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Creating an Enabling Environment for Investment

Background Paper – Session Five

1. BACKGROUND

The creation of an enabling environment is one of the key building blocks in the establishment of an Information Society. The World Summit on the Information Society (WSIS) recognized that “to maximize the social, economic and environmental benefits of the Information Society, governments need to create a trustworthy, transparent and non-discriminatory legal, regulatory and policy environment”¹.

Over the past decade, the majority of countries worldwide have initiated reforms in their telecommunication sector by establishing a national regulatory body, introducing competition and at least partially privatizing their operators (among other measures). However, much of the world’s population still remains without basic access to Information and Communication Technology (ICT) services, as further key reforms have yet to be undertaken in many countries. A fundamental shift in policy and regulatory frameworks is needed, to enable countries to achieve the WSIS targets by 2015.

Providing regulators with the tools and authority to regulate the sector effectively and efficiently can boost investment, promote innovation and build confidence in countries’ ICT markets. Regulators seek to remain informed of the latest market trends and their associated potential challenges to be prepared to act and respond adequately and on a timely basis. They also seek to develop “future proof” regulatory frameworks based on clear and flexible rules and procedures. Consultation mechanisms involving all stakeholders in particular play a key role here.

African nations have a unique opportunity to build on the success of their initial sector reforms. Technological advancements and savvy business practices make the WSIS targets entirely feasible as long as regulatory roadblocks are removed. Think how much the world has changed from the days of the Maitland Commission which urged developing countries to find the *missing link* to connect all the peoples of the world to basic telecom services. That seemed an almost impossible goal when the only technology for connecting the world was copper fixed line networks. Then, in 2002, it was declared that the missing link had been found — mobile cellular services. By 2003 the “mobile miracle” had brought basic voice services to more people than the Maitland Commission could ever have imagined possible,

¹ Geneva Plan of Action, para 13, at: www.itu.int/wsis/outcome

enabling many countries to meet, if not surpass, their national teledensity goals. Now, technological developments such as broadband are unleashing an array of new opportunities for business, government and consumers alike, and ICTs are increasingly relied upon as a tool for economic development.

There is not a significant environment on the planet today in which ICTs do not make commercial, social, and institutional sense, given the political will to foster an enabling environment to drive demand for ICTs by a full range of stakeholders. The pace of ICT development, including broadband take-up, however, hinges on the policy and regulatory framework. In many countries, *today's missing link is the policy and regulatory framework*. Political will is needed at the highest levels of government to establish an enabling environment that will create a level playing-field for all stakeholders to promote the roll-out of ICTs. This paper explores the key regulatory steps countries can take to speed the uptake of ICTs and to Connect Africa.

2. PURPOSE OF THIS PAPER

This paper aims to:

- Underscore the importance of an enabling environment for the deployment and development of ICT networks and services;
- Identify the key constraints facing African decision-makers; and
- Recommend steps to further the implementation of WSIS commitments and make connecting Africa a reality.

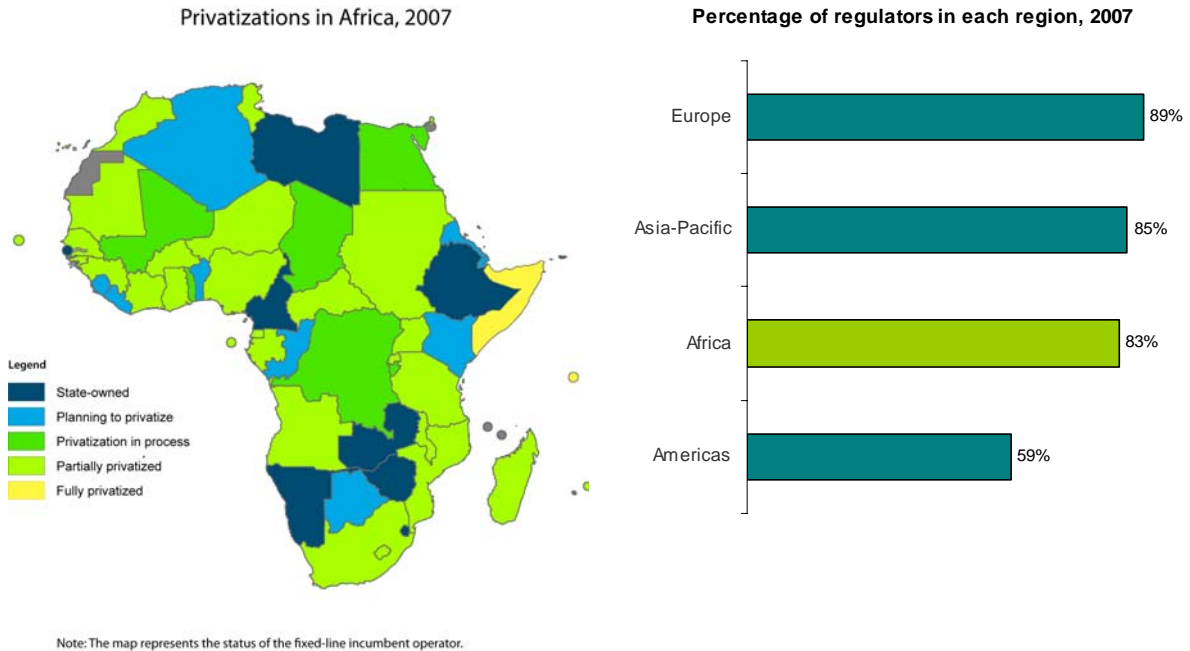
3. SUMMARY OF THE EXISTING SITUATION

Many countries in Africa have completed the initial stages of reforming their telecommunication sector. Others are just initiating the process. All African countries seek to turn the digital divide into a digital opportunity and address the emerging broadband gap. Creating an enabling environment to attract investment is essential to meeting this goal. The following section reviews key areas of sector reform in Africa and their impact on the ICT market.

Privatization, Creation of National Regulatory Authority and Level of Competition

Some thirty African economies (or 55 per cent) have at least partially privatized their incumbent telecoms operator (see Figure 1 below). Privatization sends a strong signal that policy decisions and regulations will be fair to all in the market place. Fostering a level playing-field is more likely if the State avoids being both a market player (i.e. owner or part-owner of the incumbent) and a referee at the same time. Forty-five African economies (or eighty-three per cent) have established a Telecommunication/ICT Regulatory Authority, with sixteen created since 2000. There are already shining examples of effective regulatory bodies in Africa. Some of the Continent's regulatory authorities, however, may lack the power to enforce pro-competitive regulatory decisions and many more require capacity building initiatives in order to become more effective regulators.

Figure 1: Privatization of fixed-line incumbents in Africa and national regulatory authorities by region, 2007

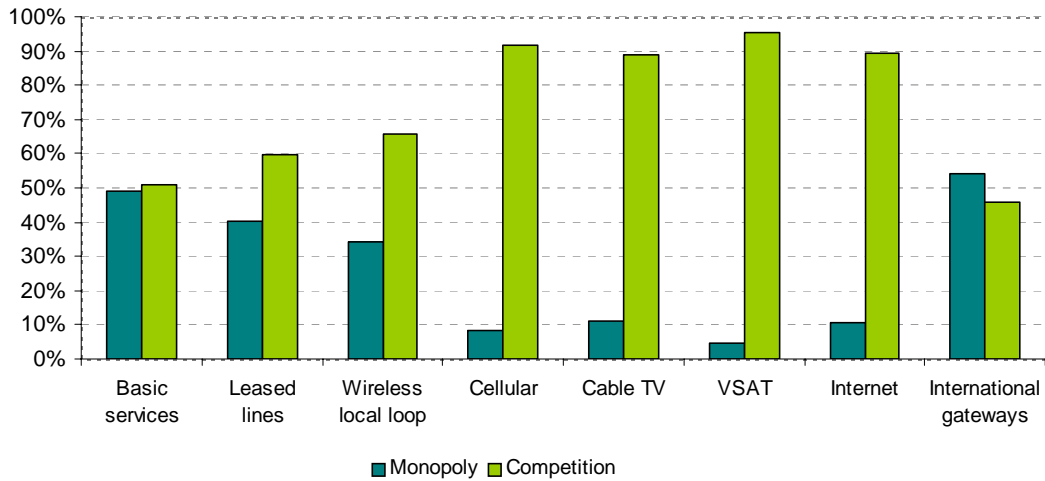


Disclaimer: The designations employed and the presentation of material in this map do not imply any opinion whatsoever on the part of the ITU concerning the legal or other status of any country, territory or area or any endorsement or acceptance of any boundary.

Source: ITU World Telecommunications Regulatory Database

While competition is flourishing in the provision of Internet and mobile services in Africa, it is lagging behind in local, long-distance and international basic voice services over the fixed line (see Figure 2 below). In addition, the legal status of services is not always reflected in the actual market situation or whether consumers have a meaningful choice among service providers. Attracting investment is closely associated with the control that incumbents exercise over essential facilities (such as international gateways - see below) and the existence of an effective interconnection regime. A key challenge for many African regulators is the establishment of an interconnection regime that promotes competition and encourages investment.

Figure 2: Competition in selected telecom services, Africa, 2006



Source: ITU World Telecommunications Regulatory Database

ICT Penetration Rates and Prices for ICT Services

With limited competition for local services, leased lines and international access, prices for dial-up and broadband Internet services are generally far higher in Africa than elsewhere. This has resulted in more limited consumer uptake than in other regions of the world². As Figure 3 shows, residential fixed-line broadband prices in Africa are unaffordable for most potential customers. Moreover, in many African countries, national penetration rates for fixed line services remain exceptionally low, limiting take up of either dial-up or ADSL services, while the cost of high end mobile broadband services such as EDGE/GPRS and HSDPA, where available, remain beyond the reach of the majority of the population. Today, Africa accounts for less than 0.4% of the world's total broadband subscribers and only 3.9 per cent of the world's Internet users. In contrast, mobile subscribers outnumber fixed line subscribers by more than six to one, and over a fifth (21 per cent) of Africans subscribe to mobile services. Even worse is the fact that out of 34 least developed countries (LDCs) in Africa, commercial broadband services were available in only 16 in 2006, with a total number of broadband subscribers just over 46'000 in these African LDCs.

² See ITU-D Question 18/2 – Strategy for Migration of mobile networks to IMT-2000 and beyond: Mid-term Guidelines (MTG) on the smooth transition of existing mobile networks to IMT-2000 for Developing Countries at www.itu.int/pub/D-STG-SG02.18-2006/en.

Figure 3: Residential fixed line broadband tariffs, by region: cost of 100kbit/s per month (in USD) and as a percentage of GNI per capita, 2006

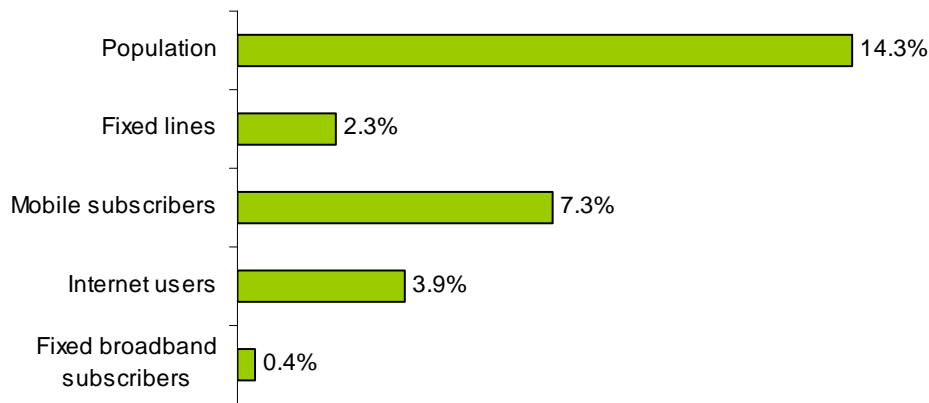


Note: ITU's methodology for evaluating broadband access assesses the cost of a monthly subscription to broadband on the basis of a representative sample of offers for each country with commercial broadband available in USD per 100 kbit/s (to take into account packages at different speeds). Where charged by time, the cost of 100 hours of Internet access is evaluated. Where charged by data download, the equivalent of 1 Gbit of data per month is assessed.

Source: ITU

The major challenge for Africa is to build on the success of current mobile deployment to both increase levels of penetration and encourage second generation mobile operators to migrate to more advanced broadband wireless access services as well as promote fixed line broadband (ADSL, Cable TV, Broadband over Power Lines, etc.) where economically viable. In addition, it is critical for African countries to create national and international fibre backbones where satellite connections remain too costly and microwave backhaul technology lacks the capacity required for broadband services and applications. This will mean not only creating a regulatory environment that promotes the deployment of broadband wireless access technology – through more open licensing and spectrum allocation practices -- but which further ensures that national fibre backbones are widely deployed, for example, by offering tax incentives to encourage operators to upgrade today's microwave backhaul links with cheaper, more powerful fibre backhaul. A broadband environment can only be fully realized in Africa, if prices for broadband services are slashed dramatically. The regulatory and policy initiatives outlined below can help African countries reduce the high cost of Internet and broadband services. Regulators can also monitor and benchmark retail prices for broadband services to persuade operators to reduce costs for Internet and broadband services.

Figure 4: Africa's share of the global total for various services, 2006



Source: ITU World Telecommunications/ICT Indicators Database

Liberalization of International Gateways

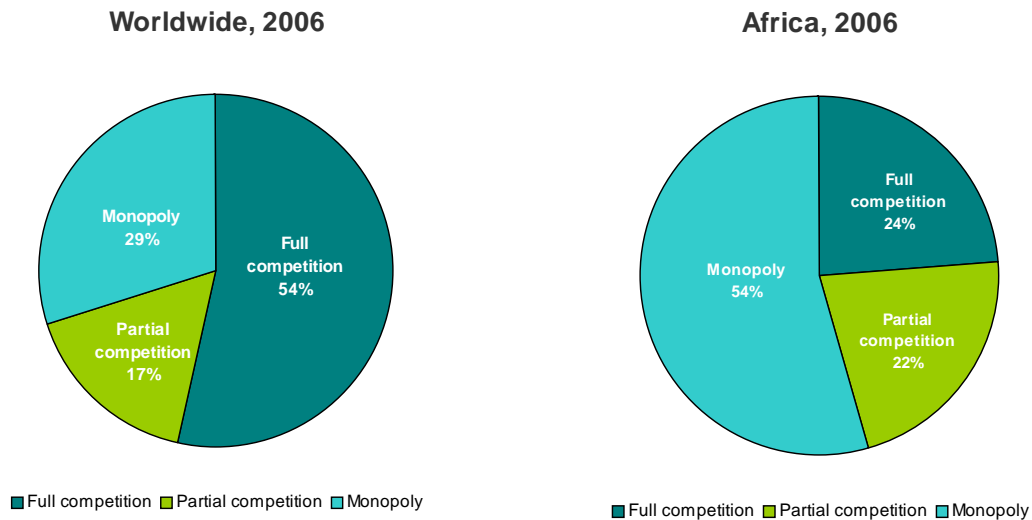
Many African countries have yet to introduce strategies to liberalize international gateways to reduce prices for international voice communications and Internet tariffs. Countries that have liberalized the international gateway have seen prices fall and quality of service improve. Liberalization includes licensing or authorization of multiple players to provide international gateway services and opening up cable landing stations to competition.

In addition, some mobile operators in Africa have announced that they are converting their backbones to IP-based networks. Once mobile operators adopt IP-based backbones, it is likely that even more traffic will bypass the international gateway. This trend will be further compounded by the move to next-generation networks which will also be IP-based. Some analysts even predict that there will be little need for international gateways in a world of VoIP peering arrangements. This trend is only likely to grow as more developing countries deploy broadband wireless access services.

Kenya and Morocco are two examples of African countries that opted to liberalize their international gateways. Kenya has increased Internet bandwidth as a result of liberalizing its international gateway, which followed the end of the exclusivity period of Telecom Kenya in 2004. International gateway bandwidth doubled in the first year of liberalization (from 110.10 Mbps to 223.38 Mbps) and more than tripled growth from the first year of liberalization in the second year to reach 758.59 Mbps.³ In Morocco, the second national operator, which is also a mobile cellular operator, was granted the right to operate its own international gateway. One of the results is that over 50 percent of mobile subscribers use their mobile phone to make international calls.

³ Communications Commission of Kenya

Figure 5: Level of competition in International Gateways, worldwide (left chart) and Africa (right chart), 2006



Note: The left chart is based on data for 107 economies; the right chart is based on data for 46 African economies.

Source: ITU World Telecommunications Regulatory Database

Internet Exchange Points (IXPs)

The high cost of Internet services in Africa is also related to the lack of Internet Exchange Points (IXPs), enabling local Internet Service Providers (ISPs) to exchange Internet traffic at the local, national or regional levels (instead of routing domestic and regional Internet traffic through expensive international links). By 2007, eighteen African countries had created a national IXP and two regional IXPs existed — one in Cairo and another serving Kenya, Tanzania and Uganda⁴ (in contrast, there are hundreds of IXPs in the Americas, Asia and Europe). ISPs in countries where no IXP currently exists must pay the full cost of international Internet connectivity, with Internet traffic often routed via the United States or Europe, resulting in higher prices for ISPs, which are invariably passed onto customers⁵.

As explained in the 2004 ITU/IDRC report, *Via Africa: Creating local and regional ISPs to save money and bandwidth*:

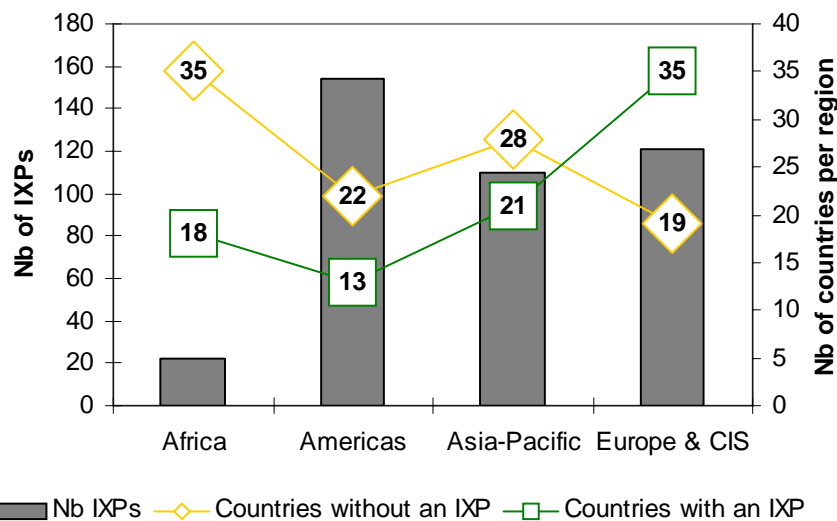
If Africa had a greater ability to exchange traffic locally at a national level and regionally within the continent, it would not be paying for expensive international bandwidth to make this happen. Likewise, if it had more outgoing traffic and some regional carriers, these would be able to peer with their international equivalents and lower the costs of international bandwidth. Continental interconnection within Africa would enable the African ISPs to aggregate intra-African traffic and negotiate better transit prices for the global [Internet] backbone providers.⁶

⁴ AfrISPs at www.wideopenaccess.net/files/session7/ixp.pdf and ITU World Telecommunications Regulatory Database

⁵ 2004 ITU/IDRC report, *Via Africa: Creating local and regional IXPs to save money and bandwidth* at www.itu.int/ITU-D/treg/publications/AfricalXPRep.pdf

⁶ ITU at www.itu.int/ITU-D/treg/publications/AfricalXPRep.pdf

Figure 6: Number of IXPs and number of countries with and without IXP, by region, 2007



Note: The number in each circle represents the number of countries with one or more IXPs per region.

Source: ITU, adapted from ITU World Telecommunication Regulatory Database and Packet Clearing House

Infrastructure Sharing, Open Access and Fiber Backbones

Infrastructure sharing and open access are key elements to promote regional connectivity within Africa. Open access to submarine cable and satellite networks promises to dramatically reduce the costs of international connectivity. For example, the sharing of civil engineering costs for domestic networks (such as mobile masts and towers) can expand coverage, accelerate roll-out, cut costs, enhance competition and limit environmental consequences. The sharing of infrastructure with other utilities (such as gas, electricity, highways and railways) is also gaining momentum. A stable and predictable regulatory framework is necessary, however, to prevent anti-competitive behavior that can result from sharing infrastructure. Ensuring a steady power supply for telecommunications networks is also vital.

Licensing

Ensuring vibrant domestic competition is vital to boost the growth of ICTs in Africa. Competition can reduce costs for end-users and drive innovation in technology and business practices, resulting in better services at lower prices. In most African countries, the government typically decides how many market players should compete in specified market segments, rather than the framework of open competition (where the market determines how many players can enter markets). Licensing policies also need to evolve to eliminate market entry barriers, fostering development and innovation. One trend that has emerged over recent years has been a move from specific licenses to technologically neutral and broadly defined service-neutral licenses.

Several African countries are leading the way by reforming their licensing regime to introduce more simplicity, flexibility and some degree of neutrality in their licenses. This is the case for

example in Morocco, Nigeria, Tanzania and Uganda where unified technology neutral licenses have been granted. This offers operators the possibility of providing the services they wish without the requirement of having a separate licence for each service, as well as having the flexibility to use the technology of their choice. This trend should be further encouraged.

Voice over Internet Protocol (VoIP)

Many African countries currently ban VoIP explicitly or limit its legal use – by mid-2007, VoIP had been legalized formally in seven countries. However, an extensive grey market exists in VoIP services and regulators and policy-makers are increasingly recognizing that they have only limited ability to restrict the use of VoIP, which is widely considered to represent the future of voice services. After all, it is difficult to contain breakthrough technologies for which there is strong end-user demand. Some have even recognized VoIP “as an engine for the development of telephony in the country” and are seeking to legalize it, rather than restrict its use⁷. There are moves underway to legalize VoIP in at least six African economies⁸.

Fixed and mobile operators are moving to IP-based networks and many operators are seeking to deploy broadband wireless access or 3G technologies that are also IP-based. VoIP traffic in Africa is thus expected only to rise. Likewise, incumbent operators are installing VoIP gateways to carry international traffic. Where VoIP has been legalized, hundreds of small players have sprung up offering affordable voice services. VoIP services are generally cheaper than traditional PSTN services, so VoIP can also help meet universal access goals.

The rise of VoIP traffic also implies a need for VoIP peering exchanges (similar to IXPs), so that national and regional VoIP calls can be routed locally without transiting Europe or the United States. The introduction of VoIP peering exchanges can reduce regional calling rates.⁹

Spectrum Allocation

Broadband wireless access (BWA) services offer significant benefits to developing countries. The benefits of these services ultimately depend, however, on the amount of spectrum regulators make available. Spectrum has traditionally been allocated for operators to deploy on a national or regional basis, but operators can also provide broadband wireless access services on a small scale. Ireland, for example, has adopted a practice of encouraging smaller market players to provide broadband fixed wireless access in very small service areas, originally defined by a 15 kilometer radius circle from a base station. Ireland adopted this strategy after its attempt to license national broadband service providers met with little success. Large operators were not certain there was a viable business case for national deployment. Instead small operators have responded by launching little circles of broadband connectivity that blossomed like lily pads on a summer pond. Today, these lily pads have grown so widespread that broadband coverage in rural areas is widely available in Ireland. Ireland’s regulator granted over 214 small scale licenses which serve over 80,000 wireless broadband subscribers. It is now expanding the initiative so that operators can expand their circles to cover any dead areas between adjacent circles¹⁰.

Care needs to be taken, however, not to fragment spectrum plans so the emergence of sustainable business models is not prevented. In addition to innovative spectrum practices,

⁷ ITU, 2007, The Future of Voice in Africa, www.itu.int/osg/spu/ni/voice/papers/FoV-Africa-Southwood-draft.pdf

⁸ Including Egypt, Ghana and Nigeria.

⁹ ITU, 2007, The Future of Voice in Africa, www.itu.int/osg/spu/ni/voice/papers/FoV-Africa-Southwood-draft.pdf

¹⁰ ITU Trends in Telecommunication Reform 2006: Regulating in a Broadband World, Chapter 5 and Comreg www.comreg.ie/fileupload/publications/PR150507.pdf

African countries need to ensure competitive allocation of adequate spectrum for a full range of BWA technologies. Global and regional harmonization of spectrum allocation is important to reduce deployment costs for operators.

4. OPPORTUNITIES AND CHALLENGES

Harmonization of Policies and Regulations

Many initiatives are currently underway by international and regional specialized agencies and African development partners to promote harmonized policy and regulatory frameworks and best practices throughout Africa, in collaboration with the Regional Economic Communities (RECs).

The African Union is undertaking a study on a reference framework for Telecommunications and ICT Policy and regulation harmonization that seeks to respond to challenges in the development of ICT infrastructure, expected to be adopted by the next Meeting of the African Ministers responsible for Communication and Information Technology. Likewise, e-Africa Commission-NEPAD has developed a Protocol of High-Level Policy and Regulatory framework for NEPAD ICT broadband infrastructure network for the Eastern and Southern African region. The United Nations Economic Commission for Africa (UNECA) has supported ECOWAS, UEMOA, CEMAC and CEEAC in developing harmonized frameworks on ICTs and e-commerce.

The countries of West Africa have developed a harmonized regulatory framework to integrate a series of Acts covering ICT markets in the sub-region designed to keep policy and regulatory frameworks in line with the constant evolution of technologies, applications and services. In January 2007, ECOWAS Heads of State and Government adopted Acts that cover ICT policies, the legal regime, interconnection, numbering, spectrum management and universal access. These measures were developed through a project launched in June 2004 by the International Telecommunication Union (ITU) in cooperation with the European Union. ECOWAS countries have now embarked on the challenge of transforming these decisions into national legal frameworks, creating a common ICT market in the region.

ITU Members have adopted regional initiatives for all of Africa and the Arab States that provide for the strengthening and harmonization of policy and regulatory frameworks in their regions. The work carried out by West African countries will certainly serve as a basis for such regional harmonization of ICT policies and regulatory frameworks. For more information see www.itu.int/ITU-D/treg/projects/itu-ec/index.html. Additional examples of regional harmonization and sharing of best practices are included in Annex 1.

Capacity-Building for Regulators

Many regulators seek to build the capacity of their staff in order to become more effective. In response, ITU and *infoDev* launched the ICT Regulation Toolkit (www.ictregulationtoolkit.org/en/index.html), which contains modules on many of the issues in this paper, including authorization, radio spectrum management, and interconnection and price regulation. ITU in collaboration with *infoDev* and the World Bank have sought to build on the success of the ICT Regulation Toolkit to develop a Global Capacity Building Initiative (GCBI) for regulators that facilitates the development and transfer of know-how to support regulatory reform, offering face-to-face and e-learning training opportunities, with the goal of partnering with local universities and training institutes in developing countries. ECA and the Government of Canada have organized a series of workshops on Access and Regulation in Central, Western, Eastern and Southern Africa, aimed at building the capacity of regulators in designing harmonized strategies and guidelines for legal and regulatory frameworks.

5. CONCLUSIONS AND RECOMMENDATIONS

African countries can undertake a series of concrete steps to develop an enabling environment to attract investment and make affordable access to ICTs more widely available. Governments can consider the following measures, including:

- Promoting the role of regulators as enablers and agents of change by ensuring that ICT regulators are free from political and industry interference;
- Promoting improved capacity of national regulatory authorities by adopting harmonized policy and regulatory frameworks and supporting capacity-building initiatives,
- Ensuring transparent policy and regulatory processes;
- Adopting and enforcing of clear rules;
- Launching public consultations and other mechanisms for dialogue with industry and consumers;
- Introducing strategies such as liberalizing international gateways to reduce the costs of Internet and voice connectivity;
- Opening up ICT markets to greater competition through models such as general authorizations or unified licenses, which take a technology-neutral approach to market entry;
- Making adequate spectrum available for IMT-2000 and broadband wireless access services so that end-users in Africa do not have to wait for fixed line broadband services. This includes the availability of spectrum for small market-players providing connectivity in rural areas;
- Encouraging the roll-out of broadband infrastructure to rural areas by reducing regulatory or spectrum fees or lowering taxes and by including roll-out requirements in license agreements (e.g. requiring an operator to connect a specified number of new villages);
- Leveraging Africa's success in the mobile market, while leapfrogging to fiber backbone and backhaul networks, by providing financial and fiscal incentives to encourage the deployment of backbone infrastructure;
- Creating national and regional Internet Exchange Points (IXPs), as well as VoIP peering exchanges, to keep African Internet traffic local, and pooling international Internet connectivity to keep the costs of peering and transit low;
- Reducing customs duties on ICT equipment to make it more affordable for end-users;
- Considering the legalization of VoIP (where this has not yet occurred);
- Publishing and benchmarking retail prices for broadband services to persuade operators to reduce costs for broadband access and services.

ANNEX 1

Examples of Regional harmonization and Sharing of Best Practices

UN Economic Commission for Africa

The UN Economic Commission for Africa (UNECA), supported by the Canada Fund for Africa and its ePolicy Resource Network (CePRC) as well as the Government of Finland, has been providing through the African Information Society Initiative (AISI) framework upstream policy advice to assist countries and Regional Economic Communities (RECs) in the design of strategic approaches to ICTs as an enabler for development. These strategic approaches to ICTs are linked to Poverty Reduction Strategies (PRS) and related development goals, including the UN Millennium Development Goals (MDGs). To this end, ECA has been assisting African countries in developing national and sectoral ICT strategies for accelerating their socio-economic development, through the National Information and Communication Infrastructure (NICI) Plans process.

Support was also provided to ECOWAS and UEMOA in West Africa to develop the following harmonized regulatory guidelines on ICT and electronic commerce for adoption by Member States: Guidelines on a harmonized ICT framework; Guidelines on e-commerce; Guidelines on personal data protection; and Guidelines on fighting against cybercrime.

The Central African region was supported to develop the following harmonized guidelines in the framework of its regional e-strategy (e-CEMAC): Guidelines on a harmonized ICT framework; Guidelines on harmonized interconnection costs; Guidelines on Universal Service; and Guidelines on harmonized electronic communications Tariffs.

CRASA (Ex TRASA)

- Policy Guidelines on Interconnection and Model Telecommunication Regulations on Interconnection;
- Regional Frequency Allocation Plan;
- Universal Service Policy Guidelines, 2002;
- Licensing Policy Guidelines, 2002;
- Fair Competition Guidelines Study report;
- Development of interconnection Guidelines;
- Tariff Guidelines;
- Model Tariff Regulations and Model Telecommunications Bill;
- Recommendations for effective Regulation and structures;
- Regulatory Accounting Guidelines; and
- Administrative Rules and Procedures Template for Regulators.

EARPTO (IGAD & EAC)

The main achievements of this regulatory organization include the following;

- Coordination of Universal Access activities (for example, the East African Fiber Optic Project);
- Harmonization of frequency spectrum prices and licensing of satellite services in the region; and
- Cross-border connectivity and interconnection issues.

WATRA (ECOWAS Countries)

- The ICT common market in the ECOWAS/UEMOA space is in the process of transferring into national law a series of Acts adopted by ECOWAS Heads of State and Government in January 2007, that include a harmonized legal, policy and regulatory framework for the region. The adopted Acts were based on guidelines agreed by WATRA that were then adopted as decisions by ECOWAS Ministers in Charge of Telecommunications and ICT. Once they have been into the national legislative frameworks, the Acts will create a common ICT market in the region. The project was launched in June 2004 by the ITU in cooperation with the EU, to support the establishment of an integrated ICT market in West Africa.
- The Acts include: ICT model policy and legislation; access and interconnection regulation; issuance of licences; numbering plans management; spectrum management; and universal service/access.

Arab Regulators Network (AREGNET)

North African countries are working closely with the other Arab countries within the framework of several structures, notably, the Council of Arab Ministers responsible for ICT. The major texts adopted in relation to policy harmonization at the AMU level or in the Arab region include a decision on the ICT Arab Strategic Plan and Recommendations on: Spectrum Management; Licensing; competition; Interconnection; Tariffs; standardization; Universal Service; Type Approval; Dispute Resolution; Health and Safety; and ICT Terminology. A first meeting to launch the regional ICT regulatory and policy harmonization initiative was held in Bahrain from 21-22 October 2007.¹¹

ARECEA (COMESA)

ARICEA's main achievements are in the establishment of model guidelines on interconnection, Universal Access and several activities in capacity-building.

ARTAC (ECCAS Countries)

This Association was established in November 2004. One of its objectives is to promote the harmonization of regional legislative and regulatory frameworks and technical standards.

¹¹ The initiative is led by the League of Arab States (LAS) and supported by the ITU and ATRN. It is based on the output of the ICT Formalisation Committee that was established by the Arab Council of ICT Ministers. This initiative was endorsed by the Arab Ministers of ICT in June 2005, and subsequently by the 2006 ITU WTDC.