

eGY-Africa NEWS No. 4



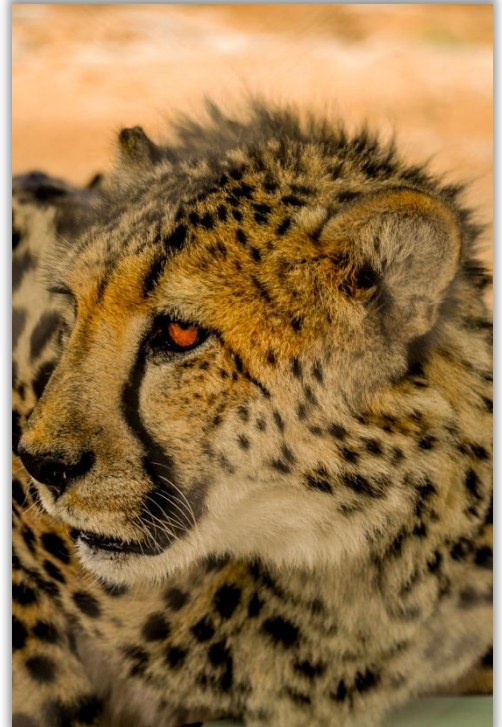
eGYAfrica is a 'bottom-up' effort to secure better Internet connectivity for science education and research institutions in Africa by using the voice (advocacy) of the scientific community at national, regional, and international levels to influence decision making and aid policy Africa".

Fibre-optic cable installations in and around Africa are greatly improving internet access, yet the digital divide problem in Africa persists and the divide has been widening. Despite the open-access benefits of the internet in science and elsewhere, all too often African scientists and others are marginalized from mainstream developments elsewhere in the world. Paradoxically, it is widely acknowledged that achievement of the Millennium Development Goals identified for Africa is conditional on having a vigorous, effective, and affordable research and education sector.



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the National Planning Commission (NPC), based on a pre-defined but flexible approval hierarchy." It was impossible for the NPC training officer to conduct his knowledge transfer as the internet services were slow and continued to collapse. After two hours, it was suggested that the training should continue at the NPC. This illustrates that a small matter, such as stable internet services, has resulted in the loss of many man hours for employees and thereafter no knowledge and skill has effectively been transferred.

Government needs to ensure that its ICT infrastructure is equally reliable and fast as its fastest network across all its Ministries, Agencies and Offices. It is counterproductive to have fast and reliable ICT services at the NPC for instance, but at the Directorate of Administration and Finance of a Ministry, for example, internet speeds are running on average at 2 -4 kbps. The need for this infrastructure to be stable, reliable, fast, accessible and affordable, or rather cheap, is a requirement of yesterday. Our decision and policy makers must ensure that developmental budgets are adequately resourced to build-up and expand on appropriate ICT infrastructure. Institutions like the NPC can play an instrumental role in ensuring that Ministries and Agencies have the necessary ICT infrastructure to be able to make a success of NIMRES. To be able to effectively use online services such as the PPPMS, it goes without saying that the infrastructure must be able to deliver on the requirements for such a system.

Why Government should take stock of its ICT infrastructure and pricing

Fundamentally, what grows and economy? What makes the man in the street spend money on goods and services? An economy grows by enabling people to be mobile and communicate easily and cheaply. When people can move around easily, cheaply, quickly and safely, they will do so. This has the immediate effect whereby a traveller, for instance, spends money on services and goods. Services are transport methods, i.e. train, bus, car, etc. and goods will simply be fuel, food or drink. This is what boosting an economy entails because people will set up food stalls, gift shops, arts and craft shops and the like along popular routes. Simply put, a modest and functional transport network (i.e. road and rail network) that is cheap to use, but reliable is a fundamental infrastructure for boosting an economy. The second most important element is communication. The easier and cheaper it is for people to communicate with each other, the more they will communicate, the quicker they will have information, and the faster they can act...simple logic. Having a simple, functional, cheap, but reliable telephony and internet connectivity is another fundamental infrastructure for a growing economy.

In Namibia the fixed internet service has extremely low penetration and is very expensive.

It is impossible to have ADSL connection without a one to three year contract with the sole provider. Added to this, the services are extremely expensive with an unlimited 10Mbps ADSL line (standard across Europe, Asia, US) costing about US\$1000 per month. In defence, the lowest speed, which happens to be the most popular and quasi-affordable, is the most popular namely 384kbps, however, this service costs approximately US\$40 per month. It is mainly used for emails and lite surfing, but struggles badly with video Skype calls.

At a recent training workshop on PROJECT PLANNING AND PERFORMANCE MANAGEMENT SYSTEM (PPPMS) conducted by the National Planning Commission held at the Ministry of Mines & Energy, the need for fast and stable internet service was most apparent. The aim of the workshop was to train civil servants on the PPPMS system to facilitate effective and efficient development planning and budgeting. This is Government's investment in an online project management and performance system and is an integral part of the National Integrated, Monitoring, Reporting and Evaluation System (NIMRES). Verbatim: *"The purpose of the custom developed Project Planning and Performance Management System (PPPMS) is to allow Project Initiators to capture Project Identification Forms (PIFs) online and forward them automatically to*



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Contributions should be brief, preferably with a link or pointer to where the reader can find more detailed information.

Past newsletters can be downloaded from: <http://egy.org/egyafrika.php>

Why continuous investment and improvement in African ICT infrastructure is important

Investment in information technology plays the role of a "facilitator" that allows other innovations to take place. The World Bank reports that for every 10% increase in high-speed Internet connections there is an increase in economic growth of 1.3 percentage points. It is therefore critically important to measure, understand, and be able to see where the Internet's performance needs improving

As measured by the PingER project, in 2009, Africa as a whole was ~15 years behind Europe in terms of available throughput. Also Africa's throughput was 12-14 times worse than Europe and extrapolating the data indicated that it would further degrade to almost 60 times worse by 2026.

Since 2009, due in large part to the installation of multiple submarine terrestrial fibre optic cables to sub-Saharan Africa to support the 2010 soccer world cup in South Africa, there has been a significant improvement in Africa's performance. This is driven by the reduced round trip times for terrestrial links versus geostationary satellites, the increased capacity available, and the emergence of competition that helps reduce prices. Africa now appears to be

catching up, such that if the present improvements are maintained, it may catch Europe by around 2030.

To continue this progress, there is plenty of work to be done. My hope is that technology will bring awareness to overlooked shortcomings in Africa's communications networks. This in turn will inspire local planners and providers to embrace new solutions such as WiFi, cell phones, low earth orbiting satellites, and mobile computing to leapfrog older technologies for providing ubiquitous access to the Internet. Together with the above, investors are increasingly interested in Africa due to the huge under developed market, the saturation of markets elsewhere, and Africa's youthful population. This may or may not always be good for Africa, but the investments will rely on good communications in today's information age.

See http://findarticles.com/p/articles/mi_m1093/is_3_45/ai_86517828/

² World Bank IFC Report, 2010,

see <http://www.infodev.org/en/Article.522.html>

³Pinger (Ping End-to-end Reporting), see <http://www.iepm.slac.stanford.edu/pinger/>

News Links:

1. Universityworldnews

<http://www.universityworldnews.com/index.php>

<http://www.universityworldnews.com/topic.php?topic=AfrNews>

2. News and Views on Africa from Africa.

http://www.newsfromafrica.org/newsfromafrica/articles/art_13762.html

Microsoft introduces the 4Afrika Initiative to Help Improve the Continent's Global Competitiveness

3. Balancing act-africa.

<http://www.balancingact-africa.com/news/en/latest>

4. International Council for science

<http://www.icsu.org/africa>

5. UbuntuNet Alliance

For Research and Education in http://www.ubuntunet.net/uc2012_pce

6. <http://www.newscientist.com/>

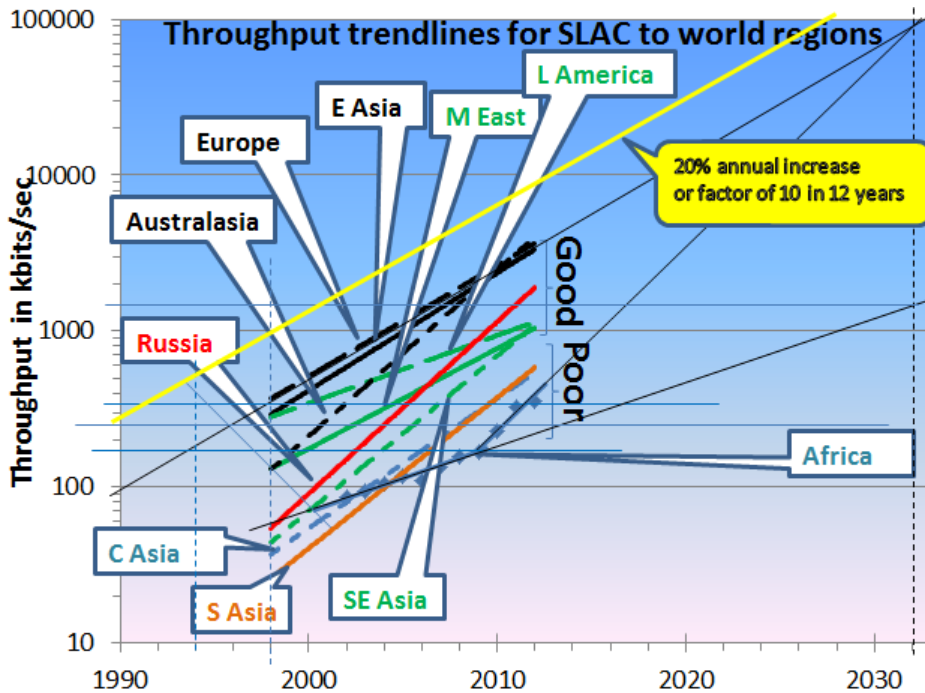
7. <http://www.sciencedaily.com/>

8. <http://www.gsdi.org/newsletters#Africa>



eGYAfrica Partners

- Association of Africa Universities – NREN Unit.
- International Council for Science - Regional Office for Africa.
- International Union of Geodesy and Geophysics – Geosciences in Africa.
- IUGS - Geoscience Information in Africa - GIRAF



Trendlines for throughput from SLAC in California to world regions. Various extrapolations are shown indicating the relative performance of Africa with respect to Europe. The yellow line is to help show the rate of change.



GIRAF
Geoscience InfoRmation in Africa



ICSU
International Council for Science



Association of African Universities
Association Des Universites Africaines
اتحاد الجامعات الافريقية



International Union of Geodesy and Geophysics
Union Geodesique et Geophysique Internationale

PROFILE:

University of Namibia's School of Medicine

<http://www.unam.na/faculties/medicine/>

Founding Dean:

Professor Peter Nyarang'o

Mission:

Established in 2010, the mission of the University of Namibia's School of Medicine is to produce medical doctors whose knowledge, professional skills and practice of medicine respond to societal needs and aspirations.

School of Medicine:

The School of Medicine has two academic programmes running, namely the Bachelor of Medicine and Bachelor of Pharmacy (Honours) degrees. Currently, the school of medicine has about 300 students. The School has the capacity to enroll 100 medical students annually, however for the 2013 academic year the school of medicine has 85 new intakes.

The role of affordable and effective internet services

According to the Dean, the school can boast of having the most technologically advanced equipment for training medical professionals anywhere in the world. However, when it comes to appropriate, effective, and affordable internet accessibility / connectivity one cannot say the same. Currently, the school has ineffective internet access.

The School of Medicine (SoM) aspires to have effective and affordable internet connectivity in order to;

- Use internet for diagnosis and treatment, transfer of medical data efficiently;
- Have access to the wealth of openly available teaching materials, resources, and services via the Internet; access to e-learning resources;
- Have access to the growing number of open scientific publications and other e-literature;
- Efficiently communication locally, nationally, and internationally;
- Access to research support: databanks, international research networks, and self-learning opportunities;
- Conduct interactive lecture;
- Have a linkage to clinical up to date databases.

At present, the school is unable to afford the high cost of bandwidth in Namibia. Hopefully, the Xnet Development Alliance Trust (Xnet) will soon come to the rescue of the school, as Xnet objective is to provide affordable connectivity solutions to educational and research institutions.

UbuntuNet Alliance

UbuntuNet Alliance is the regional Research and Education Network for Eastern and Southern Africa and manages UbuntuNet: the data network for the region. It was established in 2005 and registered in 2006 as a not-for-profit regional association of National Research and Education Networking (NRENs) in Eastern and Southern Africa. The driving vision was that of securing high speed and affordable Internet connectivity for the African research and education community in Gb/s rather than in Kb/s.

The UbuntuNet Alliance through their affiliated European partners has managed to secure affordable bandwidth for their member RENS. Furthermore, they have embarked on a project AfricaConnect (<http://www.africaconnect.eu/pages/home.aspx>) to interconnect the current RENS with each other. For example, Namibia (through Xnet) will be interconnected to TENET in South Africa and ZamREN in Zambia. Additionally, they will provide the required equipment and technical expertise to develop Namibia as a network contact point/ Point of Presence (PoP) from which other regional RENS (Angola, Botswana, Zimbabwe etc.) can access the Network once they are established.

For the AfricaConnect project the European Union has pledged 80% sponsorship towards the AfricaConnect initiative and the remaining 20% is to be raised by the 14 RENS. This funding model ensures that committed resources are not wasted and that participating RENS are fully committed upon making their 20% contribution. The total contribution, per REN, is £ 280,000 which is equivalent to N\$ 3,500,000.

Once connected to the AfricaConnect network, each African country's networked education and research institutions will not only benefit from collaborations with fellow African RENS, they will also gain access to European RENS.

EGYAfrica 2012 Workshop, Kenya

The eGYAfrica 2012 Workshop was held in Nairobi, 24-26 October 2012. The Workshop was hosted by Prof. Paul Baki, Associate Dean & Head of the School of Pure and Applied Sciences, Kenya Polytechnic University College.

The workshop brought together 27 participants from 13 countries to review progress in eGYAfrica and NREN (Research and Education Network) development, introduce newcomers to eGYAfrica, prepare a work plan for the next period (2 years), and expand the network of national eGYAfrica groups. Information about eGYAfrica and the Workshop (program, participants, presentations, and other materials) can be found on the eGYAfrica website ([HTTP://EGY.ORG/EGYAFRICA.PHP](http://EGY.ORG/EGYAFRICA.PHP)). The number of national eGYAfrica groups has expanded from 5 to 12 as a result of the Workshop. Given the rapid increase in internet capability in Africa following the installation of undersea fibre-optic cables linking Africa to the rest of the world, the need for eGYAfrica was examined. The unanimous view was that eGYAfrica is still very much needed and provides a valuable mechanism for staff in research and education institutions to voice their concerns about inadequate internet access and the benefits of investment in this. The comprehensive range of presentations by delegates forms an excellent statement about the status of internet developments and needs in various parts of Africa. Sharing of such information is emerging as a useful role for eGYAfrica.

For the first time the scope of the Workshop was expanded to include Secondary Schools. This proved successful. Some Secondary schools have better internet access than universities. New

officers were appointed to serve for the next term.

The following officers were elected to serve until the next eGYAfrica Workshop (in 2014).

Chair:	Paul Baki (Kenya)
Secretary:	Anna Nguno (Namibia)
International/IUGG	Charles Barton (Australia)
Kampala2014	Florence D'Ujanga (Uganda)
Outreach	Larry Amaeshi (Nigeria)
Young scientist	Chifundo Tenthani (Malawi)
AAU rep.	Boubakar Barry (Ghana)
ROA rep (S.Africa)	Daniel Nyanganyura
Europe (Grid)	Monique Petitdidier (France)

The wonderful attendance at the Workshop, the enthusiasm of the delegate for eGYAfrica, and the momentum generated indicate that eGYAfrica has a healthy and useful future. Delegates expressed their gratitude to ICSU for making this possible.



eGY Africa 2012 Workshop participants, Nairobi, Kenya

How eGY Africa Proposes to Tackle Digital Divide

Many different digital divides exist - by region, country, within countries, age groups, and so forth. How one reduces a digital divide varies from country to country, region to region but tackling the digital divide typically involves a combination of the following.

Recognize that it is not possible to fix all ills for all people over night.

Identify where to focus and invest effort. One good area is educating teachers and students so they can teach others. Hence a focus on education and basic (University) research is a good place to start.

Choose a champion application (e.g. education, science, telemedicine, video conferencing, distance learning) that will convince decision makers of the value of investing in good Internet facilities.

Find energetic leaders who can communicate the way forward and the benefits to be gained.

Engage policy makers for science, ICT, research, technology, education, and

training to raise their awareness of the realities of the Information era, and help them understand the benefits to their country /region/ community of good internet connectivity and digital literacy in terms of increased productivity. Encourage policy makers to provide inducements for ICT development, networking, and Internet adoption.

Collaborate among institutions in a region, different leading disciplines, and among countries (e.g. for

Internet Exchange Points) to increase influence, provide leadership, and strengthen negotiation and collective bargaining positions. Consider forming a consortium of institutions as a basis for collaboration.

Utilize measurements and case histories to quantify, inform, support the case for improving facilities, and leverage on the envy and shame factors. Case histories could include ITU, UNDP, PingER, World Bank.

Xnet Development Alliance Trust (Namibian REN)

The Xnet Development Alliance Trust (Xnet) objective is to provide affordable connectivity solutions to the various under-served and commercially unfeasible public sectors and institutions of Namibia. Originally, only schools were beneficiaries to subsidized pricing for connectivity. This model was subsequently reviewed following a cabinet decision to expand the Xnet/Edunet structure to include all educational institutions.

To date Xnet provides connectivity to the following institutions;

- Ministry of Education Regional Offices
- Polytechnic of Namibia
- National institute for Educational Development (NIED)
- Namibia Qualifications Authority
- Namibian College of Open Learning (NamCOL) regional offices
- National and Community Libraries
- Vocational Training Centres
- National Institute of Special Education
- Schools
- MoE School Inspectors
- MoE Product and Quality Assurance Evaluators

Additionally, Xnet together with the Ministry of Education, University of Namibia, the Polytechnic and Telecom have developed an education and research network that will ensure proper utilisation and distribution of bandwidth to not only educational institutions but the teachers and students alike. The network will be managed jointly by the University of Namibia and the Polytechnic of Namibia. As a bonus, the network will be used to train students at these institutions to ensure they receive hands on training before joining the employment sector.

The design of the network and division of responsibilities is complete; the only stumbling block thus far is the high cost of bandwidth.

Despite WACS having landed on Namibian shores, the cost of bandwidth is still very high. As a consequence institutions are forced to conserve the little they can afford. If our tertiary institutions had 300 - 400Mb as a starting point (compared to the current 50Mb) they would be more willing to allow free wireless access for students. If libraries had 50Mb (compared to the current 1Mb) they could readily accommodate wireless devices and also allow free internet to the public. Small changes such as these would make a big difference to the institutions and the nation at large.

In 2010 Xnet was accepted as a member of the UbuntuNet Alliance as Namibia's Research and Education Network. As a member of the UbuntuNet Alliance, Xnet's mandate was further extended to include, not just educational institutions, but research institutions as well. By including research institutions in our connectivity initiative, we hope to foster relationships between our Tertiary institutions and research institutions (locally and internationally). It is a well-known fact that research promotes local economic growth and development.

Through WACS, Xnet can access the UbuntuNet network, through their router in England, and benefit from low cost bandwidth, however, the cost of transporting the bandwidth from Swakopmund (WACS landing station) to Windhoek is higher than the cost of international bandwidth from England to Swakopmund.

Our tertiary institutions currently have about 50Mb whilst their counterparts in South Africa have 1000Mb (1Gig) links. As a result our tertiary institutions not only lag behind in ICT integration but more importantly they lag behind in the field of research.

The high cost of bandwidth is partially responsible for Namibia's poor international ICT development ranking.

Upcoming Events

13-15 Mar 2013 - 14th ICSU Regional Committee for Africa, Pemba, Mozambique
<http://www.icsu.org/icsu-africa/events/regional-events/>

29 - 31 May 2013- eLearning Africa 2013 8th International Conference on ICT for Development, Education and Training, Windhoek, Namibia

[HTTP://WWW.ELEARNING-AFRICA.COM](http://www.elearning-africa.com)

[HTTP://WWW.ALLCONFERENCES.COM/SCIENCE/](http://www.allconferences.com/science/)

[HTTP://WWW.CONFERENCE-SERVICE.COM/CONFERENCES/](http://www.conference-service.com/conferences/)

Scholarships

Scholarships for African Students
[HTTP://WWW.HELPFORAFRICANSTUDENTS.ORG/SCHOLARSHIPS-FOR-AFRICAN-STUDENTS/GRANTS-FOR-AFRICAN-RESEARCHERSPROFESSIONALS](http://www.helpforafricanstudents.org/scholarships-for-african-students/grants-for-african-researchersprofessionals)

[HTTP://WWW.ADVANCE-AFRICA.COM/MA-PHD-SCHOLARSHIPS-FOR-SUB-SAHARAN-AFRICAN-COUNTRIES.HTML](http://www.advance-africa.com/ma-phd-scholarships-for-sub-saharan-african-countries.html)

[HTTP://WWW.SCHOLARS4DEV.COM/](http://www.scholars4dev.com/)

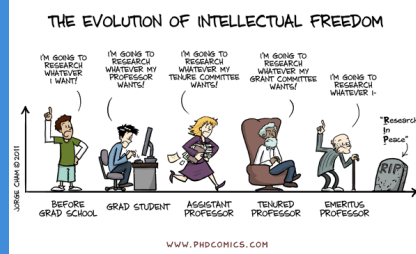
[HTTP://WWW.SCHOLARS4DEV.COM/6230/POPULAR-SCHOLARSHIPS-FOR-DEVELOPING-COUNTRY-STUDENTS/](http://www.scholars4dev.com/6230/popular-scholarships-for-developing-country-students/)

[HTTP://SCHOLARSHIP-POSITIONS.COM/](http://scholarshippositions.com/)

[HTTP://WWW.SCHOLARSHIPWORLDWIDE.COM/2013/02/09/DRD-SCHOLARSHIPS-FOR-SUB-SAHARAN-AFRICANS/](http://www.scholarshipworldwide.com/2013/02/09/drd-scholarships-for-sub-saharan-africans/)

South African-German Centre For Development Research and Criminal Justice
[HTTP://WWW.DRD-SA.ORG/SCHOLARSHIPS-IN-DEVELOPMENT-STUDIES.HTML](http://www.drd-sa.org/scholarships-in-development-studies.html)

Thank you to the eGYAfrica and Research and Education Network (NREN) community; Alberto Julião Macamo (Mozambique), Les Cottrell (USA), Paul Baki (Kenya), Charles Barton (Australia) Wilfred Kuria (Namibia) and Peter Nyarang'o for their contributions to this issue of the newsletter. We also acknowledge the various websites and links referred and used in this newsletter.



Indicator	2011	Source
Fixed telecom operators	1	INCM (during interviews)
Mobile operators	2	A 3rd mobile operator has started operations in May 2012
Internet service provider (ISP's)	25	INCM (during interviews)
Teledensity (%)	0.38 %	INCM (during interviews)
Mobile Penetration (%)	35%	Mobile phone subscriptions per 100 inhabitants; www.itu.int/ITU-D/ict/statistics/ ; (Accessed: 23/03/2012)
Landline subscribers	6691 6	www.tdm.mz (accessed: 23/03/2012)
Mobile phone users	7855 345	INCM (during interviews)
Internet users	6%	Percentage of individuals using Internet; www.itu.int/ITU-D/ict/statistics/ ; (Accessed: 23/03/2012)
Telecentres/C MCs	33	Community Information and Communication Support Centre (CAICC) at CIUEM

The development of Internet Coverage in Mozambique

Mozambique has one of the least-developed Internet coverage of Africa, despite having been the continent's third country to adhere to the use of information and communication technologies. The country began to benefit from Internet network in 1992, after South Africa and Egypt.

Development

A research on the use and access to information and communication technologies of the "African e-Index" held some years in 14 African countries, points out that Mozambique has the lowest had a teledensity of the region.

One of the things that inhibits Mozambique to advance in the use of the Internet is the cost of these technologies. EMU, for example, pays \$ 23,000 monthly for the Internet, but the desired capacity is 10 times more

However, the number of people with Internet access in Mozambique has been rising in recent years. A study conducted in 2002 estimated at 60,000 computer users, a situation that took the existence of 10,000 computers in the country, each used for a minimum of six people.

"Internet access is now also via mobile phone. To say that we have part of 7 302 091 to 7 855 345 users of mobile phones that have Internet, but not all phones have the ability to access this service " .

Mozambique, with a population of 22.9 million, the number of internet users grew from 30,000 to 975 395 in 2011, which represents today only 4,26% of the population.

Partnership between MINED and Movitel 205 League schools on the internet

A total of 205 public schools, between Secondary schools, Vocational-technical institutes, teacher training and higher education institutions in Mozambique, are connected to the Internet via mobile phone company Movitel. According to a press release from the Ministry of education, the plan of Movitel is to ensure that educational institutions in the country 4500 have free Internet access.

Additional information:

Internet users in 2010: 975 395 (source: www.itu.int/ITU-D/ict/statistics)

Facebook users in 2011: 198 400, which is equivalent to about 32% of all Internet users in Mozambique (source: www.socialbakers.com (accessed: 22/04/12))

Table below shows the Evolution of ICT key indicators over the time (2001-2010).

Table on the left shows the Basic ICT data.

Indicator	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Fixed telecom operators	01	01	01	01	01	01	01	01	01	01
Mobile operators	01	01	02	02	02	02	02	02	02	02
ISP's	08	-	11	-	15	-	-	-	-	22
Landline subscribers	89 488	83 739	77 576	69 676	69 735	66 968	68 867	72 013	64 956	-
Teledensity (%)	0,51	0,46	0,34	0,31	0,36	0,34	0,34	-	-	0,38
Mobile Users	89 000	170 000	470 000	610 475	1 656 276	2 339 317	3 394 953	4 405 006	5 970 781	7 302 091
Mobile Penetration (%)	0,82	1,33	2,21	3,50	7,24	10,99	14,12	19,72	26,12	30,88
Internet users (%)	0,16	0,26	0,42	0,68	0,85	0,84	0,91	1,56	2,68	4,17
Telecentres/ CMCs	02	02	-	-	-	-	17	-	-	33



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