**Section 10: Broadband for development**
**Global Forum, November 18th 2014, Geneva**

**With broadband you can do more and faster**
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Health and Environment Program (HEP)
Rue de Lausanne 36 - 1201 Geneva, Switzerland
P.O.Box 1886 Yaounde-Cameroon
Tel: +41 (0) 22 731 92 86
Email: info@health-environment-program.org
Website: www.health-environment-program.org

# BROADBAND ACCESS AND AFFORDABILITY IMPACT ON SUSTAINABILITY DEVELOPMENT IN AFRICA - Case-study CAMEROON

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By: Madeleine Scherb, Certificate in PhD program in Economics, University of Bonn, Germany
Expert & President of Health and Environment Program (HEP)

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Introduction
Definition of broadband

1) **In technical angle :**

The term "broadband" or "wideband" **is a communication network** in which the bandwidth (signal processing) can be divided and shared by multiple simultaneous signals (Examples: voice, data, or video).

The network shall supply sufficient minimal guaranteed upload and download speed for each connection and it shall support the total bandwidth size of the network access points.

2) **As a type of technology** (Example: mobile phone, 4G, smartphones, and tablets.)

When the broadband service is available in our area, the company provide us with the hardware required in order to connect to their service which connects either to a Network card (RJ-45 connector), USB connection, or wirelessly over Wi-Fi. The most popular **broadband technology** in the world is DSL.

Other definitions of Broadband

- A specific minimum transmission speed **in a high flow** and **internet service instantly updated** (permanent access) in opposition to baseband just uses a single channel of transmission as a modem.
- A channel of transmission being equal to 64 Kbps. Any network transmitting in **more than 128 Kbps** is a wide network bandages. (Source:ITU)

Broadband makes possible a much wider and richer range of applications, especially when higher speed services are available. Those services are provided by local phone companies or cable companies. Futhhermore, diagnostics and medical imaging, distributed computing in university research community, remote interactive classrooms for the education are capable of assuring in a reliable way the supply of services postconvergence and to allow the simultaneous routing of vocal signals, data and video signals, possibly on different networks. Last but not least, Broadband permits people to watch movies, listen the music, playing games, loading web pages without having to wait long periods of time for each page to load. It is much faster than any other connection to the Internet.

# African context

## Types of Broadband

- DSL (Digital Subscriber Line), ADSL (Asymetric Digital Subscriber Line) or SDSL (Symetric Digital Subscriber Line)
- Cable (fixed technology)
- Satellite as GPS SIGNALS in remote areas, for inter-country communication
- Wireless mostly used, increasing speed

The rate of penetration of broadband is 1 person under 1000 inhabitants.

# Percentage of individuals using the Internet, Africa, 2013 (1)

| Rank | Economy | Internet user penetration 2013 |
|---|---|---|
| 1 | Morocco | 56.0 |
| 2 | Seychelles | 50.4 |
| 3 | Egypt | 49.6 |
| 4 | South Africa | 48.9 |
| 5 | Kenya | 39,0 |
| 6 | Mauritius | 39.0 |
| 7 | Nigeria | 38.0 |
| 8 | Cape Verde | 37.5 |
| 9 | Sao Tomé & Principe | 23.0 |
| 10 | Sudan | 22.7 |
| 11 | Senegal | 20.9 |

| Rank | Economy | Internet user penetration 2013 |
|---|---|---|
| 12 | Angola | 19.1 |
| 13 | Zimbabwe | 18.5 |
| 14 | Algeria | 16.5 |
| 15 | Libya | 16.5 |
| 16 | Equatorial Guinea | 16.4 |
| 17 | Uganda | 16.2 |
| 18 | Zambia | 15.4 |
| 19 | Botswana | 15.0 |
| 20 | Gambia | 14.0 |
| 21 | Namibia | 13.9 |
| 22 | Ghana | 12-3 |

# Percentage of individuals using the Internet, Africa, 2013 (2)

| Rank , | Economy | Internet user penetration 2013 |
|---|---|---|
| 23 | Djibouti | 9.5 |
| 24 | Gabon | 9.2 |
| 25 | Rwanda | 8.7 |
| 26 | Congo | 6.6 |
| 27 | Comoros | 6.5 |
| 28 | Cameroon | 6.4 |
| 29 | Mauritania | 6.2 |
| 30 | Malawi | 5.4 |
| 31 | Mozambique | 5.4 |
| 32 | Lesotho | 5.0 |
| 33 | Benin | 4.9 |

| Rank | Economy | Internet user penetration 2013 |
|---|---|---|
| 34 | Liberia | 4.6 |
| 35 | Togo | 4.5 |
| 36 | Burkina Faso | 4.4 |
| 37 | Tanzania | 4.4 |
| 38 | Central African R. | 3.5 |
| 39 | Guinea-Bissau | 3.1 |
| 40 | Chad | 2.3 |
| 41 | Mali | 2.3 |
| 42 | Dem. R. Congo | 2.2 |
| 43 | Madagascar | 2.2 |
| 44 | Ethiopia | 1.9 |

# Percentage of individuals using the internet in Africa 2013 (3)

| Rank | Economy | Internet user penetration 2013 |
|---|---|---|
| 45 | Niger | 1.7 |
| 46 | Sierra Leone | 1.7 |
| 47 | Guinea | 1.6 |
| 48 | Somalia | 1.5 |
| 49 | Burundi | 1.3 |
| 50 | Eritrea | 0.9 |
| 51 | South Sudan | n/a |

Africa accounts for less than 0.5 per cent of the world's fixed-broadband subscriptions, and despite double-digit growth over the last four years, penetration in Africa remains very low. Many initiatives for developing broadband have already made through meetings such as:

- World summit of information society
- Kigali Summit on Africa connexion
- Harmonisation of ICT market inside CEMAC and CDEAO

Fixed broadband, ADSL, will only reach very few urban elites. Furthermore, 10 percent increase in internet matches broadband penetration increases the GDP per capita by 1.4 percent
Althought, projects to connect subregional areas continue slowly due to the lack of finance and energy to implement broadband. We hope that 20 per cent of the population will be online by the end of this year.

# Case-study:
# Cameroon

**Sectors in GDP :**

- agriculture : 18,4%
- industry : 23,2%
- mines : 8,8%
- services : 43,4%

**HIPC Heavily Indebted Poor Country**

**Area:** 475 442 km².
**Capital :** Yaounde
**Main cities :** Douala, Yaounde, Bafoussam, Garoua, Maroua.
**Official languages :** french, english
**Currency:** Franc CFA (1€ = 655,96 XAF).
**Population :** 21,7 millions d'habitants (WB or World Bank, 2012).
**Density:** 44,8 hab/km² (WB, 2012)
**Population growth :** 2,54% (WB, 2012), 2,5% living below a dollar a day and 8,2% below two dollars a day.

**Life expentancy:** 52,1 year (UNDP, 2012).
**Literacy rate in % over 15 years of age :** 70,7% (UNESCO 2012)
**Religion(s) :** Christianism (35-40%), Islam (15-20%), animism (45%).
**Human Development Index :** 150th row over 187 (UNDP, 2012).
**The industry (23,2% of GDP)** covers various sectors of the regional perspective (drinks, candy, oil mill, soap factory, mill, aluminum, cement, metallurgy, wood processing first ) but remains very competitive, hampered by poor access to electricity supply. The service sector is dominated by transport, trade and mobile telephony.
Featuring the goal to put Cameroon on the way to the emergence in 2035, the authorities launched a program of major projects. Fifteen were selected such as Lom Pangar Hydroelectric Dam, social housing and the deep-water port of Kribi, gas power plant , emergency heat plan, CAMAIRCO airline, hydroelectric power station of Mem'vele and Mekin. These projects will boost the economy .

# Broadband facts & findings

Trends and developments in Cameroon's telecommunications market:

Telephony, ADSL, optical Fiber, WebSites

2 private leaders operators: MTN Cameroon, ORANGE Cameroon

1 public operator: CAMTEL (Cameroon Telecommunications)

**Sales 2013, in billion F CFA: MTN 251, ORANGE Cameroon 174, CAMTEL 78.**

**Estimated market penetration rates in Cameroon's telecommunications sector - end 2014**

| **Market** | **Penetration rate** |
|---|---|
| Mobile | 73% |
| Fixed/ Fixed-wireless | 4% |
| Internet | 8% (increase of 1.6% compared to the previous year 2013) |

The State of Cameroon officially received from MTN the WACS (West African Cable System) cable in Limbé, a submarine fiber optical cable along the 14'530 km landed in the Atlantic Ocean by Alcatel-Lucent on behalf of WACS consortium.

WACS of Limbe is the second landing point deployed on the coasts of Cameroon after landing point that connects Douala  to the submarine cable SAT-3 entered in service in 2002 and which could soon reach saturation as the experts said.

WACS cable is also designed to strengthen the position of Cameroon’s Hub as sub - regional leader in ICT.
The third operator Nexttel (local filial of vietnamian Viettel ) has the exclusivity to use 3G.

## DEVICES:

- 6000 km of optical fiber and optical urban loops installed in Yaounde and Douala.
- 2 landing of submarine cables in Douala and Limbe point
- Interconnection agreements with Chad
- Projects to interconnect our country to Congo and Nigeria
- Plan to establish two points of Internet exchange in Douala and Yaounde
- Prevision of government to establish two points of Internet exchange in Douala and Yaounde
- Prevision of government to enlarge optical fiber in every major city in the coming years.

# Role played by Health and Environment Program (HEP)

Health and Environment Program (HEP) is raising the awareness of using Broadband to facilitate the development of Cameroon.

We build a project in ICT and climate change in Cameroon through seminars since 2 years. Last year we went to Cameroun to give education materials to the students of a school in Cameroon.

We are promoting  a convenient environment to the growth and to the development increased by the broadband connectivity.

# Video

# Challenges

The current production of Cameroon in electrical energy is 1500 MW, with a growth of the request for 10% a year.

Only few people could afford ICT, many of them use internet in cybercafés and the cost is 1 dollar an hour. Electricity is not always available.

Energy sector is in crisis. The Lom Pangar Dam is a big realization of government in construction now, to solve the problem of electricity. Without permanent electricity, the availabilily and affordability of broadband services can not well be improved.

# Recommandations

- Achieve the Millennium Development Goals and other internationally agreed sustainable development goals
- Highlight the healthy towns projects
- Train students and illiterates on how to access and use internet for improving their life
- Achieve digital inclusion for all
- Achieve education for all

All stakeholders – governments, industry, NGOs, academia and other international institutions – have a shared interest to:

- Attract finance and investments in broadband infrastructure and make internet available to everyone.
- Practice lower cost of the Internet and reducing the waiting time during navigation
- Ensure capacity building technical aspects of the implementation and management of Internet exchange points through seminars and workshops involving all stakeholders.
- Improve service quality and reduce interconnection costs
- Spread 3G/4G to almost all of the population in the near future
- Ensure the availability and access to wireless technology

**Broadband is the best solution for poverty reduction and socio-economic development in Africa, especially in Cameroon.**

# THANK YOU FOR YOUR ATTENTION!

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