



INTERNATIONAL TELECOMMUNICATION UNION

REPORT ON THE ITU REGIONAL ECONOMIC AND FINANCIAL FORUM OF TELECOMMUNICATIONS/ICT FOR AFRICA

Abidjan, Cote d'ivoire, 18-19 January 2016

1. INTRODUCTION

The International Telecommunication Union (ITU) Regional Economic and Financial Forum of Telecommunication/ ICT for Africa, organized by the Telecommunication Development Bureau (BDT), in collaboration with l'Autorité de Régulation des Télécommunications/TIC de Côte D'Ivoire (ARTCI) was held in Abidjan, Côte D'Ivoire from 18 to 19 January 2016.

The Forum was followed by the meetings of Study Group 3 Regional Group for Africa (SG3RG-AFR) and Study Group 17 organized by the Telecommunication Standardization Bureau (TSB). The Forum was attended by 114 participants from 23 countries including regional organizations such as the African Telecommunication Union (ATU), Economic Community of West African States (ECOWAS), the Internet Society (ISOC), Banque Centrale des États de l'Afrique de l'Ouest (BCEAO), African Development Bank (ADB), University of Abidjan, Ecole Supérieure Multinationale des Télécommunications (ESMT) and GSM Association Africa. The complete list of participants as well as all the presentations and material are available at the Forum Website: www.itu.int/en/ITU-D/Regulatory-Market/Pages/Events2016/Abidjan/home.aspx.

2. OPENING CEREMONY

The opening ceremony commenced with remarks from **Mr. Abossé AKUE-KPAKPO**, Chairman SG3RG-AFR, who welcomed all participants and thanked them for their contribution and highlighted the key questions to be discussed in the subsequent SG3RG-AFR meeting. **Mr. Jean-Jacques MASSIMA** presented his remarks on behalf of the International Telecommunication Union's (ITU) *Mr. Brahima Sanou, BDT Director*, noting the profound gratitude of ITU to the Government of Côte D'Ivoire and ARTCI for hosting the event and the importance of such Forum. **Mr. Bilé DIEMELEOU**, Director Autorité de Régulation des Télécommunications/TIC de Côte D'Ivoire (ARTCI) delivered his opening remarks stressing the increased importance of dialogue and cooperation among countries in enhancing regional integration and economic prosperity. He thanked the ITU for honoring ARTCI to host the BDT Forum and the ITU-T Study Group 3 & 17 meeting and pledged ARTCI's continued support to ITU. **Mr. André APETE**, Director of Cabinet at the Ministry of Digital Economy and Post stressed that costing and pricing issues are becoming more and more complex with the changes in technologies and services provided highlighting the need for effective regulation and market competition. He welcomed all participants in the beautiful city of Abidjan and officially opened the Forum.

The Forum was chaired by **Mr. Guy Michel KOUAKOU**, Director Economics affairs, prospective and international cooperation, ARTCI, Côte d'Ivoire.

Session 1: Connecting the unconnected in a digital converged world

- Implementing Internet exchange points (IXP) and the impact on international transit in Africa

Michuki MWANGI, ISOC African Region Bureau provided a background on interconnection and peering arrangements in Africa noting the increase in number of IXPs from 14 in 2008 to 34 to-date. He noted the increase in cross-border

interconnection/peering in East and Southern Africa stating that total traffic exchanged at African IXPs is now more than 160Gbps. He demonstrated various scenarios to show the impact of peering on cost savings and subscriber growth in Africa and concluded by calling for a removal of supply side bottlenecks such as the reduction of transit backhaul cost, developing a conducive policy and regulatory environment for regional peering and the developing local content- forming IXPs is only a means and not an end to achieving a digital economy.

Abossé AKUE-KPAKPO, UEMOA & Chairman of the SG3RG-AFR Group, provided an IXP definition and discussed the economic impact of implementing IXPs at regional level highlighting that there are more than 30 countries having at least one IXP in Africa. He stressed that at political level it is very important to encourage the development of IXPs, not only in terms of interconnection but also in terms of fostering an enabling environment for the development of local content. He also stressed that it is essential to consider all the costs related to the operation of an IXP in the development and implementation process. He also explained the importance of encouraging the development of local content and of the promotion of national domain names as well as the issue of interconnection at national and international level. For this, regulatory and policy measures should be taken at national level. He concluded by underlining the importance of reducing interconnection costs at national and regional level, as well as of considering measures to reduce taxes on equipment and to encourage content providers to also work on the development of local content to enhance the business case of IXPs.

- **Development of Broadband infrastructure in the ECOWAS and price of Internet**

Kevin YAO, ARTCI, presented the development of Broadband infrastructure in the ECOWAS region and well as issues relating to the price of Internet services in the region. He underlined that the telecommunication/ICT market in Cote d'Ivoire has increased in importance, it is now contributing 7% to GDP. Kevin noted the need for further investment in infrastructure, especially in rural and remotes areas, to build ICT awareness and skills and to reduce interconnection rates as future drivers of ICT growth in the country. He provided an overview of the ECOWAS region noting some of the main measures to be adopted at regional level such as 1) to set a policy to encourage effective development of broadband; 2) to strengthen public-private partnerships to fund major broadband projects; 3) to develop infrastructure, focusing on rural areas; 4) to encourage innovation and the development of applications and national content and services of local interest; 5) to promote people's access to terminals/devices and raise awareness of the use of new technologies; and 6) to reduce broadband access costs.

Armand KOFFI, ARTCI, focused on the implementation and operation of the IXP in Cote d'Ivoire. He explained that the implementation project started in 2007 with the active participation of the regulator, the ministry and the operators. ARTCI implemented the IXP under a mandate from the Ministry. He focused on the IXP management model applied by Côte d'Ivoire- an inclusive approach which involves all stakeholders. He concluded that for broadband to play its full role of socioeconomic development in the region, governments should establish national strategic plans and adopt a sub-regional broadband development agenda.

- **LET'S ROAM THE WORLD - the ITU Initiative**

Carmen PRADO-WAGNER, ITU/BDT, presented the ITU Initiative Let's Roam the World initiative, which also includes a cost methodology, a NRA online tool, and Strategic Guidelines. One of the main concerns about International Mobile Roaming (IMR) is that this incurs additional charges that are often not cost based which requires NRAs to understand the real cost-based wholesale and retail charges of roaming. In addition any IMR counter-measures, by their nature, must be multi-country and involve multiple stakeholders. Based on these facts, the BDT Director, Mr. Brahim Sanou, launched the ITU Initiative LET'S ROAM THE WORLD in order to work with industry, regulators and policy makers to exchange knowledge, discuss the issues and look for appropriate business, regulatory and policy solutions. It was recognized by Member States that ITU can play an important and neutral role on carrying out research, and to provide a platform to share information on legal, technical and economic IMR issues. Following the meeting in 2015, ITU has defined a roadmap to provide a neutral platform to discuss this key issue, bringing together industry, regulators and policy makers, regional associations and consumer organizations, where Members can define and adopt Strategic Best Practices and Guidelines for accessible and affordable International Mobile Roaming.

Abdul MUSOKE, Uganda Communications Commission (UCC), provided an overview of the IMR situation in the East African countries focusing on the One Network roaming framework adopted in January 2015 following a Directive of the Heads of States of the Northern Corridor countries (Uganda, Kenya, Rwanda and South Sudan) to remove surcharges on regional traffic; to remove charges for receiving calls while roaming and the complete removal of surcharges on all outbound roaming calls. He noted that the Initiative has led to an increase in regional traffic by more than five times and discussions are underway to expand the scope of services covered to include data services. He concluded by urging Member States to study the One Network Area (ONA) roaming framework as they develop their regional roaming frameworks but most importantly to ensure that there is utmost political commitment from the onset to drive the process.

Hilda MUTSEYEKWA, POTRAZ, Zimbabwe presented the IMR situation in the Southern Africa Development Community (SADC) countries highlighting the progress the SADC region has undertaken to reduce roaming charges, a process that started in 2008 resulting from a Directive by the SADC Ministers of Information and Communication Technologies. A Regional Alliance Task Team (RATT) on SADC Home and Away Roaming was constituted and a number of studies conducted leading to the adoption to a retail price cap glide path which prescribes a reduction in tariffs by 33% in the first three years (wholesale and retail roaming) and thereafter a cost based rate. Operators in four countries namely Botswana, Zambia, Zimbabwe and Mozambique have started implementing the glide path as a pilot on a reciprocity basis.

Session 2: Economic and financial issues in a converged broadband environment

- **ICT Governance and business environment**

Auguste KOUAKOU, Professor, Université Félix Houphouët Boigny, Abidjan (UFR/SEG) set the note for the second session by observing that governance of the telecommunications sector is facing many challenges due to the convergence of networks but also the emergence of new business models and the development of the Future Internet. The development of mobile banking, Internet of Things and more generally of the new industry generation (industry 4.0) raises new challenges for regulation. In this context it should be appropriate to focus on responsiveness, proactivity telecoms regulators to the extent that these trends generate a need for cooperation between the various actors in this moving digital ecosystem. Good governance is a guarantee of efficiency and performance of the sector.

- **Economic and financial aspects of spectrum allocation**

Raul KATZ, Professor, Columbia Business School (Columbia University, USA) President, Telecom Advisory Services LLC presentation first raised the issue of why spectrum is such an important input to telecommunications services, understood as a key lever of economic growth. In this context, the presentation introduced alternative ways of managing the radio-communications spectrum. The discussion on auctions served to raise the advantages and disadvantages of different formats, as well as of handling potential distortionary behaviors. Beyond auction, the presentation expanded on other spectrum management approaches such as secondary markets, and spectrum sharing. The last section of the presentation focused on methodologies used to determine the economic value of spectrum going from classical benchmarking to business case development, and avoided cost analysis.

Antony ADOPO, ARTCI and **Lanciné FOFANA**, DEPI, Côte d'Ivoire, presented the strategy applied by Côte d'Ivoire to calculate the cost of a license based on three main methodologies: 1) Updated methodology; 2) Benchmarking; and 3) the method of benchmarking with limits. He explained the different advantages and challenges of the application of these methodologies. ARTCI is still revising these approaches in order to develop guidelines to determine the financial counterpart to be implemented in a simple, robust and adaptable model. During the discussions it was clarified that the SMP notion wasn't considered in these methodologies.

Mortimer HOPE, GSMA Africa, in the first part of his presentation highlighted the phenomenal uptake of mobile and mobile broadband services in Africa and gave an outline of the policy objectives that should guide spectrum assignment by countries such as promoting investment, equity and efficiency. He noted some of the uncertainties and challenges in the valuation and assignment of spectrum. He concluded the presentation by highlighting some of the best practices that policy makers and regulators should consider in spectrum assignments.

- **Costing methodologies and tariff policies**

Alan SAWADOGO, Ecole supérieure multinationale des télécommunications (ESMT), Senegal, did a brief summary of the costing and pricing methodologies that are being used for the determination of cost based tariffs for regulated telecommunication services. He focused on the comparison of the different models for the application of Broadband services. In the framework of tariff policies it was highlighted the importance of increasing connectivity and interconnection, to promote market competition by developing policies on infrastructure sharing, open access and net neutrality. It is also important to address the affordability of services by avoiding excessive taxation. He concluded that NRAs should avoid if possible retail price controls if the market is competitive and focus on wholesale prices if necessary, but always enable operators to cover their costs with a reasonable return on invested capital.

- **Regulatory and Tariff Policies trends**

Anne Rita SSEMBOGA, ITU Regional Office and **Carmen PRADO-WAGNER**, ITU/BDT commenced with an overview of the ICT global trends for 2015 published in the ITU Facts and Figures 2015 with a focus on mobile and mobile broadband penetration globally and in Africa. An analysis of the movement in broadband prices based on the ITU Pricing Basket Index in Africa was presented highlighting that affordability challenges still exist in the region. The second part of the presentation focused on the costing and tariff approaches and trends for wholesale and retail mobile broadband services using information from the [ITU ICTEye Tariff Policies Survey](#).

Adelaide FAHE, Sao Tomé, initiated her presentation by explaining the main problem on price disparity as an anti-competitive practice, how a new entrant can survive in a market in which the dominant player enjoys a club effect and is applying off-net rates almost twice higher than its tariff on-net? She explained the methodologies studied in Sao Tomé to affront this situation and concluded informing that the Regulator is considering to regulate wholesale and retail tariffs.

- **Alternative calling Procedures, fraud, counterfeit and revenue protection**

Aminata DRAME, SONATEL, Senegal, and **Hugues AHOUNOU**, GREENN, Côte d'Ivoire presented the economic impact of SIM box fraud. She noted that a boom in data services especially those based on OTT services has led to an increase in costs of network operations. Network operators have to invest to improve coverage and infrastructure capacity; at the same time incoming international calls have decreased considerable in the last 4 years. Both speakers explained that the combined effect is squeezing telecom margins considerably. Fraud practices such as Simbox bypassing is also creating challenges; whereas telecoms have put in place mechanisms to deter the practice, traffic via specific OTT applications (e.g. Viber) cannot be easily detected causing an enormous loss in the revenue. It was recommended for the establishment of mechanisms for periodic testing and tracking of incoming calls as well monitoring of VoIP protocols to identify the fraudulent IP addresses and for government authorities to develop a regulatory and legal instruments to monitor the distribution network of this fraudulent activities.

Session 3: Challenges in the Digital Ecosystem

- **Technology trends and new business models in a smart connected world – how this impacts regulation**

Abdul N. MUSOKE, UCC, Uganda, led a discussion on emergent technologies and business trends in the Africa region and their implications for the regions NRAs. Among others, the discussion explored MVNOs, Enhanced Service Providers (ESP), new pricing models like zero rated applications, broadcast rights, international traffic surcharges

and traffic refilling (CLI manipulation) and exclusionary abuses in upstream USSD markets. These pose new regulatory challenges in interconnection, promotion of competition, QoS which should be cardinal regulatory concerns for the region.

- **The impact of taxation on the digital economy**

Raul KATZ, Professor, Columbia Business School (Columbia University, USA) President, Telecom Advisory Services LLC first reviewed the principles of tax policy in order to understand the current approaches to taxation in the digital economy. This taxonomy helped frame the discussion on specific taxes applied to providers and consumers of digital products and services. Beyond the introduction to different approaches, the presentation also discussed how taxation might become a distortionary factor (asymmetries, sector specific taxes, etc.). Finally, two examples were provided of how telecommunications taxes can affect economic performance (fixed broadband taxes on consumers, and equipment sales taxes on service providers). A publication on the Impact of taxation on the digital economy will be very soon available at the [ITU/BDT Regulatory and Market Environment website](#).

Paulina TSAFAK, Ministry of Posts and Telecommunications Cameroon and **Josephine ADOU**, ARTCI Côte d'Ivoire presented on the taxation situation in the African region based on the data collected by the ITU Development sector on Tariff Policies. Forty-four African countries responded to the survey providing a very clear insight of the nature of tax paid by telecommunications operators in the region. It was noted that only two countries: Democratic Republic of Congo and Malawi, are applying an environmental tax on telecommunications services. A very extensive analysis had been done by BDT on the regulatory and economic implications of taxation of the digital economy and concluded by proposing to include this issue in the works of ITU-T Study Group 3.

- **Issues and strategies for the development of Digital Financial Services**

Ettiboua ANGUI, Expert, Côte d'Ivoire presented on the African situation on Digital Financial Services noting that Africa is the recognized birthplace of mobile money and leading innovations in this sphere. The presentation covered the concept of Digital Financial Services (DFS) scope and approaches. He highlighted the DFS related developments and regulatory activities in Côte d'Ivoire and the ECOWAS region. He concluded by emphasizing the importance DFS services in Africa to economic growth and digital inclusion and called upon Governments and regulatory authorities to put in place regulatory instruments relating to access, interoperability, consumer protection, anti-laundering and terrorist financing, security and supervision of operations.

Brian MUTHIORA, African regional specialist on mobile money, GSMA started with an analysis of the policy & regulatory framework at global level. He prescribed the policy and regulatory requirements needed for an effective and efficient Mobile Money environment showcasing some of the countries that have developed legislations in this area. The presentation was concluded by assessing the role of the National Regulatory Authority, which include among others, providing broad policy guidance on telecommunications issues, supporting the building of a broader ecosystem that leverages Mobile Money to offer socio-economic benefits and contribute to the development of technology and security standards.

Linda MOURROT, ARTCI, Côte d'Ivoire presented on the Regulation of Digital Financial Services. She introduced the general environment of mobile market, it is important to highlight that in Côte d'Ivoire there are 5 mobile operators and 3 of them are providing mobile money services. The number of mobile subscriptions is of 23'926'470, from them 7'262'323 subscribers are using mobile money services, which represent revenue of about 16 691 620 KFCFA (about 28'435'500 USD). Mobile Financial Services facilitate people's access to electronic payment, and at the same time, mobile operators are becoming more likely to provide financial services via mobile phone. The role of the National Regulatory Authority is to apply the regulations in order to protect consumers, personal data protection,

banking relation with clients. In this area, the ARTCI acts as the Regulatory Authority for Telecommunications activities and is responsible for enforcing laws and regulations governing the sector of Telecommunications/ICT.

Silvère ASSOUA and **Vladimir AMAN**, ARTCI presented on Private data and fight against cybercrime in Côte d'Ivoire- They explained the legal framework for the protection of personal data, the fight against cybercrime, the impact of cybercrime and the technical measures applied in Côte d'Ivoire for personal data protection. At present the ARTCI is working on the development of a national cyber security strategy, in order to create institutional governance management of the national cybersecurity, to strength the awareness and the culture of cybersecurity by developing capacity building, auditing activities and certification of companies and persons, all this in the framework for the protection of personal data and the fight against cybercrime.

3. CLOSING REMARKS

The Chair of the Forum, **Mr. Guy Michel KOUAKOU**, expressed his thanks to the BDT, and noted that it was an honor for ARTCI to organize the event in Abidjan. During 1.5 day, he said, participants worked a lot on three very interesting sessions that treated very hot topics for the African region. He added that the exchange of views and experiences was very interesting and fruitful for all participants as well as to the works of the ITU-T Study Group meeting. He also thanked the speakers, panelists and all participants for their very active participation. .

The Chairman of the SG3RG-AFR, **Mr. Abossé AKUE-KPAKPO** thanked the ARTCI for the excellent organization of both events, all the speakers for their very informative and excellent presentations during the Forum, and the BDT and TSB staff for the work done. As stated in the report of the SG3RG-AFR meeting, it was requested to BDT to continue organizing the Regional Economic and Financial Forum for Africa, which will be held in December 2016. The delegate from Zimbabwe expressed their interest in hosting the next BDT Forum and SG3RG-AFR meeting.
