the method used to perform this check for each category. 5. The methods used to price caps should be simple not to be a workload whose cost would be disproportionate to the relevance of the results. 	<ul style="list-style-type: none"> ● Differentiates between regulated and unregulated services on the basis of level of competition ● Tariff regulation is based on price cap for regulated services ● The price cap methodology to be applied should be simple.
	Decree No. 09-064/PR of May 23 2009 on the mode of application of Law No. 08-007/AU of January 15 2008 on areas of ICT	<p>ARTICLE 8 – All licenses granted subject to regular monitoring by the ANRTIC. To do this, operators are required to communicate to the ANRTIC the following:</p> <ul style="list-style-type: none"> ● the financial statements (income statement and balance sheet) audited by a firm of established reputation; ● the number of regular customers by service type and geographic distribution; ● the total number of mobile assets with the distribution of prepaid and postpaid; 	<ul style="list-style-type: none"> ● Provides for a framework for Regulatory Auditing and approval

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<ul style="list-style-type: none"> • the number of Internet subscribers by type of access and bandwidth; • data traffic (including local, long distance, international) in volume and turnover; • investments in the amount and nature; • the progress of the program of service for fixed, mobile and Internet, and a comparison with the schedule attached to the specifications; • rates of different segments of retail services; • interconnection rates; • the performance achieved quality of service with the indicators mentioned in the specifications. <p>The ANRTIC establishes the forms used to collect the information mentioned in the previous paragraph by specifying the frequency (annual, quarterly or monthly) depending on the type of information. An update of the list data can be adapted to the needs of the situation so as not request that information useful to the needs of the moment. These forms will be published in the form of an ANRTIC decision.</p> <p>The ANRTIC may require licensed operators to meet all the additional technical information, financial, legal relating to the licensed activity. It is authorized to conduct site visits and to nominate experts to carry out any checks as it deems necessary. Any refusal by an operator to communicate information relating to its business license, or refusal to permit visits to its facilities to duly authorized officials is punishable in accordance with Articles 31 of the Act on ICT</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Djibouti	Loi n° 80/AN/04/5ème L Portant Réforme du Secteur des Technologies de l'Information et de la Communication (Act for the Information and Communication Technologies Sector Reform)	<p>Article 32: Provision of services</p> <p>(1) All licensees and those who provide services for which a license is not required, when asked and if the request is reasonable, provide telecommunications services and all practices and associated costs are reasonable and non-discriminatory.</p> <p>(3) providers of public communication services, when the agency request,</p> <p>a) to establish physical connections with other public telecommunications services providers</p> <p>b) to share the signaling network and databases with other licensees or providers of value-added services for which a license may not be required, for the transport and termination of telecommunications and information;</p> <p>c) to establish and provide the means and arrangements referred to in paragraphs a) and b);</p> <p>d) to establish reasonable rates and a reasonable allocation of costs for equipment and arrangements referred to in paragraphs a) and b).</p> <p>Article 33: Interconnection agreements</p> <p>(1) Public communications networks operators and public communication service providers can conclude between them and with suppliers of value-added services, agreements for the interconnection of their equipment, infrastructure sharing, numbering devices as well as other network management devices and other equipment which the Agency may consider that they are of public interest and this at reasonable and non-discriminatory conditions.</p> <p>(3) Copies of such agreements are submitted to the Agency with a summary of their main terms. The Agency shall publish in Official Journal.</p>	<ul style="list-style-type: none"> ● Provides for the application of reasonable and non-discriminatory tariffs. ● Provides for an interconnection framework based on the principle of reasonable cost allocation ● Provides for a regulatory auditing of interconnection agreements ● Dispute resolution with regard to interconnection include prescription of terms by the Agency guided by among others the cost of services ● Tariff regulations forbids tariff that are below costs (predatory pricing) ● Provides for regulatory reporting and auditing

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(5) Where the parties to a proposed agreement as described in paragraph (1) fail to agree on the terms of interconnection within a reasonable period (as may be prescribed by the Agency) one party or both parties may request the Agency to establish rates and conditions for interconnection requirements.</p> <p>(7) In the resolution of such dispute or disagreement relating to agreements or proposed agreements, the Agency is guided by the following principles:</p> <ul style="list-style-type: none"> a) The procedures and practices for interconnection arrangements and other arrangements for access and sharing of resources should not discriminate (without justification) between users / applicants similar; b) The fee/rates to be paid for services and interconnection means should reflect the costs incurred by the licensee of public services for communication, the costs are defined in accordance with current tariffication principles. <p>Article 45: Rates and Tariffs</p> <p>(1) The Agency may regulate the rates and tariffs of all licensees of public telecommunications services, provided that no licensee provides services at rates lower than the rates or tariffs or duties which do not recover the incremental cost resulting from the provision of such services plus a reasonable income on the investment capital.</p> <p>(2) A licensee of public services of communication cannot provide services if it has not, prior to the provision of services, submitted rates and tariffs to the Agency and shall make no change of rates and costs after the submission of tariffs to the Agency.</p> <p>Article 48: Restriction of the rate change</p> <p>No public licensee provider of communication service can impose or offer a rates or tariffs that</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>is below the real cost (in accordance with guidelines accepted for the accounting principles established for the sector) to provide the services.</p> <p>Article 50: Reporting requirements</p> <p>(1) Any person who provides public service of communication submits to the Agency the annual reports and all the occasional reports produced from time to time.</p> <p>(2) The Agency may require that when annual and occasional reports are submitted, all providers of public telecommunications services or any class of service providers include in these reports:</p> <ul style="list-style-type: none"> a) the amount paid in share capital; b) the amount and privileges of each class of shares; c) the amounts paid for each class of shares and method of payment; d) the dividends paid; e) any excess of capital; f) the corporation's debts and the interest payable on those debts; g) the names and addresses of shareholders amounting to one percent or more; h) the names and addresses of directors and other officials as well as salaries and compensation paid to each, and i) Income and expenses from all sources and complete states of financial transactions. <p>(4) Any person who fails to submit any document that was requested by the Agency under the provisions of this subsection is guilty of an offense and liable if found guilty to a fine of 500,000 FD</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(5) Where any person considers information as a trade secret or financial, commercial, scientific or technical information as confidential, that person may, by submitting information to the Agency, designate this information as confidentially.</p>	
Eritrea	<p>Proclamation No 102/1998 Communications Proclamation</p>	<p>4. The Regulatory Authority</p> <p>(1) The Ministry of Transport and Communications shall be the only government agency vested with the regulatory authority of the communications sector pursuant to this Proclamation, including:</p> <p>(a) supervision and promotion of the provision of communications services in Eritrea; and</p> <p>(b) the authority to, issue, renew, revoke or transfer permits, equipment approvals, certificates, assignments of frequency and other regulatory documents in the communications sector on behalf of the Government of Eritrea.</p> <p>(2) The Department shall be the body empowered to exercise the regulatory authority of the Ministry of Transport and Communications.</p> <p>9. Management of the Department's Regulatory Functions</p> <p>(1) The Department shall be responsible for the proper operation and administration of the communications regulatory functions.</p> <p>(2) Without limiting the generality of the foregoing, the Department shall:</p> <p>(e) provide guidelines on tariffs chargeable for provision of communications services;</p>	<ul style="list-style-type: none"> ● Provides for some framework on tariff formulation (calculation)

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>12. Operator's Permit</p> <p>(1) A person desiring:</p> <p>(a) to establish and/or operate a telecommunications network, and/or</p> <p>(b) to provide a telecommunications service, must obtain an operator's permit.</p> <p>14. Permit Conditions</p> <p>(1) A permit issued under Article 12 hereof shall be subject to such conditions as the Department may specify in the permit, or as may be specified in regulations referred to in the permit.</p> <p>(2) Without limiting the generality of Article 13 and subarticle (1) of this Article a permit issued under Article 12 hereof may include conditions requiring:</p> <p>(f) use of specified methods of calculation of tariffs and prices imposed for services provided;</p>	
Ethiopia	Council of Ministers Regulations No. 47/1999	<p>PART THREE – Telecommunication Service Price and Tariffs</p> <p>22) Scope of Application</p> <p>(3) The provisions of this part shall apply to the price and tariff of Basic Telecommunication Service</p> <p>(4) The provisions of this part shall also serve as criteria for setting by the licensee, the price and tariff of telecommunication services other than Basic Telecommunication Service</p> <p>23) General Principles</p> <p>5) Telecommunication service pricing shall be based in the principles of economic efficiency, public interest and economic viability of the operation of the service</p>	<p>Provides for a framework for cost modelling for basic telecommunication services:</p> <ul style="list-style-type: none"> ● Based on marginal cost ● Optimum System Planning and ● Regulatory Auditing on the same.

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>6) Costs shall be allocated to customers proportional to the burden they impose on the system with exception of costs incurred to provide Basic Telecommunication Services for under-served areas</p> <p>7) The tariff level shall be sufficient enough to ensure the sustainability of the service provision and the attraction of fresh investment in the sector</p> <p>8) The tariff structure shall consider differential rates induced by the elasticity of demand and the varying demand schedules of services</p> <p>24) General Pricing Approach Telecommunication service prices shall be set on the basis of:</p> <p>3) The system’s marginal cost; and</p> <p>4) Optimum system planning.</p> <p>25) Telecommunication Access Service Pricing</p> <p>4) Telecommunications access services cost shall be determined on the basis of the cost attributed to network access components</p> <p>5) The connection fee shall be computed on the basis of the marginal invested capital cost attributed to the access network, provided, however, that such cost shall not include the cost of customer premises equipment</p> <p>6) The rental fee shall be computed on the basis of the marginal cost attributed to upkeep and maintain the access network</p> <p>26) Telecommunication Call Services Pricing</p> <p>5) The call service cost shall be determined on the basis of the cost attributed to network component</p> <p>6) In cases where a given network is employed for the joint use of various call service groups the cost shall be proportioned on the basis of assigning a share of common capacity cost</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>7) A marginal call service cost shall be computed to each call service</p> <p>8) Long distance and international call service rates shall be time and distance sensitive where distance is a factor</p> <p>27) Other Charges Other charges applicable to Basic Telecommunications Service may be effected in accordance with a contractual agreement between the licensee and customer subject to the approval of the Agency.</p> <p>28) Tariff Revision Tariff revision shall be conducted whenever compelling circumstances occur, provided, however, that the maximum time between intervals may not exceed four years</p> <p>29) Books of Accounts</p> <p>3) A licensee shall keep the books of accounts of its operation based on generally accepted principles and guidelines of the Agency</p> <p>4) The licensee shall submit audited reports of its accounts to the Agency within six months from the end of the Government’s fiscal year.</p> <p>Part Seven – Miscellaneous</p> <p>56) Interconnection</p> <p>4) The Agency shall issue directives relating to interconnections. Such directives shall determine among others:</p> <p style="padding-left: 40px;">d) The time limit for interconnections;</p> <p style="padding-left: 40px;">e) The technical conditions and the quality of service to be provided through interconnection;</p> <p style="padding-left: 40px;">f) Fees and costs of interconnections</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Kenya	Kenya Information and Communications Act Cap 411A	<p>23.</p> <p>(1) The Commission shall, so far as is reasonably practicable, ensure there are provided throughout Kenya, such telecommunication services and in particular, emergency, public payphone and directory information services, as are reasonably necessary to satisfy the public demand thereof.</p> <p>(2) Without prejudice to the generality of subsection (1), the Commission shall:</p> <p>(a) protect the interests of all users of telecommunication services in Kenya with respect to the prices charged for and the quality and variety of such services;</p> <p>(b) maintain and promote effective competition between persons engaged in commercial activities connected with telecommunication services in Kenya in order to ensure efficiency and economy in the provision of such services</p>	<p>The sector legislation, Kenya Information and Communications Act Cap 411A, provides the Legal framework for regulating tariffs based on efficiency and economy.</p> <p>The specific legal provisions are contained under Section 23 of the said legislation. Under this section it is the duty of the regulator to protect the interest of users with respect prices charged, promote competition in order to ensure efficient and economic provisioning of ICT services. In essence this legal provision broadly provides for the undertaking of all manner of activities relating to price control and economic efficiency which is presumed to also include cost modeling as well as regulatory auditing.</p>

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Kenya	Kenya Information and Communications (Tariff Regulations) 2010	<p>90.</p> <p>(1) Except as provided in regulation 97, this Part shall apply to licensed services which are not open to competition and whose tariffs are subject to regulation by the Commission.</p> <p>91.</p> <p>(1) All licensees whose tariff rates are subject to review by the Commission pursuant to the price cap condition provided for in respective licences shall file with the Commission applications for the adjustment of such tariff rates.</p> <p>(2) All licences for services that are subject to price cap condition shall contain the period in which such tariffs may be adjusted once a year.</p> <p>(3) The obligation to comply with the terms and conditions of the price cap shall extend from the date on which a licence becomes effective up to the period when the services whose tariffs are regulated are open to competition as provided for in the relevant licences or as may be determined by the Commission.</p> <p>92.</p> <p>All applications for approval of tariffs shall be filed with the Commission and shall –</p> <p>(a) conform to the methodology and formula defined in the relevant licence or such other terms as the commission may prescribe; and</p> <p>(b) contain relevant documentation, including all calculations and other information in support of the application.</p>	<p>The supplementary legislations further elaborates the requirements and the application of the above Act. The Kenya Information and Communications (Tariff Regulations) 2010, provides at Section 90 through 91, for the differentiation between regulated and unregulated services based on the level of competition prevailing in relation to a particular. It further clarifies that the regulatory framework for tariff is based on price cap for the regulated service (i.e. those not subject to competition). It also elaborates on the framework for Regulatory Auditing.</p>

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Kenya	The Kenya Information and Communications (Interconnection and Provision of Fixed Links, Access and Facilities) Regulations 2010	<p>4. Rights and obligations to interconnect.</p> <p>(3) An interconnection licensee shall have the right and, when requested by an interconnecting licensee, an obligation, to negotiate the interconnection of its telecommunications system, facilities and equipment with the telecommunications system, facilities and equipment of the interconnecting licensee, in order to provide end-to-end connectivity and interoperability of services to all customers.</p> <p>5. Negotiation of interconnection agreements.</p> <p>(5) The terms and conditions for interconnection of telecommunications networks shall be based on the agreement reached between the parties to an interconnection agreement and promote increased access and efficient use of telecommunications systems services and facilities.</p> <p>(10) The Commission may from time to time issue technical, costing and other relevant guidelines to guide licensees in negotiating interconnection agreements.</p> <p>(11) Where a telecommunications service licensee –</p> <p>(a) enters into an interconnection agreement with another telecommunications licensee, the Commission may review the agreement to ensure that it conforms with the Act, Regulations and any guidelines on interconnection of telecommunications networks issued by the Commission; or</p> <p>(b) has not interconnected its facilities upon request by another licensee, the Commission shall require the licensee concerned to interconnect its facilities in order to protect essential public interests and may set the terms and conditions of the interconnection.</p>	<p>The Kenya Information and Communications (Interconnection and Provision of Fixed Links, Access and Facilities) Regulations 2010, provides among others for: mandatory interconnection (Section 4), interconnection that promotes efficient systems and service, framework for issuance of technical & costing guidelines, regulatory auditing of interconnection agreements (Sections 5 & 6), application of interconnection charges that are objective, independently verifiable, & fair, based on the principle of causality, non-subsidy, below retail rates, and structured according to various cost streams e.g. fixed, variable, periodic, one off, etc and a framework for issuance of guidelines on interconnection charging methodology (Section 12). These</p>

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>6. Approval of Interconnection Agreements.</p> <p>(1) Parties to an interconnection agreement shall file with the Commission an application for approval of the proposed interconnection agreement at least fourteen days before the date of implementation of the interconnection agreement.</p> <p>(2) Parties to an interconnection agreement shall file with the Commission an application for approval of the renewal or extension of an existing interconnection agreement at least fourteen days prior to the expiry of the agreement.</p> <p>(3) The Commission may request for information from the parties to an interconnection agreement that it considers necessary to evaluate the terms and conditions and the charges set forth in the agreement, and request that the interconnection agreement be modified in the manner specified by the Commission, in writing.</p> <p>12. Interconnection charges structure.</p> <p>(1) All charges for interconnection services shall –</p> <ul style="list-style-type: none"> (a) be objective, independently verifiable and fair; (b) be charged for each type of telecommunications service related to interconnection; (c) not be designed to facilitate cross-subsidies by an interconnect provider of its network; (d) be below the retail charges levied by the interconnect provider for the provision of any retail service that makes similar use of those network elements that are required by both the retail and interconnection service; <p>and</p>	<p>Regulations also provide for a framework for the application of a reference interconnection, access, and collocation offers for dominant operators (Sections 18, 19 & 20).</p>

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(e) be sufficiently below retail service charges to allow for recovery of the incremental retail costs associated with provision of the retail service supported by the interconnection service that the interconnect service provider would have to incur in order to compete effectively with the interconnect provider at the retail level.</p> <p>(2) All charges for interconnection shall be structured to distinguish and separately price –</p> <p>(a) fixed charges for the establishment and implementation of physical interconnection;</p> <p>(b) periodic rental charges for use of facilities, equipment and resources including interconnect and switching capacity; and</p> <p>(c) variable charges for telecommunications services and supplementary services.</p> <p>(4) The Commission shall prescribe guidelines on interconnection charging methodology from time to time.</p> <p>18. Reference interconnection offer and reference access offer obligations.</p> <p>(1) Where the Commission issues an order requiring a dominant telecommunications service licensee to publish a reference interconnection offer or a reference access offer, the licensee shall, unless otherwise determined by the Commission –</p> <p>(a) submit a proposed reference interconnection or reference access offer, as the case may be, to the Commission for review and approval within three months after the issuance of the order by the Commission; and</p> <p>(b) be subject to the terms and conditions of the approved reference interconnection or reference access offer approved by the Commission,</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>subject to any amendments considered appropriate by the Commission, within three months after the issuance of the order by the Commission.</p> <p>(2) Prior to approving any reference interconnection or reference access offer or any amendments thereto, the Commission may –</p> <p>(a) request for additional information or clarification from the dominant telecommunications service licensee with regard to the proposed reference interconnection or reference access offer; or</p> <p>(b) consult with the industry and public on the proposed reference interconnection or reference access offer.</p> <p>(3) The Commission may publish guidelines or models for the uniform sector-wide application of reference interconnection or reference access offers, which shall be used by all dominant telecommunications service licensees.</p> <p>(4) The reference interconnection offers shall be sufficiently unbundled to ensure that the interconnecting operators do not pay for network elements or facilities which are not necessary and shall contain a description of the components of the offer, associated terms and conditions, including the structure and level of prices.</p> <p>(5) The reference access offers shall be sufficiently unbundled to ensure that the access seekers do not pay for network elements or facilities which are not necessary and shall contain a description of the components of the offer, associated terms and conditions, including the structure and level of prices.</p> <p>(6) Where applicable, the reference access offers shall, where applicable, include detailed information related to access to –</p> <p>(a) network elements and associated facilities, which may involve the connection of equipment, by fixed or non-fixed means;</p> <p>(b) physical infrastructure including buildings, ducts and masts;</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(c) relevant software systems including operational support systems, access to number translation or systems offering equivalent functionality;</p> <p>(d) fixed and mobile networks, in particular for roaming, access to conditional access systems for digital television services; and</p> <p>(e) access to virtual network services.</p> <p>19. Co-location.</p> <p>(1) Where a licensee has the right to install facilities on, over or under private land or take advantage of a procedure for the expropriation or use of property, the Commission shall encourage the sharing of such facilities and property with other licensees, in particular, where other licensees do not have access to viable alternatives.</p> <p>(2) A service provider providing such co-location shall –</p> <p>(a) file with the Commission a schedule of fees charged for co-location;</p> <p>(b) agree on a meet-point with another licensee seeking interconnection and designating location for interconnecting the network;</p> <p>(c) provide reasonable, just, and non-discriminatory rates, terms and conditions for physical collocation of equipment necessary for interconnection or for providing access to the unbundled network elements at the licensee’s premises;</p> <p>(d) resort to virtual co-location, requiring interconnection at a place outside the licensee’s usual premises such as switching, transmission, or main distribution door frame room if it is demonstrated that physical co-location is not practical for technical reasons or for space limitations;</p> <p>(e) agree with a licensee seeking interconnection on a facility that is based in the central office of either party to complete the transmission; and</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(f) charge a fee according to filed tariffs.</p> <p>(3) The terms and conditions for co-location or sharing of facilities shall be subject to commercial and technical agreements between the parties concerned and the Commission may intervene to resolve disputes arising from such agreements.</p>	
Kenya	Licenses issued under the Act	<p><i>At least one month prior to offering a Licensed Service or adjusting the charges, terms and conditions of an existing service, the Licensee shall file the following for approval, with the Commission:</i></p> <ul style="list-style-type: none"> ● <i>the description and scope of the service,</i> ● <i>terms and conditions of the service,</i> ● <i>dispute resolution mechanisms, and</i> ● <i>charges, (excluding special offers)</i> <p><i>upon which it proposes to offer the Licensed Services</i></p> <p><i>The Licensee shall provide the Licensed Services on Charges, Terms and Conditions approved in accordance with 7.1 [the section above]. A copy of the current version of the Charges, Terms and Conditions shall be published and provided to any person who reasonably requests.</i></p>	<p>In addition all issued licenses have a requirement that a service provider must at least one month prior to offering a service or adjusting tariffs file the same for approval by the regulator. It also requires the licensee to publish the charges, terms and conditions of offering licensed services 30 days in advance. This in essence provides for a framework for detailed regulatory auditing as well as public disclosure of not only charges but also other terms and conditions for a particular service.</p>

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Madagascar	<p>LOI N° 2005-023 DU 17 OCTOBRE 2005 portant refonte de la loi n°96-034 du 27 janvier 1997 portant Réforme institutionnelle du secteur des Télécommunications . (ACT No. 2005-023 of 17 October 2005 recasting of the law n° 96-034 of 27 January 1997)</p>	<p>CHAPTER V: TERMS OF OFFER SERVICES TO THE PUBLIC</p> <p>ART. 20</p> <p>a) Perform the service in accordance with the principle of equal treatment of users. This equality of treatment including access to services and their pricing;</p> <p>b) Make available to users, in an accurate and accessible, all relevant information on conditions for access to its services, including their supply, their mode employment, rates and billing arrangements;</p> <p>c) Comply with any decision of the Regulatory Agency to ensure fair competition and reduce the effects of all forms of monopoly;</p> <p>d) Comply with any law relating to public communication, access to information, encryption, the law on competition and consumer protection and respect for the right to information individuals;</p> <p>e) Provide any information requested by the regulatory agencies necessary to carry the mission of the Regulatory Agency as defined by this Act.</p> <p>ART. 21</p> <p>(1) Every network operator or service provider open to the public is required to offer interconnection to other telecommunications operator. Interconnection agreements are subject to commercial negotiations between operators and subject to the following principles:</p> <p>(a) the interconnection agreement must allow each operator to offer its customers access to each other to all public telecommunications networks or telecommunications services interconnected national and international;</p> <p>(b) subject to the following paragraph, the interconnection is established on the basis of a technical standard (Multiplexing, connectivity, code signaling, routing, accounting) each accepted and recognized by international standardization bodies;</p>	<ul style="list-style-type: none"> ● Art. 20 Provides for a framework for public disclosure, fair competition, and regulatory auditing in general ● Interconnection must be non-discriminatory is subject to commercial negotiations, cost shared equally and may be subject to international standards ● Interconnection agreement is filed with the Regulatory agency ● Provides for benchmarking of interconnection rates

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(c) Regulatory Agency may require the application of interconnection standards provided that, these are recommended by international standardization bodies;</p> <p>(d) the cost of implementation is shared equally between players;</p> <p>(e) revenue sharing is negotiated between the various stakeholders involved in the interconnection;</p> <p>(f) the sharing of facilities associated with the physical connection is provided to networks of non-discriminatory terms.</p> <p>(2) Any operator of telecommunications services using IP networks open to the public must to ensure its interconnection with the point or points of interconnection of regional and national Internet, when are available locally. The objective is to reduce the costs of international bandwidth and to further cost and quality of the Internet for the benefit of users and e-governance.</p> <p>(3) The interconnection agreement was filed with the Regulatory Agency.</p> <p>(4) The conditions and procedures applicable in the case of refusal to interconnect, fail negotiations or agree with the conclusion of an interconnection agreement are set by decree.</p> <p>Arbitration of a dispute:</p> <p>(5) In the event of disagreement about the execution of an interconnection agreement, it is for the Regulatory Agency to award the dispute within a period fixed by decree, and to make an administrative decision based on the following principles:</p> <p>a) interconnection conditions shall be non-discriminatory, including vis-à-vis their own services, subsidiaries or partners, operators of telecommunications networks, that is to say not to favor one telecommunications network operator, provider of telecommunication</p>	

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		<p>services, a service, a subsidiary or a partner in relation to one another, and transparent, that is to say, based on sound objective and verifiable;</p> <p>b) the conditions of interconnection should not lead to the imposition of undue burdens excessive network operators or telecommunications service providers using telecommunication interconnection.</p> <p>(6) The Regulatory Agency;</p> <ul style="list-style-type: none"> ● Sets out the basic principles set out in paragraph 5) above by regulatory appropriate; ● Can impose obligations relating to cost recovery and price controls and obligations concerning cost accounting of the costs for the provision of types particular interconnection where the operator concerned might, in the absence of competition effectively sustain prices at an excessively high level, or price squeeze, to the detriment of end users. The Regulatory Agency shall take into account the investments made by the operator and allows a reasonable return on adequate capital employed; ● Ensure that all cost recovery mechanisms or methodologies pricing that is mandated serves to promote economic efficiency, sustainable competition and protect consumer interests. In this regard, Regulatory Agency may also take into account the prevailing prices in the markets comparable competitive throughout the Republic; ● May, where necessary to ensure compliance with fair competition or interoperability of services, automatically or at the request of an interested party, ask after investigation pursuant to this Act, changing conventions interconnection already concluded. 	

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Mauritius	Information and Communication Technologies Act 2001 Act 44/2001	<p>31. Tariffs</p> <p>(9) Every public operator shall provide the Authority with a tariff of its charges for every information and communication service including telecommunication service which he proposes to supply and of every intended alteration of those charges in a form approved by the Authority, and in compliance with the requirements of this section.</p> <p>(10) Every tariff shall include information relating to –</p> <ul style="list-style-type: none"> (a) the term during which the tariff is to apply; (b) the description of the service; (c) the amount of the charges payable for each service including the amount of any surcharge that may be imposed as a result of non-payment of fees or charges and the cost-related computation thereof; (d) the quantity in which the service is supplied; (e) the transmission capacity needed to supply the service; (f) the performance characteristics for the service supplied; and (g) the terms and conditions on which the service is supplied. <p>(11)</p> <ul style="list-style-type: none"> (a) On receipt of a tariff in accordance with subsection (1), the Authority shall within 180 days or such shorter period that may be prescribed, determine whether to allow, or to disallow, or to amend the tariff and shall, in so doing, have regard, inter alia, to the just and reasonable nature of the charges set out therein. (b) The Authority shall forthwith give public notification in 2 daily newspapers of every determination made pursuant to paragraph (a). 	<ul style="list-style-type: none"> ● Provides a framework for regulating tariffs based on cost ● Provides a framework for regulatory auditing of tariff formulation and public disclosure

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(12) Every public operator shall supply to the Authority such information relating to the proposed tariff as the Authority considers necessary or desirable to enable the Authority to monitor compliance with this Act.</p> <p>(13) Every public operator shall, at each of his business offices, make available for inspection and purchase a copy of every tariff.</p> <p>(14) The Authority may, by notice in writing to a public operator, disallow any tariff which does not comply with this Act or with any condition of his licence.</p> <p>(15)</p> <p>(a) Where the Authority is of opinion that the operation of a tariff by a dominant operator would have an anti-competitive effect in any market for any information and communication service, including telecommunication service, it shall, by notice in writing, inform the dominant operator that it is disallowing the tariff, and of the reasons for which it does so.</p> <p>(b) For the purposes of paragraph (a), the operation of a tariff shall be deemed to have an anti-competitive effect in a market if, and only if, the operation or continued operation of the tariff, whether or not in conjunction with other tariffs or commercial arrangements, has, or is likely to have, the effect of materially and adversely affecting the development or maintenance of commercially sustainable competition in that market.</p> <p>(16) No public operator shall demand or receive from any person payment of any fee or charge for the supply of a service which –</p> <p>(a) exceeds the fee or charge payable under the appropriate tariff;</p> <p>(b) is not worked out or computed in accordance with the appropriate tariff, or</p> <p>(c) is worked out or computed in accordance with a tariff which has been disallowed pursuant to subsection (6) or (7).</p>	

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Rwanda	Law No. 44/2001 of 30/11/2001 Governing Telecommunications	<p>CHAPTER V – TARIFFS</p> <p>Article 29 Suppliers of networks and telephone services in general determine and publish tariffs for the supply and use of their networks and telecommunication services. A copy of each tariff (including all changes made to these at any time) is, at the same time as these are published, provided to the Regulatory Board. Tariffs are also provided to any other natural person or organization which requests them.</p> <p>Tariffs clearly show the telecommunications networks and services which are offered, how tariffs are calculated for each network and service, and the actual tariffs for the network or telecommunications service or for each unit of time for which the telecommunications services are offered.</p> <p>Tariffs for dominant organizations are based on objective criteria and on the costs of providing the public telecommunications network and service together with a reasonable rate of return.</p> <p>Tariffs for access to and use of public networks are independent of the use to which the user puts the network except in cases where different services or facilities are required.</p> <p>Tariffs are set out in clear and sufficient details and are sufficiently unbundled, such that a user of public networks or public telephone services is [not] obliged to take or pay for any facilities that are not required.</p> <p>Article 30 The Regulatory Board may impose tariff control schemes for dominant organizations when necessary and amend their license in accordance with Article 9 of this law.</p> <p>Dominant organizations must within 14 days of notification of any tariff control scheme, adjust their tariffs in accordance with the approved scheme. The new tariffs are submitted to the Regulatory Board which verifies compliance with the scheme prior to their implementation.</p> <p>Any users who are charged in excess of the amounts allowed by any tariff control scheme receive from the dominant organization an immediate refund of the excess amount or receive credit on their next telephone bill.</p>	<ul style="list-style-type: none"> ● Provides a framework for filing tariffs and public disclosure ● Provides a general framework for tariff derivation ● Tariffs for dominant operator based on objective criteria and cost of provisioning ● Tariffs for access network is independent of usage volume ● Provides for unbundling of network elements ● Provides for mandatory interconnection upon request

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>CHAPTER VIII – INTERCONNECTION</p> <p>Article 39 All public telecommunications operators should, if requested in writing by other public telecommunications operators, interconnect their networks with those of the other operators. The Minister, by Ministerial decree, sets out the general conditions and pricing principles which an interconnection agreement must satisfy.</p> <p>Discrimination by public telecommunications operators in matters of interconnection is forbidden. A public telecommunications operator shall apply similar conditions in similar circumstances to organizations with which it is interconnected and which are providing similar services.</p> <p>Article 40 Each dominant organization must provide to the Regulatory Board details of standard reference interconnection offers which will be made to public telecommunications operators. These shall itemize each interconnection facility offered together with the associated terms and conditions within agreement including tariffs.</p> <p>Charges for interconnection cover the effective cost of using the network and is sufficiently unbundled so that the applicant is not required to take or pay for any facility not strictly related to the service requested.</p> <p>Article 41 The Regulatory Board must:</p> <ul style="list-style-type: none"> 1° ensure that any differentials in charges, terms and conditions offered by a public telecommunications operator do not result in distortion of competition; 2° ensure that all public telecommunications operators apply the same charges terms and conditions to their own subsidiary or affiliated companies as they offer to other public telecommunications operators; 3° ensure that all dominant organizations operate a cost accounting system to enable them to identify the costs associated with interconnection; 	

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Seychelles	Broadcasting and Telecommunication Act, 2000	<p>PART III – ADMINISTRATION OF THE ACT</p> <p>12.</p> <p>(1) The Minister shall be responsible for the general superintendence and supervision of all matters relating to broadcasting and telecommunication and shall carry the provisions of this Act into execution.</p> <p>(2) The Minister, in exercising the powers conferred by this Act, shall –</p> <p>(a) take all reasonable measures to provide throughout Seychelles, such broadcasting and telecommunication services as will satisfy all reasonable demands for such services, including emergency services, public pay phone services and directory information services;</p> <p>(b) promote the interests of consumers, purchasers and other users of broadcasting and telecommunication services in respect of the prices charged for, and the quality and variety of, such services and equipment supplied in connection with such services;-</p> <p>(c) promote and maintain competition among persons engaged in commercial activities for, or in connection with, the provision of broadcasting and telecommunication services and promote efficiency and economy on the part of such persons; and</p> <p>(d) promote the goals of universal service.</p> <p>14.</p> <p>(1) Any public officer authorised in writing by the Minister may, for the purpose of ensuring that the provisions of this Act are complied with, at any reasonable time</p> <p>(i) enter any building or place or go on board a ship or aircraft;</p> <p>(ii) inspect any broadcasting apparatus or telecommunication apparatus installed or used in any building, place, ship or aircraft;</p>	<ul style="list-style-type: none"> ● Mandates the Minister to regulates tariffs in public interest, ● Mandates the Minister to Promote efficiency and economy ● Provides a framework for regulatory auditing through inspections ● Section 30 Provides for a regulatory framework for interconnection with prices based on incremental costs (additional cost accruing) ●Section 38 empowers the minister to make regulations including those related to charges / tariffs

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(iii) call for and inspect any licence granted in accordance with this Act.</p> <p>(2) Any person for the time being in charge of any building, place, ship or aircraft in respect of which any powers are exercised under subsection (1) shall afford all reasonable facilities for entry and inspection under that subsection.</p> <p>PART V – MISCELLANEOUS</p> <p>30.</p> <p>(1) A person who desires to connect his telecommunication network, system or equipment to the network, system or equipment as the case may be, of another person, shall seek the consent of that other person to so connect the first mentioned person's network, system or equipment.</p> <p>(2) Subject to section 32, a person whose consent is sought under subsection (1), may withhold such consent if the proposed interconnection would materially restrict his ability to exploit the network capacity at his disposal in his own operations.</p> <p>(3) A person who has obtained the consent referred to in subsection (1) may, thereafter seek the approval of the Minister for the proposed interconnection.</p> <p>(4) An interconnection referred to in this section may be made only in accordance with the preceding provisions of this section.</p> <p>(5) Subject to section 32, the charges in respect of the interconnection and the use of the connected network shall be agreed upon by the persons concerned and shall be fair and reasonable having regard to the service provided by one person and the additional cost accruing to the other person as a result of the interconnection.</p>	

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		<p>38.</p> <p>(1) The Minister may make regulations for carrying into effect the purposes and provisions of this Act.</p> <p>(2) Without prejudice to the generality of subsection (1), the regulations may provide for –</p> <p>(i) charges levied from the public or any person for the use of any broadcasting service, telecommunication service, radio communication network, any broadcasting installation, broadcasting apparatus, telecommunication installation or telecommunication apparatus;</p>	
Sudan	The Telecommunication Act 2001	<p>Chapter II: The Corporation Establishment, Headquarters and Supervision of the Corporation</p> <p>6.</p> <p>(1) There shall be established a public corporation to be known as “The National Telecommunication Corporation” and shall have corporate personality, and the right to litigate in its own name.</p> <p>8. The Corporation shall have the following functions and powers namely to:</p> <p>(b) approve the methods and cost of telecommunication services and regulate the tariffs of the services in coordination with entities providing such services and supervise them thereafter.</p> <p>Chapter VI: Public Telecommunication Services</p> <p>Submission of Reports</p> <p>31. The Licensee of a Public Telecommunication Service shall submit an annual report to the Director General showing therein the technical, administrative and financial matters that guarantee the provision of services in the required standard and shall provide the Director General with any other information and data relating to the services in a periodic or exceptional manner at the time specified by the Director General.</p>	<ul style="list-style-type: none"> ● Provides for the establishment of the NRA with the mandate to approve the methods and costing of telecommunication services ● Provides for a framework for regulatory auditing ● Provides further for the issuance of By-Laws including those related to tariff regulation

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>Chapter VIII: Power to Issue By-laws and Orders</p> <p>46.</p> <p>(1) The Board with the approval of the competent Minister shall issue the necessary By-laws and orders for the enforcement of the provisions of this Act. Notwithstanding the generality of the foregoing, such By-laws and orders may include:</p> <ul style="list-style-type: none"> (a) licence applications (b) licensing conditions (c) obligations of the licensee (d) regulation of the use of frequencies and their allocation.. (e) procedures of inspection and submission of reports. (f) forms of licences. (g) fees in return of services rendered in accordance with provisions of this Act. (h) penalties to be imposed for the contravention of the provisions of this Act or its ensuing By-laws. 	
Tanzania	The Electronic and Postal Communications Act, 2010.	<p>PART II – ELECTRONIC COMMUNICATIONS</p> <p>Prices for services to the public</p> <p>31.</p> <p>(1) Subject to the provisions of this Act and any regulations or declarations made under this Act, electronic communications licensees may, for the applications services and content services which they provide to the public, set and revise such prices as they deem appropriate.</p>	<ul style="list-style-type: none"> ● Provides broad principles guiding operators set and revise tariffs while reserving the right to carry out reviews of tariffs to ensure compliance with the set principles. ● Provides for the filing of

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>(2) The prices so determined by an electronic communications licensee shall respect the following principles –</p> <ul style="list-style-type: none"> (a) be transparent, based on objective criteria, and non-discriminatory; (b) not contain discounts that unreasonably prejudice the competitive opportunities of other licensees providing applications services and content services to the public; and (c) take account the regulations and recommendations of the international organizations of which the United Republic is a member. <p>(3) Each electronic communications licensee shall –</p> <ul style="list-style-type: none"> (a) file with the Authority the prices so determined at least two weeks prior to their introduction; and (b) publish the prices at its own expense in the public media at least one week prior to their introduction. <p>(4) An electronic communications licensee shall provide all its application services and content services in accordance with the prices filed with the Authority.</p> <p>(5) The Authority shall be entitled to carry out reviews of the prices referred to in this section in order to ensure that they respect the principles set forth in sub-section (2).</p> <p>(6) Electronic communications licensees shall, for the application services or content services which they provide to the public, make sufficient detailed billing information to enable customers to verify whether or not they have been billed correctly.</p> <p>(7) The Authority shall have powers from time to time to carry out reviews of rates and charges applied by electronic communications service licensees in provision of the licensed services.</p>	<p>tariffs and public disclosure of the same.</p>

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Tanzania	The Tanzania Communications (Tariff) Regulations, 2005	<p>PART II – DETERMINATION OF TARIFFS</p> <p>4.</p> <p>(1) Setting of Tariffs for services shall be cost oriented made on the objective criteria.</p> <p>(2) Tariff shall be sufficiently clear as to allow the end-user to determine the description of the service and the details of the nature of the service as well as the amounts and charges payable for such service.</p> <p>(3) Tariffs shall be non-discriminatory and shall guarantee equality of treatment.</p> <p>(4) The communications service provider may offer discounts schemes on tariffs and shall inform the Authority of any such scheme available to customers.</p> <p>(5) The communications service provider shall provide accurate billing information on tariffs and usage in order for customers to verify whether or not they are billed correctly.</p> <p>(6) A dominant communications service provider shall not apply tariffs that prevent market entry or distant competition by applying tariffs below the underlying cost of providing the service.</p> <p>5. The communications service provider other than dominant operators shall inform the Authority in advance of any intended change in tariff by submitting notifications to the proposed changes.</p> <p>7. A Communications Service Provider shall upon approval by the Authority ensure that the tariffs or charges are published in the public media within a reasonable period before they are effected.</p>	<ul style="list-style-type: none"> ● Provides for cost oriented tariffs ● Provides for tariff auditing and approval based on set criteria

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
		<p>8. The communications service provider shall comply with any directive issued by the Authority on tariff rebalancing.</p> <p>9. Where the Authority and the communication service provider fail to reach agreement on the proposed tariff and counter proposal, the Authority may make decision on the proposed tariff basing on the best information available in accordance with Act.</p> <p>10.</p> <p>(1) Where the communication service provider is not satisfied with the decision of the Authority pursuant to regulation 10, may within thirty days appeal to the Fair Competition Tribunal established under the Fair Competition Act, 2003.</p> <p>(2) The communication service provider who fails to lodge an appeal against the decision of the Authority within thirty days of the said decision shall be deemed to have accepted the counter proposal of the Authority.</p>	

Country	Regulatory Instrument & Reference	Selected Relevant Provisions	Effect of the Provisions
Uganda	The Uganda Communications Act Chapter 106	<p>PART II – ESTABLISHMENT OF THE UGANDA COMMUNICATION COMMISSION</p> <p>3. Establishment of the Commission</p> <p>(2) There is established a body to be known as the Uganda Communications Commission.</p> <p>94. Regulations</p> <p>(1) The Commission may, by statutory instrument, make regulations pertaining to communications services, including but not limited to the following:</p> <p>(k) the way the consumer will be informed about the range of commercial services and the conditions under which they are provided;</p>	<ul style="list-style-type: none"> ● Provides for a framework to make regulations including those related to tariffs

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Uganda	<p>The Telecommunications (Tariffs and Accounting) Regulations, 2005. <i>(Issued under section 94 of the Uganda Communications Act, Cap 106).</i></p>	<p>5. Regulation of rates</p> <p>(1) Charges offered to or payable by a consumer to an operator for telecommunications services provided under a licence issued under the Act, shall be derived from the cost of providing the services, based on a cost causation and oriented approach, as shall be defined by the Commission.</p> <p>(2) The rates of telecommunications services shall be subject to a rate mechanism of price-caps and price-capping formulae and where the rates are specified as a ceiling, no tariff shall be fixed in excess of the ceiling.</p> <p>(3) Where a tariff is specified as a floor, no tariff shall be fixed below the floor.</p> <p>(4) A licensed operator shall offer a standard package to all subscribers, in a non-discriminatory manner.</p> <p>(5) The Commission shall determine whether the tariffs to be charged are just, reasonable and non-discriminatory.</p> <p>(6) The rate structures as cost justification shall comply with the following guidelines—</p> <p>(a) rates for the same or comparable services shall be integrated;</p> <p>(b) rate structures for the same or comparable services shall be integrated;</p> <p>(c) rate structures for the same or comparable services shall be consistent with one another;</p> <p>(d) rate elements shall be selected to reflect market demand, pricing convenience for the operator and customers, and cost characteristics;</p>	<ul style="list-style-type: none"> ● Provides for tariffs setting principles which include cost orientation, causality and implemented vide a price cap regime. ● Provides for a framework or regulatory auditing ● Provides for a framework for implementing price-cap based on baskets

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		<p>(e) rate elements which appear separately in one rate structure shall appear separately in all other rate structures;</p> <p>(f) rate elements shall be consistently defined with respect to underlying service functions and shall be consistently employed through all rate structures; and</p> <p>(g) rate structures shall be simple and easy to understand.</p> <p>6. Price-caps</p> <p>(1) Every licensee of telecommunications services specified by the Commission shall file a price-cap tariff for the services provided by that licensee.</p> <p>(2) The price-cap tariff filed by the licensees under this regulation shall comply with the price regulations under these Regulations.</p> <p>(3) The price-cap tariff filed under this regulation shall comply with a pricing system of telecommunications services that is cost-based, applying the long run incremental cost principle.</p> <p>(4) A licensee, subject to price-cap tariff, shall file with the Commission for its approval, price adjustment applications for any tariff rates the licensee may seek to have adjusted.</p> <p>7. Price-cap baskets</p> <p>(1) The Commission shall authorise licensees to establish baskets which shall be subject to price-cap regulation, including but not limited to—</p> <p>(a) local services and domestic long distance basket;</p> <p>(b) international or long distance services to the East African Community and the Common Market for East and South Africa</p>	

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		<p>(COMESA) and any other similar regional basket; and</p> <p>(c) international long distance services to all other countries baskets.</p> <p>8. Price-cap formula calculation</p> <p>(1) Licensed telecommunications operators shall file initial price-cap tariffs, for all the price-cap baskets prescribed in regulation 8, on a date the Commission shall determine.</p> <p>(2) Each price-cap tariff filed under subregulation (1) shall be assigned an initial value prior to adjustment of one hundred, corresponding to the costs and rates in effect, at a date determined by the Commission.</p> <p>(3) An operator shall justify the initial price-cap tariffs basing on the concepts of cost based, cost causation and long run incremental costs.</p> <p>(4) Tariffs that do not satisfy the concepts under this regulation shall not be adopted as base year tariffs and shall not be used in the calculation of the price-cap index, average price index, or service band index.</p> <p>(5) Every licensed telecommunications operator shall adjust existing tariffs for all the price-cap baskets specified in regulation 8, on a date prescribed by the Commission, to reflect the principles of cost based and cost causation.</p> <p>(6) Every telecommunications operator shall adjust its books of accounts by a date specified by the Commission, to reflect the accounting regulations under these Regulations to enable the development of a uniform system of accounts.</p> <p>(7) A telecommunication operator shall file initial price-cap tariffs, for interconnection charges between the different operators, by a date the Commission may specify.</p>	

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		<p>(8) The Commission shall not accept interconnection charges that do not reflect the cost based and cost causation principles.</p> <p>9. Annual price-cap filings</p> <p>Every public operator company shall submit annual price-cap tariff filings that –</p> <p>(a) propose rates for the following year;</p> <p>(b) make appropriate adjustments to its price-cap index, average price index, service band index and service price index values; and</p> <p>(c) incorporate the costs and rates of new services into the price-cap index, average price index or service band index calculations.</p> <p>10. Supporting information for tariffs filing</p> <p>(1) Each price-cap tariff filing shall be accompanied by supporting materials, sufficient to calculate the required adjustments to each price-cap index, actual cap index, and service band index, in accordance with the methodologies prescribed in these Regulations.</p> <p>(2) Each price-cap tariff filing that proposes rates that are within applicable bands established and that result in an actual price index value that is equal to or less than the applicable price-cap index value, shall be accompanied by supporting materials, sufficient to establish compliance with the applicable bands and to calculate the necessary adjustment to the affected actual price indexes and service band indexes.</p> <p>(3) Each price-cap tariff filing that proposes rates above the applicable band limits established or above the limit on composite average rates, shall be accompanied by supporting materials establishing substantial cause for the proposed rates.</p>	

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		<p>(4) Each price-cap filing that proposes service category rates below applicable band limits shall be accompanied by supporting materials establishing that the rates cover the service category’s average variable cost and that the service category’s net additional revenue resulting from the price change exceeds additional costs.</p> <p>(5) Each price-cap tariff filing that proposes rates that are likely to result in an actual price index value that exceeds the applicable price-cap index value shall be accompanied by—</p> <p style="padding-left: 40px;">(a) an explanation of the manner in which all costs have been allocated among baskets; and</p> <p style="padding-left: 40px;">(b) within the affected basket, a cost assignment showing down to the lowest possible level of desegregation, including a detailed explanation of the reasons for the prices of all rate elements to which costs are not assigned.</p> <p>(6) Each price-cap tariff filing that proposes restructuring of existing rates shall be accompanied by supporting materials sufficient to make the adjustments to each affected actual price index and service band index.</p> <p>(7) Each tariff filing by an operator that introduces a new service that is likely to be included in a basket at a later date, shall be accompanied by cost data, sufficient to establish the new service and each unbundled element shall generate a net revenue increase measured against revenue generated from all services subject to price-cap regulation, and calculated based upon the present value, within the lesser of a twenty four month period after an annual price-cap tariff of the new service takes effect, or thirty six months from the date the new service becomes effective.</p>	

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		<p>(8) Each company making a tariff filing shall, at the time the new service is incorporated into the price-cap index, submit data sufficient to make the actual price index and price-cap index calculations required to make the service band index calculations.</p> <p>(9) Each telecommunications operator shall file the costs and basis of allocating the various costs to the different price-cap baskets to warrant the different rates to be introduced.</p> <p>(10) The costs filed under this regulation shall reflect how the following costs are distributed or allocated on a minute basis to the various services offered by an operator—</p> <ul style="list-style-type: none"> (a) direct costs; (b) exchange costs to the various services provided by an operator; (c) the benefits of economies of network expansion between consumers and the operator; (d) proportion and basis of the share of the indirect costs allocated to the various services offered by the operator; and (e) the effect of interconnection charges on the final tariff of the services offered by an operator. <p>12. Records</p> <p>(1) Every licensee under the Act shall keep its financial records in accordance with the generally accepted accounting principles.</p> <p>(2) A licensee’s financial records shall be kept with sufficient particularity to show fully the facts pertaining to all entries in the accounts, and the detailed records shall be filed in a manner that is readily accessible for examination by the Commission.</p>	

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		<p>(3) A licensee’s records and accounts shall be adjusted to apply the new accounting standards in a manner consistent with generally accepted accounting principles.</p> <p>13. Accounts separation</p> <p>(1) Every licensed operator shall keep separate accounts which identify all elements of cost and revenue, the basis of calculation of the cost and revenue and the detailed attribution methods used, related to the licensee’s telecommunications activities including an itemised breakdown of fixed asset and structure costs, or a structural separation for the telecommunications activities.</p> <p>(2) The Commission shall aggregate or desegregate telecommunications activities into the separate businesses identified or attributed in terms of costs, revenue and assets.</p> <p>(3) Every telecommunications operator shall prepare and keep separate records for each business aggregated or disaggregated.</p> <p>14. Financial statements</p> <p>(1) Every licensed operator shall prepare and publish financial statements in accordance with the International Accounting Standards (IAS), in operation at the time the accounts are prepared.</p> <p>(2) A licensed operator shall prepare and publish financial statements to reflect the true and fair view of its financial position and performance and the cash flow of its activities.</p> <p>(3) Every licenced operator shall recognise the elements of financial statements in accordance with the International Accounting Standards criteria.</p>	

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		<p>(4) Every licenced operator shall disclose the following information in the financial statements –</p> <ul style="list-style-type: none"> (a) telecommunications plant in-service account; (b) customer deposits; (c) revenues from the different categories, including – <ul style="list-style-type: none"> (i) service fee revenue; (ii) local service and domestic long distance revenue; (iii) international and long distance revenue from the East African Community and the Common Market for East and South Africa (COMESA) and any other similar regional basket; (iv) international revenue; and (v) network access service revenue; (d) expenses including – <ul style="list-style-type: none"> (i) plant specific expenses; (ii) plant non-specific expenses; (iii) customer operating expenses; and (iv) corporate operations expenses. 	

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Uganda	Regulatory Reporting Guidelines	<p>The Commission is mandated by sub sections 4 (b) and 4 (e) of the Uganda Communications Act “to monitor, inspect, license and regulate communication services” and “to supervise and enforce license conditions” while section 48 of the same prescribes annual reporting requirements for licensees in a manner determined by the Commission.</p> <p>These guidelines prescribe the minimum reporting requirements necessary to achieve the Commission’s regulatory and policy advisory functions. They seek to ensure that licensees provide detailed and consistent records that easily translate into useful information for the execution of the Commission’s functions and obligations.</p> <p>1.3 Reporting Time Lines</p> <p>1.3.1 Quarterly Operational Report</p> <p>All licensees under these guidelines shall be required to submit operational reports on a quarterly basis by the 25th day of the month following a given quarter.</p> <p>1.3.2 Annual Operational Report</p> <p>The information specified herein for annual reporting, covering the period January to December should be submitted by the 25th February of the following calendar each year.</p> <p>1.3.3 Financial reports</p> <p>Licensees shall be obliged to submit their annual financial report and audited books of account at most four (4) calendar months after end of the declared end of their financial year.</p>	Provides a clear framework for regulatory reporting and/or auditing

<p>EAC</p>	<p>Guidelines on Interconnection and Access for Telecommunications Networks and Services within the East African Community, April 2008</p>	<p>These Guidelines were prepared taking cognizance of the spirit of Articles 5, 89 and 99 of the Treaty of the establishment of the East African Community</p> <p>1.0 Introduction</p> <p>The Guidelines on interconnection stem from the realization that the East African countries not only need similar interconnection principles and policies, but also that the interconnection rate applicable in the region should be both cost based and efficient to ensure affordability and universality. This is within the spirit of regional integration adopted since the start of East African Community and embraced under the EARPTO Congress, an organization charged with overseeing the development of postal and telecommunication services in the region.</p> <p>8.2 Charges and Cost Accounting Principles</p> <p>Operators authorized to provide public telecommunications networks and/or publicly available telecommunication services designated to have significant market power in the national market by the national regulatory authorities shall abide by the following principles of interconnection charges and cost accounting systems;</p> <p>a) Charges for interconnection shall follow the principle of transparency and cost orientation. The burden of proof that charges are derived from actual costs including a reasonable rate of return on investment shall lie with the organization providing interconnection to its facilities. National regulatory authorities may request an organization to provide a full justification for its interconnection charges, and where appropriate may require charges to be adjusted.</p> <p>b) Organization authorized to provide public telecommunications networks and/or publicly available telecommunication services should progressively gravitate towards a cost-based pricing methodology. Long run incremental costing (LRIC) based on forward-looking costs shall be the preferred standard for calculating cost oriented prices for interconnection services.</p> <p>c) Charges for interconnection shall be sufficiently unbundled, so that the operators/users are not required to pay more than for the services provided and network elements.</p>	
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ⁱ Source: indexmundi.com

ⁱⁱ Source: indexmundi.com

ⁱⁱⁱ Source: Website of the Ministry of Culture and Communications responsible for Post and telecommunications for Djibouti www.mccpt.dj

^{iv} Source: [index mundi www.indexmundi.com](http://indexmundi.com)

^v Source: Wikipedia, www.wikipedia.org

^{vi} Source: Wikipedia

^{vii} Source: Government ICT Portal www.gov.mu

^{viii} Source: Information & Communication Technologies Authority [ICTA]

^{ix} Source: RIA www.researchICTafrica.net

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