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**THEME OF THE SUMMIT:  
INFORMATION AND COMMUNICATION TECHNOLOGIES IN AFRICA:  
CHALLENGES AND PROSPECTS FOR DEVELOPMENT**

**EXECUTIVE SUMMARY**

## INFORMATION AND COMMUNICATION TECHNOLOGIES IN AFRICA CHALLENGES AND PROSPECTS FOR DEVELOPMENT

### EXECUTIVE SUMMARY

#### 1. ABSTRACT

1. Information and Communication Technologies (ICTs) are a vehicle of progress and social-economic development. They facilitate access to and circulation of knowledge, foster people's creativity, and provide a platform to implement change across societies. For Africa, ICTs hold the promise of improved lives, enhanced knowledge and creativity, cultural vitality, economic competitiveness, as well as accomplishing a central aspect of the integration of Africa. Simultaneously, against the backdrop of continued technological advances and the world pressing on, ICTs entails the danger of greater inequality if some regions and people are left behind.

2. This Executive summary presents the key findings and recommendations from research undertaken in preparation of the 14th Assembly of Heads of State and Government of the African Union, on the theme "***Information and Communication Technologies in Africa: Challenges and Prospects for Development***". Consideration of the status and challenges of ICT in the continent is expected to reinforce member states' cooperation strategy and commitment to build an African Information Society capable of embracing and delivering the benefits of new ICTs to all Africans.

3. Investment in ICT and facilitation of massive penetration of ICT in Africa are bound to provide a greater return. A World Bank study has suggested that 10 percent increase in mobile phone adoption in developing countries increases growth in GDP by 0.81 percent per person and even more in the case of broadband Internet. The study also suggests that ICT's growth effects in developing economies are higher than those in developed ones.

4. Africa is showing progress on the adoption of ICTs in the 2000s. The Mobile telephone is the quintessential African ICT success. By-passing the fixed line telephone generation, Africa is adopting mobile phone subscriptions at a breathtaking pace. Subscriptions for mobile phones have increased in Africa from 138 million in 2005 to 370 in 2008. The penetration rate for mobile phones has increased from 15.6 per hundred inhabitants to 39 in the same time. Between African regions and countries there are large differences however.

5. Africa is struggling to reach the Internet Age. According to the International Telecommunications Union (ITU) and the Organization for Economic Co-operation and Development (OECD), only about 5% of African population used Internet in 2005-2007, compared with over 20% of population in Latin American and Caribbean, as well as in East Asia and Pacific. More alarmingly, Africa, the poorest region in the world, has the most expensive Internet prices currently. According to ITU, the average monthly Internet subscription was

almost USD 50 in Africa in 2007, close to 70 per cent of average per capita income. Slow uptake of Internet in Africa is a result of inadequate continental ICT infrastructure, leading to poor services and high prices.

6. Africa also continues to be confined to only being a user of ICTs, demonstrating little or no capacity to create, innovate, or manufacture new ICTs. In 2007, Africa accounted for 2.3% of researchers of the world, and the continent invested little in research and development. Most if not all ICT equipment is imported. Lack of skilled work force and professionals hamper attempts to promote computer literacy among the poor, creation of African contents for the Internet, not to mention the creation of African ICT industries.

7. The risk of falling behind is compounded and pronounced by competition between other regions and the rapid development of new technologies.

8. To overcome these and other challenges detailed in the background studies, the studies recommend that Africa, in order to accelerate and increase its efforts in the use of ICTs, the following key areas of focus must be addressed:

- Enabling environment (better regulations and coordination, including cyber security);
- Finance (ICT Fund, coordination between ministries of Finance and ministries of ICTs);
- Infrastructure (accelerate and increase backbone building);
- Capacity building (increase Research and Development and education);
- Internet relevance (creation of African content).

## 2. INTRODUCTION

9. Challenges in Africa were recognized early. The United Nations Economic Commission for Africa (UNECA) launched the African Information Society Initiative (AISI) in 1996. It has since evolved as an important African framework for the advancement of information society followed by the National Information and Communication Infrastructure (NICI).

10. In addition, over the past decade, significant progress has been made in terms of developing a common understanding and frameworks of enabling environment for ICTs in Africa acknowledging that Africa needs to act fast and in a concerted manner. This is evidenced by the following few examples:

- African Regional Action Plan on the Knowledge Economy (ARAPKE) is a reflection of leaders of African Union Member States together with some strategic continental and international partners to define African framework to knowledge economy. ARAPKE was endorsed by the African Union Ministers in charge of Communication and Information Technology Conference (CITMC) and by the Executive Council Decision EXCL/434(XII), 2008.

- Connect Africa which was launched at a Summit of African Leaders in Kigali, in October 2007. The Summit defined five global and comprehensive objectives to be achieved at the African continent level.
- Harmonization of Telecom/ICT and Postal policies and regulatory Reference framework in Africa which was adopted by the Conference of Ministers in charge of ICTs (CITMC) and by the Executive Council Decision EXCL/434(XII), 2008. Also Harmonization of ICT Policies in Sub-Sahara Africa (HIPSSA) which was launched in December 2008 as 3-year project and the Programme for Infrastructure Development in Africa (PIDA).

11. Despite these impressive efforts, a lot of challenges still remain, in terms of implementation, disparities between and within countries, regions, in terms of lack of infrastructures, prohibitively high tariffs, and limited computer literacy. In terms of access; Africa with a 15% share of world population, counts today 2.5% of world internet subscribers and less than 1% broadband subscribers respectively.

12. The political, social and economical landscape in Africa is changing rapidly and generally for the better even if the challenges are still hindering the cycle in many countries. It is the development process and its progress that should make us focus on the larger pictures and copious trends instead of the predicaments no matter how overwhelming they may appear.

### 3. STOCKTAKING

13. In this chapter the study highlighted the Impact of ICT in economic growth and the role it can play in achieving the Millennium Development Goals (MDGs) and sustainable development in Africa. Furthermore its role as a key for African integration and inclusion in the global Knowledge Economy was examined.

#### 3.1 ICT and Economic and Social Development in Africa

14. The use of ICT as a tool for economic growth and poverty reduction is a *multidimensional challenge* that includes socio-economic, political, institutional, and technical aspects. Efforts to promote ICT development and expand effective access in Africa have met limited success to date. Progress in addressing key bottlenecks, infrastructure, access and the enabling environment will be determinants in ensuring that the digital divide is bridged, and that ICT can play a supportive role in Africa's economic, social and political development.

15. ICT's contribution to economic competitiveness and growth is one of its most expected and obvious outcome. ICT is an important sector on its own, attracting considerable share of

investments, producing jobs, and increasing gross domestic product (GDP). For many African governments, ICT is also an important source of tax revenue.<sup>1</sup>

16. Although economics of ICTs are important, its nature and impact extend beyond the economic domain. As a cross cutting and pervasive general-purpose technology, ICT stands to shape very broad range of human activities, ranging from social relations within family, to civil society, government services, catastrophe readiness, functioning of markets, and innovation, efficiency and productivity in manufacturing and business. Moreover, aggregate measures of ICT's impact on economic growth often fail to account for its adequate effect on income and wealth distribution.

17. Widely referred 2009 study by the World Bank has suggested that 10 percent units increase in mobile phone adoption in developing countries increases growth in GDP per person 0.81 percentage units. Its full figures are given in **figure1**.

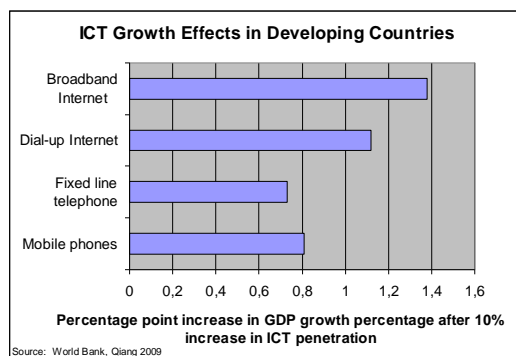


Figure 1. ICT Growth Effects in Developing Countries

18. The World Bank analysis has also highlighted differences between major ICT technologies, underscoring the importance of broadband Internet. Based on an analysis of 120 countries, it has argued that for every 10-percentage-point increase in the penetration of broadband services, there is an increase in economic growth of 1.3 percentage points. This growth effect of broadband is significant and stronger in developing countries than in developed economies, and it is higher than that of telephone and Internet. Building on network effects, the impact can be greater when penetration rates surpass critical thresholds.<sup>2</sup>

<sup>1</sup> OECD, *Africa Economic Outlook 2009*, 98-101.

<sup>2</sup> Christine Ahen-Wei Qiang and Carlo M. Rossotto with Kaoru Kimura, "Economic Impacts of Broadband," In World Bank, *Information and Communications for Development 2009: Extending Reach and Increasing Impact*. World Bank Publications, 2009, 35- 50.

19. These studies, which build upon a strand of investigation on the relationship between ICT and economic growth, reinforce the critical role played by ICTs for developing countries. Facilitation of massive penetration of mobile telephone, Internet, and other ICT services is an important and integral part of continental and national development and competitiveness in Africa.

20. Meeting the MDGs makes enormous difference for the vast majority of Africans. The objectives of poverty alleviation, as well as socially and environmentally sustainable development form also a central part of the agenda for ICT. In order to harness ICT for sound economic and social policies, continental and national ICT strategies must be integrated into broader policy agendas and coordinated with different policy sectors, most notably Poverty Reduction Strategy Programmes (PRSP).

21. Affordability offers one of the most generic perspectives to analyze how ICT is meeting the challenges of development. Falling prices on products and services is key for delivering ICT products and services to low-income people. Affordability is also a centre piece of policy strategies advancing mass penetration of ICTs throughout African societies, especially in rural local communities and urban poor.

22. Facilitated by enhanced mobile telecommunication infrastructure and affordable handsets and services, subscriptions for new mobile phones have increased in Africa dramatically. The total cost of owning a mobile phone (TCO), defined as how much of a consumer's income is required to enable them to be connected, is a good indicator revealing how the affordability of mobile telephone has developed. The emerging market TCO average, based upon the study of 77 countries, has dropped between 2005 and 2008 almost by 20 percent, from 13.15 US dollars to 10.88 dollars.<sup>3</sup>

23. Handsets account on average for 7 percent of TCO, whereas service fees account for about 79 and taxes 14 percent. Recently, the share of handsets has been halved, putting more emphasis on services and taxes. On average, handset costs account for seven percent of the TCO, service fees for 79 percent and taxes 14 percent, with recent developments seeing the handset component dropping by 49 percent. The largest component of TCO, the service fee, has also declined by 13 percent between 2007 to 2008.<sup>4</sup>

24. Affordability of ICT is a central vehicle for delivering on promises of improved economic and social development. The African experience has demonstrated that affordable telecommunications can be provided to people with limited income. Nevertheless, affordability,

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<sup>3</sup> Nokia TCO summary. Quote.

<sup>4</sup> Nokia TCO summary. Quote.

due to its significant lever on development, should also be emphasized and supported in public policies on ICT.

25. Another important aspect of innovation runs in government services, education and health, where ICT leverages the delivery of critical services on a massive scale. Open source programs and software platforms have brought advanced computing to many users, especially virtual learning environments to schools, higher education institutions, as well as community training centers.

26. ICT has a major contribution to bring in accelerating African integration both at internal and international levels. It stands to provide concrete means for the physical, social and political integration of Africa. Interconnected Africa embodied in high quality information and communication infrastructure and affordable access will provide real-time borderless interaction between people, businesses and governments. Communication bridges between African nations and its people and between Africa and the rest of the world is indeed probably the most powerful vehicle towards a stronger and unified Africa.

### **3.2 *ICT as a key for African integration and inclusion in the global Knowledge Economy***

27. To achieve this political goal, African countries have furthermore a strategic and economic interest to collaborate at regional and continental levels. Collaboration is indeed necessary to minimize costs in rolling-out large scale ICT infrastructures and related services on the continent, achieving economies of scale, promoting sound interconnection and interoperability plans as well as integrated regional markets instead of fragmented national ones. This is in particular the rationale and need for further regional regulatory integration in order to attract investments, facilitate cross-border interactions, market enlargement and harmonization of policies. Cooperation at regional and continental level is also very important to consolidate African positions in global ICT and other decision-making fora, including the Internet Governance Forum, to better coordinate and promote African interests regarding global issues such as access, security, critical internet resources and open governance.

## **4. ICT IN AFRICA**

28. The ICT infrastructure, enabling environment for ICT growth, Africa in the economics of internet, and Capacity Building, Research and Development was discussed as the main areas of focus to enable Africa harness the ICTs for its social economic growth and sustainable development.

## 4.1 Infrastructure

29. Infrastructure is the critical bottleneck arresting the development of African Information Society. Investments in and advancement of ICT infrastructure is a precondition for delivering on the expectations of knowledge based economy in Africa and advancing massive penetration of ICT on all levels of African society. Its advancement must be in tandem with the establishment of modern and well-functioning enabling environment that fosters investments, entrepreneurship and innovation.

30. There is a broad consensus about the need for Pan-African and regional cooperation in building ICT infrastructure, and this manifests in several important high-level political decisions, as well as in the cooperation of the strategic international organizations. The following provides a snap-shot of the most important ICT developments in Africa.

### 4.1.1 Internet Infrastructure

31. The Internet establishes the critical infrastructure for Information Society, and as such has wide encompassing impact on African development. On its own right, well-functioning, high-quality Internet infrastructure stands to make valuable contribution to integration of Africa.

32. The high cost of Internet connectivity in Africa is a result of limited and scarcity of international Internet fibre optic bandwidth, lack of Internet Exchange Points (IXPs) and other continental terrestrial network infrastructure, accompanied with the need for enhanced policy and regulatory environment. Poor connectivity makes Internet unaffordable to the vast majority of Africans.

33. The African telecommunication status, and more importantly its future, can only change if a major effort is undertaken to develop a robust continental fibre optic backbone that interconnects Africa and the rest of the world via current and planned submarine fibre optic cables. Most of the work on fibre-optic links in Africa has been conducted without a wider view of how these links will come together to form an Africa wide network. We need to identify and develop a "big picture" of the African IT transport network to which national and regional networks will be connected; ITU has estimated that around 92,000 kilometres of fibre link is needed.

34. Reflecting the high political priority given to Internet infrastructure, it figures importantly in the African Regional Action Plan on the Knowledge Economy (ARAPKE). Among its flagship projects are important projects advancing the infrastructure for Internet in Africa:

- ❑ **The ICT Broadband Network Infrastructure Programme.** Implemented as the NEPAD ICT Broadband Infrastructure programme.
- ❑ **The African Internet Exchange System**



35. *The NEPAD ICT Broadband Infrastructure programme* aims to connect all African countries to each other and, in turn, to the rest of the world through broadband fibre-optic submarine cables. A broadband network that links all African countries will provide abundant bandwidth, easier connectivity and reduced costs. It will help to integrate the continent by facilitating trade, social, and cultural exchange between countries. The programme has two major parts: Uhurunet, the submarine cable system with potential to connect every coastal and island country in Africa, and to Europe, Middle East and India, and: Umojanet, the Terrestrial Network for inter countries and regional connectivity. It seeks to reduce Africa's dependence on expensive satellite services by connecting all Africa countries to one another through broadband connections.

36. *The ARAPKE Flagship Project on the African Internet Exchange System* aims to facilitate the establishment of a truly African internet infrastructure through the deployment of local Internet Exchange Points and regional internet hubs. Such deployments are indeed crucial for the development of Internet in Africa, generating huge cost savings by keeping local traffic local, regional traffic regional and offering better quality of service and new applications opportunities. The project has been identified as an early deliverable of the Africa-EU Partnership on Science, Information Society and Space.

37. *Connect Africa* is a global multi-stakeholder partnership to mobilize the human, financial and technical resources required to bridge major gaps in ICT infrastructure across the region, with the aim of supporting affordable connectivity and applications and services to stimulate economic growth, employment and development throughout Africa. Two of the goals specified at the Summit of Leaders in Kigali in 2007 has a direct link to the Internet infrastructure by interconnecting all African capitals and major cities with ICT broadband infrastructure and strengthen connectivity to the rest of the world by 2012, and by connecting African villages to broadband ICT services by 2015 and implement shared access initiatives such as community tele-centres and village phones.

38. The current overall picture of backbone connectivity in Africa:

- East Africa Submarine Cable System (EASSy) that plans to connect 21 countries from South Africa to Sudan by 2009 and 2010. Its estimated length is 10,000 km and cost about USD 263 million.
- The East African Marine System (TEAMS) has been launched. TEAMS begin operations in Kenya in the second trimester of 2009 with an open access policy. TEAMS, has contracted Alcatel-Lucent for 4500km, USD 82 million cables
- SEACOM connects Eastern Africa with Europe and India and has about 17000km length and cost estimated at USD 650 million
- In terms of regional backbone networks in East and Southern Africa, the World Bank is dedicating USD 424 million to this region, under the Regional Communications Infrastructure Program (RCIP).

#### 4.1.2 Fixed line and mobile telephone

39. The African telephone network is characterized by quickly increasing mobile telephone penetration, making the digital cell phone as the mass ICT technology of choice for Africa. Whereas the fixed line telephone penetration has never actually reached internationally comparative levels, new users and networks are in rule, all mobile. In terms of entering mass penetration of telephone, Africa is basically by-passing the fixed-line telephone technology generation and will do so in the age of mobile cellular telephone.

40. As the fastest growing mobile telephone market in the world, there is considerable private interest in Africa. Therefore, private sector investments in infrastructure have been markedly higher than in other infrastructure sectors in Africa.

#### 4.1.3 Satellite Networks

41. In 2003 the satellite coverage of African continent was characterized by: Transponders usage is in the order of 500 of which 50% is used in the Sub-Saharan region:

- ❑ Around 50 satellites cover partially the African continent and carry about 800 transponders;
- ❑ The 500 booked transponders has a wholesale capacity market of about USD 600/700 million a year;
- ❑ 80% of voice and data traffic in Africa is carried by satellite.

42. RASCOM, a major Telecommunication project, its network provides direct connectivity between all African countries and connectivity with each African country through this Pan African satellite system. The RASCOM 1 satellite system was launched in December 2007.

#### 4.1.4 Broadcasting sector

43. Broadcasting in African countries is characterized by different structures and predominantly state broadcasting, with no public common carrier signal distribution operator and few or no community broadcasting system. The systems differ from state to state given the specific contexts.

44. With the advent of the liberalization of the airwaves, a number of processes have been devised into motion by different member states to re-regulate the broadcasting system, introduce new broadcasting players and place the regulation of the broadcasting system into the hands of an independent broadcasting regulatory authority.

45. In broadcasting, the major infrastructure challenge is the transition from analogue to digital broadcasting service. In 2006, the International Telecommunication Union resolved that all countries in ITU Region 1 should transit from analogue to digital broadcasting services by 17<sup>th</sup> June 2015. After this date, analogue broadcasting services will not be protected from

interferences. For some countries, mainly in Africa, the deadline for the transition to digital broadcasting in VHF Band III was set as 17<sup>th</sup> June 2020.

#### **4.1.5 Postal sector**

46. There is a need to improve national postal policies taking into account strategic orientation and action adopted at the 2<sup>nd</sup> Conference of Ministers of Communications and Information Technology. The Conference also decided that more resources and financial support should be allocated to the Postal sector. There is need to develop modern ICT infrastructure to support postal services.

47. The African postal territory is characterized by a significant physical network deficit, as compared to the world average. One postal outlet in Africa on the average serves 20,000 to 55,470 inhabitants while the world average is 10,131. Home mail delivery covers only 23% of the African population against 81 % in Latin America and the Caribbean, 94 % in Asia and 95 % in the industrialized countries.

48. Several projects have been initiated by the stakeholders in CIT development in Africa in order to accelerate modernization of facilities, upgrade service quality, develop the human capital and enhance customer satisfaction. They include the following:

49. On-going Action plan for the development of postal sector in Africa was adopted by the Second CITMC and endorsed by Decision 434/EX.CL (XIII) of the Executive Council of the African Union at its 13th ordinary session. Regional Development Plan based on the following identified priority areas for Africa:

- Reform of the postal sector;
- Harmonization of postal policies and regulations for the sustainable development of the sector;
- Improvement of quality of service and development of electronic and financial network and diversification of products and services;
- Development of human resources;

50. The major ongoing initiatives are Regional Development Plan e-Post Project, International Express Money Order Project developed and African Institute for Remittances (AIR).

#### **4.2 Enabling environment for ICT growth**

51. The existence of appropriate policy and regulatory framework is a vital factor for attracting private investors. This is a priority in the context of the multi-form and multi-player interventions in the sector. Currently, it is observed that, in the absence of appropriate policy frameworks at national and regional levels, different stakeholders often engage in diverse actions for the same beneficiaries and in pursuance of the same objectives, a situation that

does not ensure effectiveness and efficacy of collective effort and sustainability of achievements. Realizing that:

- At the **Member State** levels, restructuring policies were implemented in many countries often with the assistance of international partners
- At the **Regional level**, the establishment of regional ICT associations have also focused attention on development of policy and regulatory frameworks for Africa.
- At the **continental** level, establishment of the Conference of African Union Ministers In charge of Communication and Information Technologies; the AU reference framework for harmonization of telecommunication and ICT policies was developed.

52. Despite the efforts done in all the above mentioned levels more still need to be done in the policies and legislations areas such as Convergence policy; Spectrum Management and other Requirements; Innovative universal access policy and regulatory frameworks; Integrated e-strategies; Cyber security; relevant and valuable ICT applications, services content; Postal sector, and etc.

### **4.3 Capacity Building, Research and Development**

53. ICT capacity building in Africa has been carried out as national, regional, or/and international programs, with various levels of resources and success. A key factor determining the success of capacity building programs is the existence of a right policy environment in which to develop and build capacity. In this regard, African countries have had varying degrees of success, in view of the fact that they are at various stages of developing national ICT policies, including policies that support capacity building.

54. Education and research and development in the public and private sector are a foundation for mass adoption of ICTs, as well as the creation of African content, technology and business in ICT. For ICT to play an important role for the development of Africa, it is critical that Africa develops an adequate ICT research and development (R&D) capacity.

55. Human resources development is another critical component of ICT capacity-building efforts in Africa. Indeed, the main reason why Africa lags behind other parts of the world in ICT development is the dearth of qualified ICT personnel at all levels, from poor rural users to secretarial services, to software development, and to professional ICT services. Several African countries and international organizations have undertaken to provide ICT training and education, raising computer literacy among the poor and building centers of excellence in higher education and research. Yet, against the growing population, these efforts must be stepped up to secure that ICT makes contribution to all Africans.

56. Capacity building and R&D in ICT is critical for African ability to uptake new technologies and make them work, as well as for harnessing African creativity for innovation and entrepreneurship. Skilled work force and high rate of computer literacy of the population are also essential for the integration of Africa into the global Knowledge Economy. ICT

development should be looked at in the context of science and technology (S&T) development in Africa, and specifically, the need to address S&T in a holistic manner.

#### **4.4 Africa in the economics of the internet**

57. Spearheaded by the on-going march of Internet, the digital economy is catching momentum worldwide. Conversion of all kinds of business processes, as well as much of the commerce in goods and services into digital processes is transforming the economics and economic behaviour of people and organizations. It has also given rise to a wave of innovation, entrepreneurship, new industries, as well as lowered costs and increased availability of all kinds of goods and services. Challenged in ICT infrastructure, enabling environment, and capacity building and R & D, Africa is at risk of not being integrated into the emerging global digital economy.

58. One example of the digital economy is the rise of Creative Industries, comprising such areas as music, film, literature, and design, easy to trade in Internet. UNCTAD has estimated that creative industries export trade showed impressive annual growth of 8.7 percent between 2000 and 2005, totalling 3.4 percent of the world export trade in 2005. From this, Africa captured only 1 percent.

59. Economics of Internet is based on the ability to dramatically lower marginal costs through digitalization, allowing increased production with minimal costs. Thus, Internet, and more accurately ICT, creates unprecedented economies of scale where it can be applied to modernize old ways of doing things, such as delivery of health and education services, government services, administration, not to mention commercial activities such as music distribution, finance, sales, communication, business processes, engineering and so forth.

60. With the world forging ahead with digital economy, African cannot afford not to increase its readiness to be integrated in the global Knowledge Economy.

### **5. Recommendation**

61. The study highlighted a number of challenges that need to be tackled by Africa at the national, regional and continental levels in order to tack its position in the global information society. Among these challenges are: 1) In the infrastructure part, the need of a continental backbone which includes but not limited to: internet fibre optic bandwidth, Internet Exchange Points (IXPs), and continental terrestrial network infrastructure 92,000 kilometres is needed, transition from analogue to digital broadcasting, Reform of the postal sector; 2) In the enabling environment the need to develop policies and legislations that cover: Convergence policy; Spectrum Management and Requirements; Innovative universal access policy and regulatory frameworks; Integrated e-strategies; Cyber security; relevant and valuable ICT applications, services content; and etc; 3) Capacity building and R&D: dearth of qualified ICT personnel at all levels' lack of resources allocated for research and innovation in general and specially for those allocated to ICT sector; and 4) Africa in the economics of internet: Affordability, local content, surface charge, applications, Country Code Top Level Domains and others.

62. For Africa to have its position in the global information society and to bridge the gap with the developed world, the study draws a considerable number of recommendations surmised hereafter:

1. Establishment of appropriate institutional arrangements and mechanisms to interconnect ICT backbones including national and regional Internet Exchange Points within Africa and the rest of the world with objective of lowering the tariffs and providing better quality of service;
2. Promote the use of Country Code Top Level Domains (ccTLDs) as they are a critical national resource whilst ensuring that the technical and administrative operations are at international standards to foster trust and use of African Domain Names in order to bring financial, economic and social-cultural benefits to Africa;
3. Facilitate the evidence based policy formulation, peer review evaluation and ensure better utilization of the resources for the development of the sector;
4. Identify innovative funding mechanisms to enable Member States to contribute to the African Union Communication and Information Technologies Fund in order to accelerate the implementation of the ICT related flagship projects;
5. Promote regional integration through the development and implementation of harmonized regional, continental policies and conducive regulatory frameworks for affordable and reliable broadband infrastructure development and private sector investment;
6. Protect African geographic and heritage names, traditional knowledge, and traditional cultural expressions which are recognized as economic assets in the information society;
7. ICT policies are mainstreamed in other sectors at national, regional and continental levels and also that member states inject ICT in their poverty alleviation policies;
8. Promote a massive penetration and use of ICTs into local communities using African languages including codification programs to fit into IT standards, and encourage the development of African Content-based applications to give them a rightful place in the information society; and
9. Develop common definitions, understanding, concepts and guidelines on open access, in coordination with relevant stakeholders.

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# Theme of the summit: information and communication technologies in Africa: challenges and prospects for development executive summary.

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