



## **Towards a Road Map for Information and Communications Technology Development in Africa**

When all is said and done, there are basic facts that constitute Africa's development challenges, the analysis and resolution of which will form the basis of a comprehensive strategic response. Such response must aim at transforming, once and for all, African life and condition to a respectable quality and level, one which Africans themselves can be satisfied with, if not proud of. Amongst these are:

1. The African condition, in the perception of Africans themselves, leaves a lot to be desired.
2. No matter how we got here, Africans are poised to take full responsibility for transforming that condition through a comprehensive self-development effort for the long-term. Recent developments demonstrate the determination of Africa's leaders to

take command of the continent's destiny, and to shape it for a better tomorrow. The essence of that commitment is unequivocal in the New Partnership for Africa's Development (NEPAD), and enshrined in the vision of the African Union.

3. Africa's friends, as much in international organisations and the development community as in the private sector and civil society, have also declared their commitment to partner with Africa in this process, for mutual benefit, and the benefit of all.
4. The United Nations system, through the Millennium Development Goals and the various United Nations initiatives for Africa, is doubling its efforts in support of Africa's development. This is a major part of the commitment of Secretary-General Kofi Annan. The commitment of the United Nations to the implementation of NEPAD, especially to NEPAD's ICT initiatives under its eAfrica Commission, is an important aspect of this.
5. Specifically, the creation of the United Nations ICT Task Force in the aftermath of the Millennium Summit, as a vehicle for mobilising all parties and resources in support of ICT development to serve as a catalyst to drive the Millennium Development Goals, holds much promise in this pursuit. The commitment of the Task Force to ICT development in Africa, within its overall programme, as evidenced by this book and its various initiatives listed in Appendix I, holds much promise in this regard.
6. The success of this global partnership for Africa's development is only possible, however, if Africans take charge of masterminding the strategies for such a massive effort, and direct the process. It is then, and only then, and only in such a context, that support and assistance can be best received and most effective in its deployment.
7. Internally, Africa cannot effectively embark on such a mission without the complete buy-in and full and active participation of its people, working hand in hand with the leaders in a fully symbiotic enterprise for Africa's future. The African people themselves are ready to play their part. Some have already been doing so and continue to do so whenever, wherever and however they

can. Pooling these efforts in some loose comprehensive set of strategies and initiatives, which reduce the waste of precious resources without stunting creative scope, freedom and ingenuity, is the challenge.

8. Given such a conducive environment, Africa's already quite vast existing expertise can be mobilised quite quickly to create initial results substantial enough to propel the process and provide the reinforcement of the recognition of accomplishments to sustain the effort. In this regard, Africans at home and abroad are forming various national, regional, trade and professional organisations and societies to address various development challenges. The deliberate and active interest in these initiatives by Africa's leadership (and, for that matter, Africa's development partners) would go a long way to reinforce the determination of these mostly young Africans to assume primary responsibility for achieving a goal we all share.
9. Information and communications technologies, in their versatility, offer major capacities to jumpstart and drive this process of self-development, penetrating even the far-flung and outer reaches of the continent, delivering resources as well as acquiring innovations for redistribution to other parts of Africa and the global community and market.
10. Here, in particular, Africans, individually and in corporate, social and professional groupings, are moving ahead to do what they can with their own limited resources. In many cases, they start their own initiatives and then challenge their leaders to give them a chance to address some of the major ICT challenges.

### **Some Notable Initiatives**

In all of this, there have been many initiatives on ICT for African development, which are noteworthy by virtue of the initiative, determination,

commitment and courage of those who have led them. Here are a few examples.

### The Internet Initiative for Africa (IIA) of UNDP

In 1997, when the idea of the Internet was still essentially a remote speculation for much of Africa, the Regional Bureau for Africa of the United Nations Development Programme, under the Directorship of Ms. Ellen Sirleaf Johnson, undertook to promote its introduction to Africa. The Internet Initiative for Africa, or IIA, was created by the then Chief Economist of the Bureau, Dr. John Ohiorhenuan, and Richard Kerby, who was in charge of information systems at the Bureau, with the collaboration of African ICT experts outside the UN system.

IIA consisted of two basic components: the promotion of official receptivity to the introduction of the Internet on the part of African governments, and facilitating the building of Internet nodes in countries that did not have one or needed to reinforce what existed.

To advance the objectives of the IIA, the Regional Bureau sponsored a group of African and non-African experts who criss-crossed the African continent, holding public seminars that brought together government officials (including Ministers and Directors), ICT entrepreneurs and a handful of representatives of the global industry to promote the benefits of the Internet. Of particular importance to the team was the need to persuade African governments that the benefits of an exponential jump in the access to knowledge and information by the people far outweighed any anxiety they may have that such access would undermine their authority. This perception of the Internet as a potential tool for “sabotage” was a very serious obstacle to official receptivity to its introduction.

This group of what one might call “the Internet Troubadours for Africa”, consisted of Richard Kerby, of UNDP, who was the project officer and leader, Dr. Joseph Okpaku, Sr. of Telecom Africa Corporation, Professor Raymond Akwule of George Mason University, Ms. Amma Annan, then at AT&T, Diane Tyson, also of AT&T, Charles Coupet, then

of Oracle (now with Microsoft), Roxanne McElvane of the U.S. Federal Communications Commission (FCC), Pierre Dandjinou of UNDP, Sarah Tesfaye, a private consultant, B. K. Njie, then Managing Director of Gamtel, Gambia's PTT, now Secretary (Minister) for Communications and Technology, and Ebrima Ceesay, then Secretary (Minister) for Communications of Gambia.

From these and other forums, a camaraderie developed between African ICT experts and African Ministers of Information and Communications. This, in turn, resulted in an African public-private partnership in ICT that has contributed in no small measure to the united focus and activism of Africans in the sector.

In material terms, in pursuit of the second objective of the Internet Initiative for Africa, UNDP provided matching funds of up to half a million US dollars each for any African country wanting to set up an Internet node. Some eight countries took advantage of this offer. The IIA ran parallel to the Leyland Initiative of the US Agency for International Development (USAID), which also helped to finance the establishment of Internet nodes in Africa. The latter initiative was named after the U.S. statesman, Mickey Leland, who died while on a visit to Africa. Both programmes coordinated their selection of countries to fund so as to avoid duplication and allow maximum spread.

### **The African Advisory Group on ICT (AAG-ICT)**

One of the most important outgrowths of this symbiotic relationship between African Ministers of Information and Communications and African ICT experts has been the formation of the African Advisory Group on ICT (AAG-ICT), under the auspices of the Ministerial Oversight Committee of the African Connection. Created and primarily sponsored by the Minister of Communications of South Africa, Dr. Ivy Matsepe-Casaburri, the African Advisory Group, as described in the introduction to this volume, consists of a dozen African ICT experts from around the world, who meet on an average of twice yearly for a day or two to provide high-level strategic advice to African Ministers on

matters of policy, strategy and indigenous capacity building. The chief executives of the African Telecommunications Union (which succeeded the Pan-African Telecommunications Union) and the African Connection are also members of the AAG. The effectiveness of the AAG comes also from the fact that its membership, which is based on personal recognition, represents the key areas of ICT.

### African Private Sector Initiatives

Amongst African communities and professional groups abroad, in individual countries in Africa, and in various communities within these countries, many similar efforts with varying resources have mushroomed to promote and provide ICT services for development. Some of these have been covered in individual chapters in this volume. These in-Africa and Diaspora initiatives hold a significant promise in capacity building and innovation in deploying ICT for African development. The Task Force recognised this potential in promoting the Digital Diaspora Network for Africa (DDN-A), discussed in full in Chapter Twelve.

### NITPA

A good example of such groups is the Nigerian Information Technology Professionals Association, or NITPA. This is an association of Nigerian high-level ICT experts and entrepreneurs around the world, primarily in the United States, who are pooling their knowledge and resources to directly intervene in building Nigeria's ICT capacity, as well as supporting access to ICT resources, especially by Nigerian children. NITPA's activities include networking, advocacy to help shape government ICT policy through the infusion of ideas, the promotion of entrepreneurial, consulting and investment opportunities, education, mentorship and the collection and donation of computers and other tools to Nigerian schools and school children. NITPA maintains a website: [www.Nitpa.org](http://www.Nitpa.org).

## **AFCOM and the African Telecom Summit**

A major platform for the promotion of ICT in Africa has been conferences, workshops, seminars and other forums, which bring the African public and private sectors as well as civil society and their global counterparts together, to dialogue on policy, strategy, markets and capacity building. Two of the most prominent of these are AFCOM (<http://www.afcomnet.com>) and the African Telecom Summit ([cordinat@ghana.com](mailto:cordinat@ghana.com)). By virtue of the African public-private synergy in the ICT sector discussed earlier, African Ministers of Communications and African ICT experts consider these two annual events a must, unless compelled by extenuating circumstances not to attend. Together with the ITU Telecom Africa Regional Conference, held on an average of every two years, these constitute the main regular forums for public discourse on ICT in Africa.

## **The Road Map**

One cannot presume to provide an overall or commanding agenda for the future of ICT for African development, except to state that the potential of maximum positive impact is high, and the prospects are good. Some suggestion, however, might be of value.

### **Infrastructure and Access**

The combination of inadequate infrastructure and the high cost of building infrastructure remain a major challenge to ICT development in Africa. It is my belief that the only way to meet this challenge is a bold effort at ICT industrialisation. This will not only lower the cost of infrastructure through local manufacturing, but will also create jobs at all levels, promote the birth of support industries, encourage research and development, stimulate academic interest in ICT at all levels, and

encourage innovation and invention. This is the model that China chose, with remarkable success. This approach also enables us to derive multiple benefits from the same investment, by moving the resources through industry and technology to labour and private individual income.

## **Technology**

The issue of appropriate technology has been a feature of much ICT dialogue with respect to Africa and the Developing World in general. The need to modify existing technologies or create new ones to meet the specific circumstances of demand is indisputable. The problem has been that no matter what new technologies have been offered or introduced to Africa, it has always ended up costing Africa the same amount of money for access; approximately one thousand dollars per line. This means that the obvious benefit of new technologies fails to apply when introduced to Africa.

## **Education**

The most conducive environment to the internalisation of new ideas and technologies is the creation of a pervasive knowledge of that technology and its direct implications for the general population. This means that a comprehensive and innovative process needs to be designed for teaching the science and engineering of ICT and its applications at all levels of formal education. This should be backed up by public enlightenment programmes to increase public awareness of ICTs and the benefits they offer to society at large, as well as the potential downside inherent in them.

## **Research and Development and Intellectual Property**

I have made the argument again and again that there can be no meaningful development without the acquisition of cutting edge capacity in science and technology. Such capacity is impossible without a parallel

capacity in Research and Development. This logic holds true more in the field of Information and Communications Technologies than anywhere else, except in the Medical Sciences. To seek to build ICT capacity without a solid foundation of Research and Development is nothing but building skyscrapers in quicksand. Africa and its partners must find the courage to address this fundamental need as a critical *sine qua non* for all we strive to accomplish.

Furthermore, development, especially self-development, is driven inevitably by passion for transformation, intellectual curiosity and the sense of mission that comes from a personal dream and a shared common vision. Unless Africans engage vigorously in the effort to create and own intellectual property from the process of ICT development in the continent, we will never derive a meaningful and sustainable momentum. This will put at risk all efforts made by all of us to bring about an irreversible process of possible change. The fact also that intellectual property is the quintessential asset in our contemporary economy makes the need for African participation in this venture most compelling. In this regard, we must invest in building ICT Research and Development institutions, most desirably under the auspices of the African private sector, in partnership with Government, regional institutions and academic establishments, with the sincere support of a global private sector, which itself stands to gain a lot from this investment. If the global industry has seen sufficient reason to do so in Asia and elsewhere, certainly Africa, with its potential as one of the last frontiers of highest demand for information and communications technologies, makes an even more appealing case. It is also good strategy, because as the synergy between government and the African private sector continues to grow in the sector, the vacuum created by a less than enthusiastic initiative in this area is not unlikely to force its compulsion through more strident policies and regulations.

## Content Development

I believe that there is general agreement today that development of the capacity to create, package and disseminate content based on the

complete spectrum of African knowledge and experience, not only in craft and culture, but in literature, science, technology and medicine, and especially in children's playthings, is a compelling priority in the best interest of all of us. Both the uniqueness of the African experience and the commonality of its human underpinnings constitute a wealth of knowledge and information with great appeal to the general global public, while constituting a source of much needed revenue earnings for Africa and Africans.

### Software Development and Application

ICT technology is driven by software applications. To seek capacity in technology without building corresponding capacity in the development of software and applications is like investing all of one's resources in acquiring a car, with no capacity to purchase the fuel. Africans must rapidly develop this capacity, because it is also the area in which smart people can generate incredible incomes with which to pursue their search for quality of life. Fortunately, there is beginning to be a movement in this regard, such as in the Digital Factory Initiative being undertaken by Sun Microsystems, the Telecom Africa Corporation, and the State of California Technology, Trade & Commerce Agency. The growing number of Africans engaged in software development is also encouraging.

### Policy and Regulation

Smart and innovative policy and regulation is the key to creating an environment conducive to rapid and sustained ICT development in all societies and economies. African countries have embraced this notion with remarkable commitment. Their role, however, is much more than to simply facilitate easy market access for global ICT companies. Rather, its first role is to drive the development of a strong, versatile and flexible local and regional ICT industry, and to ensure maximum services and benefits to the people at very affordable costs. A casual observation would suggest that African regulators understand this dual obligation and are determined to evolve the appropriate strategies for managing this dichotomy.

It is important in this regard to raise a warning flag about some of the policies and procedures, which appear to have been foisted on African regulators through well intentioned, but misguided consultant advice, especially in the process of liberalisation and privatisation of networks in Africa. In almost every case, the conditions, which African regulators are advised to impose on the process, by the very nature of being conditions which Africans cannot meet, only serve to exclude them from the only opportunities they would otherwise have to meaningfully engage in building African capacity and participation.

### **Market Access: Capacity Building for Global Competitiveness**

Building capacity is of little value without the opportunity to produce ideas, goods and services from it. Similarly, producing ideas, goods and services is of little value without access to the broadest possible market. This is not just a matter of extreme importance to Africa, but should concern those in the public and private sector of the global industry as well. It is a basic assumption in free-market economies that market access must be free and mutual, however asymmetrical the capacity might be. The extent to which industry players themselves intervene in their own markets to create room for Africa's ICT ideas, products and services, to that extent will the common interests of the partnership be protected and sustained. The growing frustration of Africans in this regard, as articulated in the various debates at the World Trade Organisation, for example, is a warning sign, which the global ICT industry must take seriously and preemptively.

### **Regional Cooperation**

The compelling benefits of cooperation amongst African countries and players are self-evident and increasingly recognised. This is not only because of the benefits of the economies of scale inherent in such collaboration, but also in the need to integrate the region for the common good, and for better global competitiveness. The very essence of Information and Communications Technologies, especially its ability

to deliver products and services clear across the world in infinitesimal time, makes this eminently feasible.

## Global Partnership and Cooperation

The global component of such partnership not only promises benefits to all parties while supporting Africa's transformation, but also goes a long way to making the world a better and happier place for all of us. The very vision of the UN ICT Task Force and the *raison d'être* of this entire volume is a testament to that.

## Tensions and their Remedies: New Ideas for New Circumstances

In all serious efforts to bring about change, the presence of tension is inevitable. In some manner, they are important because it is in their resolution that we evolve new ideas to better address the dynamics of our new circumstances. While it might appear easier to ignore these tensions or pretend they do not exist, in deference to protocol or decorum, ignoring them allows them to fester, transforming what might have been resolved in friendly and enjoyable, even if animated discourse, into subterranean animosities, which inhibit the very definition and admission of problems begging to be solved. In order to succeed at the massive undertaking at promoting ICT for Africa's development, candour will be important in the dialogue. We will, for example, have to understand the anxieties of the African private sector, that the very thrust of the global private-African public partnership could serve to undermine them if not properly managed. This would have to be addressed.

## The Future

Against this background and looking into the future, one cannot but see the tremendous possibilities that a comprehensive global partnership in support of an African-owned and defined strategy for the acquisition of Information and Communications Technologies and their deployment

for African development promises an exciting process, which would enrich all. Africans are prepared to play their role. African leaders have declared, through the vision of the African Union and the instrument of NEPAD, that they are also ready to go. The global partnership for development has also declared its commitment and preparedness. What it takes to make a difference in ICT covers the entire spectrum of resource levels. There is always something to do with whatever one has to give, whether conceptually, materially or in kind. The African train is ready to leave the station. Our challenge is to respond to the conductor's clarion call, "All onboard!"