



— AFRICA —  
**INTERNET**  
— SUMMIT'15 —

## How to foster Broadband Internet Development in Africa?

By

**Mongi Marzoug**

June 5<sup>th</sup>, 2015



*Beyond connection: Internetworking for African Development*

# How to foster Broadband Internet Development in Africa?

M. Marzoug,  
VP Internet Governance and Digital Development

- ❖ Broadband Internet: what is at stakes?
- ❖ Internet connectivity in Africa: Where are we today ?
- ❖ A few examples of recent reflections and publications
- ❖ An illustration: BB Commission for Digital Development Recommendations
- ❖ A Digital Policy implementing an appropriate ICT regulatory framework
- ❖ A Digital Policy fostering Broadband Investment
- ❖ A Digital Policy inducing affordable BB Internet
- ❖ Cost-effective solutions for BB deployment
- ❖ To boost the Development of Content and Usage

## Broadband Internet: what is at stakes?

- ❖ The **Digital transformation of the Society** (Government, Citizens and Business) represents an essential engine for social development, economic growth and jobs creation.
- ❖ **ICT applications bring benefits in all aspects of life** (see for instance *WSIS Tunis Agenda* themes and Action Lines):  
Digital services for government, business, learning , health, agriculture, etc.
- ❖ In this respect **Broadband** (BB) Internet infrastructure is pivotal to achieve this digital transition and to allow an array of new and innovative services.
- ❖ **Fast, reliable, secure and trustworthy connectivity** is an essential pillar of digital economy.
- ❖ **Digital Regulatory policy** should set an enabling environment:
  - ✓ for digital services as a whole (healthcare, education, finance, etc.)
  - ✓ for extended and enriched connectivity (population, machines, things)



## Internet connectivity in Africa: Where are we today ?

(estimation by end 2015)	World	Africa	Arab States	Europe
Individuals using Internet (%)	43.4	<b>20.7</b>	37.0	77.6
HH with Internet Access (%)	46.4	<b>10.7</b>	40.3	82.1
Mobile BB Subscriptions (per 100 inhab.)	46.1	<b>17.4</b>	40.6	78.2
Fixed BB Subscriptions (per 100 inhab.)	10.8	<b>0.5</b>	3.7	29.6

(source: ICT facts & Figures, ITU, May 26, 2015)

**Mobile technology will continue to play a dominant role** in internet connectivity expansion, in particular in Africa and emerging countries where the potential of fixed internet will remain low (at least in the medium term).

- ❖ In the period 2008-2012: in Africa the CAGR (Compound annual growth rate) of mobile BB (260%) is 10 times higher than the fixed BB One (25%)
- ❖ In sub-Saharan Africa fixed access represents only 4% of total Internet subscriptions (in North America 44% of total Internet subscriptions are fixed),

A number of African countries have still poor fixed telecommunication infrastructures: building a mobile BB network requires **very important financial and technical efforts** in the network access (radio and backhaul) and in the national and international networks (as more than 90% of emerging country Internet traffic is international).

## **No start from scratch**

### **A few examples of recent reflections and publications**

1. UN Broadband commission for Digital Development
  - ✓ Creating Sustainable Finance & Investment Models for Global Roll-out of Broadband Networks (Report, Davos 2015)
  - ✓ The state of Broadband 2014: Broadband for all, Annual report, September 2014
  - ✓ The state of Broadband 2014: Broadband for all, flyer, September 2014
2. The Mobile Economy 2015, GSMA
3. Digital Inclusion, GSMA 2014
4. Study on international Internet Connectivity in Sub-Saharan Africa (ITU, 2013)
5. Regional Interconnection Strategy for Africa (ISOC, 2015)

## An illustration: BB Commission for Digital Development Recommendations

1. **Launch a national broadband plan:** with a clear statement of policy objectives and/or targets.
2. **Monitor, review and update ICT regulations:** to take into account the provision of similar services by different market players, to encourage investment, to ensure efficient spectrum policy, to set up efficient approach for infrastructure sharing, to fulfil more efficiently universal service goals.
3. **Promote Education for All, including the use of broadband, as well as the skills and talents necessary for broadband**
4. **Reduce taxes and import duties on telecommunication/ICT equipment and services:** There is significant evidence to suggest that reducing taxes and import duties on telecommunication/ICT equipment and services could significantly boost levels of uptake.
5. **Accelerate investment in broadband infrastructure:** There has been a significant change in the level and balance of revenues between different players in the broadband ecosystem (OECD, 2013). Internet companies and Internet content providers need to contribute to investment in broadband infrastructure.
6. **Enhance demand for broadband services through new initiatives and local content**
7. **Engage in ongoing monitoring of ICT developments**
8. **Utilize universal service funds (USFs) to close the digital divide**

## A Digital Policy implementing an appropriate ICT regulatory framework

- ❖ **Learn from Narrow Band mobile experience** in Africa to improve regulatory framework, economic model, competition and to better prepare BB (mobile and fixed) network connectivity and all digital infrastructure (networks, data centers, devices).
- ❖ *"Technological convergence is blurring the boundaries between services and industries. Regulators and policy-makers are seeking **to adapt and update** regulatory requirements to establish an enabling environment to encourage sustainable investment"* and to set up **a level playing field** between different types of players. This is the biggest issue – how do we get investment to bring broadband to the rest of the world?
- ❖ **Build trust in digital services:** Data privacy and digital security issues should be addressed based on high international standards of data protection and security to help build trust and confidence in digital services by citizens.
- ❖ Extend **universal service approach** and related funds to develop internet access and services at remote and rural areas (Government and ICT industry initiatives)
- ❖ **Efficient Radio spectrum policy** allowing to meet consumer and business needs for faster connection speeds and greater capacity.

- ❖ Infrastructure Investment is pivotal in this sector. To promote it, digital rules must create a favorable environment to attract investors and facilitate market access. African countries have to adopt policy and economic frameworks more incentive to the infrastructure investments needed to support the next generation of BB networks. Digital rules should ensure **stability, transparency, fairness between digital economic actors, and fair competition.**
- ❖ In order to invest in infrastructure, a certain amount of **ROI is needed.** Today, ROI is under threat from over-the-top (OTT) services, which are provided through different revenue models. These players are not subject to the same regulatory policies as operators. There should be **equal regulatory treatment** of “equivalent services” whatever their underlying delivery technologies and the type of service provider involved.
- ❖ Allowing a fair part of the global value to be allocated to the digital infrastructure investments, through a **pricing system incentivising efficient use of existing resources by all stakeholders.**

- ❖ **Affordability barrier:** The combination of low incomes, cost of the device, charging fees, and data plan charges creates an affordability barrier to accessing the mobile internet
- ❖ This access barrier is compounded by government **taxes and fees**, such as airtime taxes and handset taxes.  
Taxes on mobile consumers restrict access and usage by reducing affordability,  
Taxes on mobile operators limit incentives for investment in networks.  
Reducing mobile taxes has been demonstrated to increase digital inclusion, as well as mobile operator investment, leading to a greater economic contribution from the mobile industry which ultimately expands the tax revenue base for governments.
- ❖ To set up a **device policy** allowing affordable prices (smartphones, tablets, PC)

- ❖ Address efficiently the issue of poor fixed infrastructure and ensuring a **fair long-term return on investments in new infrastructure**
- ❖ Further expansion of internet access in emerging countries, particularly in rural areas needs **more cost-effective solutions** for BB networks and devices:
  - ✓ To implement common/shared cost-effective infrastructures solutions,
  - ✓ To assess satellite solutions for rural and large areas,
  - ✓ To use adapted energy solutions (energy shortage in Africa is a key issue for networks roll-out and devices usage),
  - ✓ To encourage cooperation approaches (Gvt, financial institutions, operators) for international backbones building (terrestrial and sub-marine), and cooperation with other utilities providers (electricity, water, transport).
- ❖ **Infrastructure sharing** is a solution that can help reduce the cost of extending network coverage, particularly into remote areas. Infrastructure sharing is common in many countries, with arrangements allowing mobile operators to jointly use masts, buildings and even antennas, avoiding unnecessary duplication of infrastructure.

Related existing laws and regulations to be enforced: In current legislations several provisions have been enacted concerning infrastructure sharing and co-siting, the application of wholesale and retail prices, and local loop unbundling.

## Cost-effective solutions for BB deployment (2)

- ❖ Addressing the costs of **powering remote, rural cell towers** is a priority for developing world mobile operators. A range of technological innovations to both improve the energy efficiency of cell tower equipment and to utilize solar, wind and other renewable energy sources are now commonplace.
- ❖ This should be supported by an **efficient Internet architecture** implementation allowing traffic routing and bandwidth optimization and based on IXP, CDN, and cloud technical solutions.
- ❖ To setup **more efficient spectrum policy** and to release of the Digital Dividend spectrum bands: The timely release of spectrum, particularly the Digital Dividend spectrum, can play an important role in helping to facilitate network deployments. Lower frequency bands, in particular the 700MHz and 800MHz bands have the broadest geographical coverage.

## To boost the Development of Content and Usage

- ❖ To enhance significantly internet social and economic benefits, it's necessary to develop local content and services for citizens in education, health, agriculture, trade, administration. **Digitalisation of the Public Administration, Schools and Healthcare** will be a critical factor for the success of digital connectivity and usage development.
- ❖ **E-government services** are emerging as a major source of local content for mobile internet in developing countries, and are a driver for use of mobile internet.
- ❖ **Local content** should be kept where it is consumed. By doing this, we are also developing local knowledge which is needed to bring the next billion online. This is the way forward.

Thank you  
for your  
Attention

شكرا جزىلا

Questions?



[twitter.com/ AIS\\_Afric](https://twitter.com/AIS_Afric)



[flickr.com/ a](https://www.flickr.com/a)



[facebook.com/ afrinic](https://facebook.com/afrinic)



[linkedin.com/company/ afrinic](https://linkedin.com/company/afrinic)



[youtube.com/ afrinic media](https://youtube.com/afrinicmedia)



[www. afrinic .net](http://www.afrinic.net)

[afrinic](http://afrinic.net)