

**ICT**  
**AND**  
**INTERNATIONAL DEVELOPMENT**  
**A BRIEF SURVEY OF PROGRAMS AND STRATEGIES**

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## **Report Overview**

This report provides overview and examples of

- 1.) how USAID programs and projects are using the Internet<sup>1</sup> to further development in recipient countries; and
- 2.) other donor and USG agencies efforts to leverage the Internet for development.

The report relies on USAID documents; interviews with USAID program officers; USG Agency documentation; other donor documentation; scholarly literature on ICT and development; and USAID implementing partner documentation.

The report is organized as follows.

- Section I provides a brief background of USAID ICT activities including an overview of each regional and sectoral activities with illustrative activities.
- Section II focuses on the programs and activities of other donor agencies.
- Section III focuses on programs and activities of other USG agencies.

The report includes three annexes. The first has descriptive charts comparing Internet related statistics for the countries and regions in which USAID provides assistance. The second provides the data that was used to create the charts. The third provides an inventory of activities by region and sectors.

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<sup>1</sup> According to the National Telecommunications and Information Administration (NTIA) U.S. Department of Commerce the Internet is “A worldwide system of interconnected networks allowing for data transmission between millions of computers. The Internet is usually accessed using Internet Service Providers.”  
<http://www.ntia.doc.gov/NTIAHOME/FTTN99/glossary.html>

## **Executive Summary**

This report is descriptive in nature, yet there are a few conclusions that can be offered from the information presented here. In terms of USAID programs,

- Portals that share information and facilitate collaboration among USAID program officers, partners and development clients are an important part of the work that USAID has supported. While this seems like a simple use of Internet technology, it recognizes the degree to which up-to-date, free, and good quality information can assist decision makers at the policy level, or individuals in terms of providing opportunities that access to information creates.
- USAID programs also build capacity through more sophisticated applications, via on-line training modules and learning centers. In addition, USAID has used the Internet to support other types of ICT applications, such as cell phones. These applications create Internet inroads into many countries and regions.
- USAID expertise in this area is also long-term, and varied by region and sector and can offer a wealth of information to other donors in this field. Further study of USAID experience would yield important insights about the impact of ICT in development projects.
- At the same time, it is evident from a review of information on donor programs that USAID has moved in the same direction, concentrating less on funding infrastructure, and more on supporting regulatory changes to enable ICT growth, working with the private sector, and mainstreaming ICT as a development application.

Ways to capture USAID experience might include:

- Surveys of implementing partner projects, like those planned in Global Health
- A follow up survey to the initial one executed by the IT office
- In-depth analysis of several projects, in different sectors or regions to generate lessons learned from USAID experience
- Expanding this study to include a more in-depth and systematic review of projects, including additional interviews with USAID program officers

## **Introduction**

### ***Internet for Development: What and Why***

The Internet is part of a group of Information Communication Technologies (ICTs) that are increasingly being used to support and extend development activities. Simply put, the Internet is a pipe for information that ranges from text messaging (e-mail and mobile phone text messages) to voice telephony and audio-visual media such as television and movies. Aside from the direct user benefits, many other media such as print, radio, television, and interactive data-base applications rely on the Internet and the underpinning technology. Access to the Internet improves and extends existing communication technologies.

When reviewing how the Internet is used to support development activities it is helpful to classify different levels of Internet usage. At the simplest level (and in fact one that is among the most beneficial) the Internet supports basic communication. The most prevalent examples are email and instant messaging. Examples also include audio and video multi-continental conference calling, and online collaboration tools. A second level of Internet usage supports data and information transfers between users and institutions, such as online banking, drivers license renewal, and customs clearing tracking. At the third level, the Internet supports capacity building in terms of distance education and training.<sup>2</sup> In each of these instances, the Internet and its underlying TCP/IP technology make resources go farther, faster and with less cost.<sup>3</sup>

Many international development projects supported ICT development is an end in itself. This was especially true in the “early days” of the mid-1990s. However, these programs also emphasized requisite policy and regulatory reform. As such, bilateral and multilateral donor ICT programs officially have been and are an established part of the international aid landscape.

An effective application of the Internet in some countries and sectors increases the impact of these other technologies, such as cell phones and PDAs, that are cheaper and more readily available.<sup>4</sup> Regional wireless telephone networks and Voice over Internet Protocol (VOIP) are examples in which the Internet can support these technologies.<sup>5</sup>

Indirect or spillover effects of the Internet can support creating greater transparency, lowering transaction costs, and building human capacity through achieving higher levels of workforce training (also referred to as “E-Development”).

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<sup>2</sup> Thanks to Lane Smith and Kelvin Wong for suggesting these classification schemes.

<sup>3</sup> See NetTel@Africa VOiP and Technological Convergence modules for further discussion.

<sup>4</sup> An effective use of the Internet in many countries and sectors may be to increase the impact of other ICT such as cell phones, radio, and regional wireless telephone networks and Voice over Internet Protocol (VOIP). See Darryl Hammond and March, “A New Model for Rural Connectivity”

[http://www.usaid.gov/our\\_work/economic\\_growth\\_and\\_trade/info\\_technology/tech\\_series/Rural\\_Connectivity\\_508.pdf](http://www.usaid.gov/our_work/economic_growth_and_trade/info_technology/tech_series/Rural_Connectivity_508.pdf) for further discussion.

<sup>5</sup> Darryl Hammond and March, “A New Model for Rural Connectivity”

[http://www.usaid.gov/our\\_work/economic\\_growth\\_and\\_trade/info\\_technology/tech\\_series/Rural\\_Connectivity\\_508.pdf](http://www.usaid.gov/our_work/economic_growth_and_trade/info_technology/tech_series/Rural_Connectivity_508.pdf)

ICT applications are in fact used in many development projects as a cost-effective way to achieve project goals.<sup>6</sup> A recent survey of USAID Missions found that 95% of USAID Missions have ICT for development activities. Of these 70% of USAID Mission activities used ICT as a development tool.<sup>7</sup>

## ICTs, Internet, Development, and Sustainability

The demand for ICT among the poorest people and nations is significant. Recent research by the World Resources Institute and the International Finance Corporation examined market demand for ICT services in the world's developing countries.<sup>8</sup> In the telecommunications sector it is estimated that the Base of the Pyramid (BOP) market for 35 countries surveyed is currently \$30.5 billion.<sup>9</sup> In addition, results indicate that households in the middle of the BOP (those whose yearly income is between \$1500 and \$2500 per year) are willing to spend significant amounts on ICT. For all but the lowest BOP segment (\$500 per year or less) household ICT spending on average exceeds that for water. This indicates that there is local capacity to support advanced ICTs and the Internet infrastructure that support them.

These results indicating high demand for ICT services are buttressed by the 2006 World Bank study which found the use of ICT is associated with nearly a tenfold increase in sales growth, and more than a doubling of profitability.<sup>10</sup> Likewise, a 2006 analysis of African SMEs found that ICTs play an important role for labor productivity and profitability. Approximately two thirds of all SMEs find the primary obstacle to ICT use the cost of access.<sup>11</sup>

While the Internet and e-development have great promise, providing access is not a straightforward process. Concerns exist about the sustainability of ICT projects in poor countries that need to decide between band-aids or bandwidth, projects that go beyond M&E box-ticking, and whether the Internet is the best ICT application for development in the face of the growth in cell phone usage. Mobile phones require little literacy, no advanced IT training or support to use, and are far less expensive than computers. Cell phone technology is also increasingly advanced, offering Internet based services such as e-mail and web-browsing, digital photography, and text messaging.<sup>12</sup> In addition, prepaid mobile phone business models offer more affordable options for low-income users.<sup>13</sup>

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<sup>6</sup> For a review of the use of ICTs in support of development objectives in conflict zones see [www.telematics4d.org](http://www.telematics4d.org).

<sup>7</sup> Bureau for Economic Growth Agriculture and Trade. 2004. *Information and Communication Technology for Development: USAID's Worldwide Program*. Washington DC: USAID EGAT. p. 6-7.

<sup>8</sup> Defined as those with less than \$3000 local purchasing power. See Allan L. Hammond, et al. *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid*. World Resources Institute and International Finance Corporation, 2007 for further discussion.

<sup>9</sup> Ibid., p. 44.

<sup>10</sup> Overview. *Information and Communications for Development 2006*. 2006 The International Bank for Reconstruction and Development / The World Bank. Washington, DC:USA. 2006.

<sup>11</sup> *Towards An African e-Index: SME e-Access and Usage in 14 African Countries*. Research ICT Africa! 2006. <http://www.researchictafrica.net/modules.php?op=modload&name=News&file=article&sid=518&CAMSSID=42899b9d3eb33e4fc9b47465329bef0e>

<sup>12</sup> Hammond, et al: p. 51.

<sup>13</sup> Ibid., p. 50.

Internet access and use is predicated on a number of inputs. Bandwidth, the life blood of the Internet, is extremely expensive in many developing countries. Internet technology changes rapidly, necessitating ongoing upkeep and upgrading. In addition, although evidence exists that ICTs can accelerate economic growth, the “leapfrogging” potential for economic growth attributed to acquiring Internet access may only exist after access becomes reasonably widespread.<sup>14</sup> However, the increasing reliance on the Internet for ICT infrastructure support, if not for end-use application, makes it an integral element for developing country ICT sectors.

Key to sustainability is involvement of the private sector, since so much of the Internet’s infrastructure is built by the private sector. Private sector participation is, however, sometimes dampened by the legacy of monopolies and an absence of enabling policy and regulation undermines the rationale for private sector investment.<sup>15</sup> For example, in many areas of the world, newer technology such as VOIP technology remains illegal.<sup>16</sup> Yet many private sector technology firms are interested in ICT sector development, given the market potential that exist in developing countries.<sup>17</sup>

Thus while the Internet has great potential in itself, and new technologies such as WiMax and WiMan are effective applications, realizing the optimum potential requires many supporting elements that need to exist simultaneously. These include supporting regulatory reform, ICT training for capacity building, and innovative business models that draw in private sector support.

### Guidelines for Internet for Development

Useful guides for Internet for development exist, based on experience with implementing ICT programs.

#### *USAID LMI*

Last Mile Initiative has several recommended practices for sustainable ICT. These practices reflect the need for ICT projects to be supported by appropriate technology, as well situated within a supportive institutional setting. They include:

- Innovative deployment of low-cost technology.
- Strong integration with existing USAID mission programs.
- Host-government support for necessary policy and regulatory reforms.
- Strategy for assuring appropriate innovation.
- U.S. tech vendor participation.<sup>18</sup>

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<sup>14</sup> Robert Schware, “Overview” *E-Development: From Excitement to Effectiveness* World Bank, 2005: xiv.

<sup>15</sup> See Ernest J Wilson III and Kelvin Wong *Negotiating the Net in Africa: the Politics of Internet Diffusion*. Lynne Rienner, 2007.

<sup>16</sup> Hammond, et al.: p. 45.

<sup>17</sup> Darryl Owen. “Center in a Box: Braodband in Rural Sri Lanka”. Synergy Strategies Group, June 3, 2007: p. 2.

<sup>18</sup> Noreen Janus and David Mendoza. “Last Mile Initiative Presentation to USAID/Honduras” March 14, 2005.

### *World Bank*

The World Bank has noted that experience to date provides six lessons that underpin successful ICT use.<sup>19</sup> These include:

- Suitable to a country's level of development
- Relevant to needs of the users
- Integrated with 'infrastructure, applications, and skills development'
- Situated within processes of institutional and business process change
- Part of an overall national strategy
- Monitored and evaluated for feedback

Extending Internet access in development project applications must also be considered in the context of the digital divide that exists within many developing countries already. Internet access is easier to extend to urban areas. Special challenges exist when trying to extend the Internet to rural areas. Among these are:<sup>20</sup>

- Low population density: demand is so low there is no viable market to cover costs
- Low income levels: ability to pay for services is extremely limited
- Low literacy levels: higher-level Internet use often demands literacy
- High delivery costs: fiber, cable and broadband are all geared to high-density environments
- Restrictive government policies: these decrease service coverage and increase cost, limiting the incentive and involvement of the private sector to extend coverage

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<sup>19</sup> Ibid.

<sup>20</sup> These are from "Community Telecommunications Part I: A New Technical and Business Model" by Darryl Owens.

[http://www.usaid.gov/our\\_work/economic\\_growth\\_and\\_trade/info\\_technology/tech\\_series/Rural-Telecom-Tech+BusinessModel508.pdf](http://www.usaid.gov/our_work/economic_growth_and_trade/info_technology/tech_series/Rural-Telecom-Tech+BusinessModel508.pdf)

## **Section I: An Overview of USAID Assistance**

The most recent comprehensive survey of USAID Missions found that 95 percent of more than 80 Missions have one or more ICT activities in their portfolio. 70 percent of these activities focused on ICT as a development tool.<sup>21</sup> In the absence of a new survey, recent information about how the Agency is using Internet in its development activities must be collected via interviews, USAID documents and websites, and reviews of implementing partner websites.

### **Thematic Programs**

#### The Global Development Alliance

The Global Development Alliance has been an important mechanism for leveraging support for ICT. GDAs are able to involve some of the largest corporations in the world, involving them in the development of sectors in countries where rates of direct foreign investment are very low. Examples of ICT-related GDAs include:

#### *CISCO Academies*

CISCO, USAID, the Peace Corps and several UN agencies are all partners through the **CISCO Academies** program alliance. This program, originally created under the Leland Initiative and the Least Developed Countries Initiative, established IT learning centers at universities, high schools and community organizations across Africa. The centers provide IT training and build IT expertise using curriculum and materials designed by NetTel for the African context.<sup>22</sup> As of 2006, there were 200 academies in 41 least developed countries and 11 middle income countries.

CISCO Academies developed three **Plan IT toolkits** specifically for academies in developing and least developed countries. The toolkits are online documents and resources which are focused on three themes; gender, workforce development and financial sustainability.. The Plan IT Stars program, scheduled to end in October 2007, will highlight examples of the successful implementation of Plan IT toolkits in sub Saharan Africa<sup>23</sup>.

#### *Iraq ICT Alliance*

The recently announced Iraq ICT Alliance (<http://www.iraqictalliance.org>) has been established to support the ICT sector as a catalyst for economic growth in Iraq. Towards this end, USAID projects have supported e-government and capacity building. Examples include producing an online business registration system, finalizing website publication of the Official Gazette of the Ministry of Justice, and the creation of an Insurance Regulatory Commission website.

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<sup>21</sup> EGAT. Information and Communication Technology for Development: USAID's Worldwide Program, 2004. Document ID: pd-abz-702.

<sup>22</sup> USAID: GDA Annual Report 2006; p 97

<sup>23</sup> [http://www.cisco.com/web/learning/netacad/digital\\_divide/planit/index.html](http://www.cisco.com/web/learning/netacad/digital_divide/planit/index.html)

### The International Small Group and Tree Planting Program (TIST)

Although a pre-established program, TIST benefited from a USAID GDA investment in 2003, allowing it to reach out 1500 small groups in Tanzania. Subsequently, USAID/Kenya invested \$1 million in 2005 to support further expansion, and also saw TIST's small group structure as a way to support education on HIV/AIDS and malaria. In collection information about plantings, TIST relies on local quantifiers to collect data on palm computers and a GPS. The information is uploaded from Internet cafés into TIST's database.<sup>24</sup>

### The Last Mile Initiative

The Infrastructure and Engineering Team (I&E) (formerly the Energy and Information Technology (E & IT) team) located within the Bureau for Economic Growth, Agriculture and Trade (EGAT) has administered Last Mile Initiative funding. The Energy and Information Technology (E & IT) team located within the Bureau for Economic Growth, Agriculture and Trade (EGAT) has administered Last Mile Initiative funding. The major thrust of the Last Mile Initiative is to extend access to those in underserved or rural communities. With the end of Last Mile Initiative funding in FY06, the team has continued its core work in supporting Missions and regional Bureaus in their ICT-related programs, with expert technical assistance. Missions are also able to access the SRA Blanket Purchase Agreement.<sup>25</sup>

The Last Mile Initiative was a multi-year program to pilot and prove the business and technology models for extending the full range of telecommunications services into rural areas. Last Mile projects are continuing in 25 countries, and include four regional projects. Many of these involve the Internet as an application that is being used to support other technologies, such as VOIP for cellular telephone coverage in rural areas and WiMax and WiMan technology.

A fundamental innovation of the LMI program has been the integration of Internet (IP) based technology into basic communication infrastructure. For example, in Guinea Bissau the integration of Internet into the formation of the first national community radio network has allowed national news coverage. The Internet is used by radio broadcasters, who communicate among each other, as well as access news from the region and the world. Another aspect of Last Mile Initiative projects is that they highlight an ongoing concern with sustainability and the innovative deployment of low-cost technology.<sup>26</sup> In addition, many LMI projects use innovative business models, emphasizing the involvement of the private sector and market creation to ensure sustainability after donor funding has ended.

LMI projects that are using Internet applications include:

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<sup>24</sup> "The Global Development Alliance: Public-Private Alliances for transformational Development" January 2006. [http://www.usaid.gov/our\\_work/global\\_partnerships/gda/pdf/GDA\\_Report\\_Jan2006\\_Full.pdf](http://www.usaid.gov/our_work/global_partnerships/gda/pdf/GDA_Report_Jan2006_Full.pdf)

<sup>25</sup> For a representative sample of projects, see Annex B.

<sup>26</sup> Noreen Janus and David Mendoza, "Last Mile Initiative Presentation to USAID/Honduras", March 14, 2005.

### *LMI Macedonia*

Macedonia Connects shows how Internet use in one context can provide a platform for scalability, to support other sectors and in this case country-wide Internet development. In 2002, USAID's E-Schools project wired computer labs in all secondary schools, and additionally provided training to secondary school teachers. Subsequently, USAID also linked 360 primary schools through wireless LANs. USAID also installed donated Microsoft software. Through the Last Mile Initiative, the Macedonia Connects project made broadband Internet access available by creating a sustainable wireless network. Macedonia Connects also provided free broadband access to 460 primary and secondary schools, and 85 other sites from September 2005 to September 2007. Selecting an Internet Service Provider through a tender process guaranteed a level of investment in infrastructure, that could then be used to extend access nationwide.

### *LMI Peru, Colombia and Guatemala*

Last Mile Initiative supports the development of Micro-Telcos, that provide phone and other services to rural and underserved communities that large national operators don't find it cost-effective to provide service to. Micro-telco operators are local entrepreneurs, that provide telecom services (phone access). The connectivity is provided via a franchisor and/or a telecom operator. Although arrangements vary for each country, each envisions using WiMax technology, to bring down the price of phone access. Using WiMax, Internet service can eventually be provided to the immediate community. The Guatemala project is building on the first LMI Micro-Telco, to provide connectivity to schools and their learning centers, and to various health organizations. The key has been to support a business model that makes the micro-telco a viable business opportunity, and through this vehicle extend rural access.

## **Sectoral Programs**

### Economic Growth

Economic growth related projects support small and medium size entrepreneurs, as well governments that are trying to access world markets. There have been many lessons learned about what works in this sector from USAID experience. Among these are:

- Email is still the most important Internet-based application for many businesses
- GDAs with local and international firms are important
- Targeting a business approach for service delivery, and assisting local entrepreneurs
- Sharing application development and maintenance across users<sup>27</sup>

Program examples include:

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<sup>27</sup> Judith Payne, "Innovative Technologies Using ICT in Value Chain Development: What Works What Doesn't, Bar Coded Fish, Dead Telecenters and More" Power Point Presentation, June 2007.

### *E-Biz-Macedonia*

E-Biz extended ICT support to several industry clusters in tourism, apparel and footwear. 6 E-Biz centers identified high impact ICT applications to assist SMEs to help their competitiveness. For example, for the tourism sector, a portal was created to promote Macedonia as a tourist destination, including services for tourist operators, and a venue to purchase products online. The E-Biz Center helped the tourism industry target a worldwide market. Other Internet applications include a fashion portal that assists with sales, marketing, freight consolidation and sourcing, as well as modern marketing for trade shows and buyer visits.

### *Jordan*

Through the AMIR II project, USAID supported the development of a web-based integrated tariff that “gives the applicable trade agreements, regulations, duties and taxes all from one location.”<sup>28</sup> AMIR has also supported the Trade and Investment System (TIIS), “an on-line single datasource for selected trade and investment indicators.”<sup>29</sup>

### *Caribbean Trade and Competitiveness Development Program*

Under the auspices of this project, C-TRADECOM is providing technical assistance to the Governments of Antigua and Barbuda, Dominica, Grenada and St. Lucia to facilitate their interaction with businesses and potential investors using Internet technologies. The program strengthens the ability of the governments to serve customers online, and leveraging Internet technology to attract new international and regional investment. The project involves the design of functional and technical aspects of the new Internet presence, the development of web site content, setup and marketing of the site and training of agency staff to manage and maintain the sites.<sup>30</sup> Other projects include assisting CARICOM’s Regional Organisation for Standards and Quality with a secure web-based portal for real-time collaborative decision-making and a database of information on technical regulations, standards and conformity assessment procedures.<sup>31</sup>

### *Egypt*

USAID/Egypt’s ICT program helps to develop Egypt’s technical capacity in ICT, improve the regulatory environment, and support e-Government and e-Commerce. In addition to establishing an International Business Linkages program for the ICT sector, the program has also launched the Cotton Exporters Contract Registration Management System E-Business Pilot Project. The project will “enable access to market critical information on Egypt’s cotton exports for local exporters and foreign importers via a web-accessible knowledge platform” and “enable online

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<sup>28</sup> Chemonics International Inc. and USAID/Jordan. *CITS Project Closure Report: Volume I*. June 2006 [http://pdf.usaid.gov/pdf\\_docs/PDACJ010.pdf](http://pdf.usaid.gov/pdf_docs/PDACJ010.pdf)

<sup>29</sup> Chemonics International Inc. and USAID/Jordan. *Trade and Investment Information System (TIIS) Phase II*. September 2006. [http://pdf.usaid.gov/pdf\\_docs/PNADI342.pdf](http://pdf.usaid.gov/pdf_docs/PNADI342.pdf)

<sup>30</sup> Caribbean Competes, “Current Projects” <http://www.c-trade.org/projects/InternetProject.htm> (Accessed June 23, 2007)

<sup>31</sup> Ibid. <http://www.c-trade.org/projects/InternetProject.htm> (Accessed June 23, 2007)

and real-time access to critical statistics on Egyptian cotton exports; and... facilitate the registration process for obtaining the Egyptian Cotton Logo needed to export.”<sup>32</sup>

## Agriculture and Trade

### *India and Supply Chain Management*

Under the Growth-Oriented Microenterprise Development Program (GMED), ACDI/VOCA is working with ITC Limited to adapt its internet-based platform, e-Choupal to the horticulture market. Cell phone-equipped PDAs are connected to central computer facilities to “transmit weather, market and production information to farmers, reply to farmers’ technical queries, capture traceability data and schedule cropping.”<sup>33</sup>

### *MicroLinks*

Winner of the E-Gov Knowledge Management Award in 2007, Microlinks is an Internet portal that supports USAID and partner organizations. It offers a wide variety of best practices, conference announcements, eCommunities of Practice, information about ongoing projects, and links to many presentations and conference materials. Its innovation comes in capturing lessons learned and making them broadly available to those working in microenterprise development.

### *Market Information Systems*

According to the latest IEHA report, “Most IEHA programs have a market information system (MIS), using cell phones, black boards, internet, radio, telephone based systems and printed reports. MISs have resulted in farmers being in stronger bargaining positions. They have also shown farmers the importance of market demand, quality of products and timing of sales.”<sup>34</sup> For example, in Mali the government extension service uses the network of community radios to communicate price information. However, radio stations now have Internet access, and can assist farmers by tapping into resources on the Web. In another example, Rwanda coffee farmers were provided with an email link to their customers, via the cell phone network. Although Internet access requires technical expertise, the nearby University of Rwanda ICT students may be able to provide this needed service and overcome this constraint.

### *Natural Resources Information Clearinghouse*

This site is a searchable database of three types of projects in Natural Resource Management, GIS, and Tourism. In addition to a project description and summary of results, the site also has a document library. Information is taken from USAID project generated reports, Congressional Budget Justifications, Mission and contractor websites, and USAID Annual Reports. Each

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<sup>32</sup> “Exporters Contract Registration Management System”

[http://www.usaideconomic.org/eg\\_system\\_db%5Cso16%20document%5Cpress%20clipping%5CUSAID'S%20ICT%20Program\\_%20ABA-ALCOTEXA.pdf](http://www.usaideconomic.org/eg_system_db%5Cso16%20document%5Cpress%20clipping%5CUSAID'S%20ICT%20Program_%20ABA-ALCOTEXA.pdf) (Accessed June 23, 2007)

<sup>33</sup> Lee Babcock. “Information and Communication Technology: Leveling the Playing Field Between Producers and Buyers in the Value Chain” ACIDI VOCA, [http://www.acdivoca.org/852571DC00681414/Lookup/WRFall06-Page12-ValueChainsandICT.pdf](http://www.acdivoca.org/852571DC00681414/Lookup/WRFall06-Page12-ValueChainsandICT/$file/WRFall06-Page12-ValueChainsandICT.pdf) (Accessed June 23, 2007).

<sup>34</sup> LTL Systems and USAID Bureau for Africa Office of Sustainable Development. Presidential Initiative to End Hunger in Africa (IEHA) Evaluation Report Volume I, November 2006. p. 288  
[http://pdf.usaid.gov/pdf\\_docs/PDACI810.pdf](http://pdf.usaid.gov/pdf_docs/PDACI810.pdf)

country is reviewed annually for additions. In providing this information, the Clearinghouse presents a focused collection of descriptive information and documentation, making it readily available to other donors, partners, and USAID colleagues.

## Education

### *Global Learning Portal*

The Global Learning Portal is a web-based platform that links educators in 75 developing countries and offers a range of educational resources and professional development opportunities. Portals for the G-77, plus China, UNESCO, Education International, and USAID's Africa region to provide tools for the President's African Education Initiative are being designed.<sup>35</sup>

### *Afghan eQuality Alliances*

The Afghan eQuality Alliances, all of which are led by Afghans, target different areas across academic disciplines and universities. Activities include building a digital library that can be shared with the other 19 universities in Afghanistan; developing an e-Learning infrastructure; teaching 21st Century skills for college preparation; and English as a second language.<sup>36</sup>

## Democracy and Governance

While USAID has supported E-Government projects (see Jordan and Egypt examples above), it has also supported the use of the Internet in strengthening civil society organizations, and to increase transparency in government. Examples include:

### *Capable Partners and NGO Connect*

The DCHA/DG User's Guide identified one project that specifically identified the Internet as a means of strengthening civil society. Supported through the Capable Partners Program, the NGOConnect.net site is a portal that provides tools, theoretical frameworks, innovations and lessons learned. The site offers a location for private communities of practice (those restricted to members of particular civil society organizations and projects), to exchange ideas, resources and best practices.

### *Tanzania anti-corruption*

With USAID Africa Anti-Corruption Initiative funds, USAID/Tanzania pioneered the first web-based accountability site in Africa. Known as the Tanzania Governance Noticeboard, this internet tool makes over 20,000 pages of official government budget and audit data publicly available in an easy-to-understand format useful in combating corruption in the public sector. Stakeholders from all levels of society have the opportunity to see how public money is being

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<sup>35</sup> FY 2007 Congressional Budget Justification

[http://www.usaid.gov/policy/budget/cbj2007/cent\\_progs/pdf/egat\\_905-301.pdf](http://www.usaid.gov/policy/budget/cbj2007/cent_progs/pdf/egat_905-301.pdf)

<sup>36</sup> Afghan e-Quality Alliance site: <http://www.afghanequalityalliances.net/index.php?module=splashscreen>

spent on government services. While USAID support for the project has ended, it continues to be a viable website.<sup>37</sup>

### *AIMS Afghanistan*

USAID has supported the UNDP AIMS project, which promotes the development of common data and technological standards, as well as the free flow of information in Afghanistan. The project assists the Afghani Government and provides information management services to the greater humanitarian community. USAID is currently assisting the AIMS project to migrate their current GeoBase activity tracking system into a GIS system, which will allow more sophisticated tracking of activities.

### Health

The widespread use of ICT to strengthen the information dissemination and communication goals of health sector activities at USAID illustrates its increasing importance as an effective strategy in reaching specific health development objectives. The projects listed below were selected as representative of a concentrated use of internet-based communication or dissemination strategies or innovative use of web-based technologies. In the health sector, the projects that incorporate ICT prominently in their implementation strategies fall into four broad categories:

- Health communication
- Strengthening health through ICT capacities
- Health training (e-learning)
- Health management and information systems

In order to better understand how the Internet and other ICT technologies are being used in health projects, the Global Health Bureau is in the process of initiating a survey of its implementing partners.

Examples of Internet use in USAID health projects include:

### *INFO Project*

The Jordan Health Communication Partnership (JHCP) is the first Arabic health web-based source for accurate health information, tailored to serve all age groups. It includes current articles, health news, interactive quizzes and calculation tools. In 2006, sehetna.com won both the Pan Arab Web Awards prestigious Golden Award and the Golden Award at the Jordan Web Awards in the Health Services category.

### *Basic Support for Institutionalizing Child Survival III (BASICS III)*

Begun in 1994 and now in its third 5-year cycle, BASICS is implemented by the Partnership for

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<sup>37</sup> Source: 2006 Annual Report for Tanzania. Thanks to Kellie Burk for providing this example.

Child Health Care, Inc. BASICS provides assistance to USAID Missions that are seeking to develop and implement newborn and child survival strategies that strengthen health systems; improve the quality of care; address inequalities in coverage; expand the reach and effectiveness of health services through community-based and private sector approaches. Technical experts from BASICS are authoring four courses on child survival for USAID's Global Health e-Learning Center. Courses on malaria and diarrheal illnesses are currently available. Modules covering Acute Respiratory Infections and neonatal sepsis are currently in development.

#### *Technology Assisted Learning Centers (TALC)*

Since 1999, JHPIEGO Corporation, an affiliate of Johns Hopkins University, has been establishing Technology-Assisted Learning Centers (TALCs) at key health sciences schools and in-service training centers. JHPIEGO works to integrate TALCs with other efforts to strengthen curriculum and training systems by providing current international resource materials electronically; providing sample national service guidelines on the web; expanding access to the knowledge component of learning through computer-assisted learning; updating update reproductive health knowledge through access to the Internet and CD-ROM, websites and Performance Support Services (PSS), suite of technology-based learning products. JHPIEGO TALCs are as diverse as their settings and target audiences. Some of JHPIEGO's innovative uses of ICT are: establishing virtual medical library network; providing online journals; providing distance education courses; establishing in-service training centers.

### **Regional Approaches**

The majority of ICT projects originate with Missions. While neither the ANE or LAC Bureaus currently have ICT advisors, Missions can access the expertise of EGAT's IT office. The E and E Bureau also offers support to Mission programs. Projects in this region tend to be related to issues concerning meeting standards for EU accession.

The Africa Bureau has some of the best documented projects in relation to ICT and Internet access. Beginning with the Leland Initiative, the Africa Region has supported ICT development in the region. The ICT program focuses on four inter-related activities:

- Support for competent, transparent, and legitimate regulation, which stimulates investment in and growth of the communication sector
- Harnessing ICT to support regional market integration enabling nations with smaller economies to benefit through participation in a larger economic system
- Support for new digital arteries to lower the ICT cost and price to firms for communications services.
- Building the capacity of African firms and institutions to apply ICTs.<sup>38</sup>

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<sup>38</sup> This is a \$300 billion sector which grows at 21% per year as a whole and an astonishing rate of 49% per year in the business process outsourcing according to Mr. Randeep Sudan of World Bank. March 16, 2006. USTDA presentation.

## Africa

### *NetTel@Africa*

NetTel NetTel@Africa is an alliance of over 25 African and U.S. based universities, government, and state agencies. Originally designed in response to a SADC request for assistance to increase telecommunications regulation and policy capacity via university based e-courses and distance education, it has developed into a multi-faceted vehicle for policy reform that includes basic education, professional training, peering support, and high-level policy consultations.

The fundamental innovation of combining and integrating ICT education into existing institutional structures (universities and regulatory agencies), forging this into a regional organization and leveraging this for ICT sector liberalization has proved to be a key hall-mark of the program. In this case the alliance-network basis made up a various kinds of organizations has provided for sustainability beyond USIAD funding, which NetTel is now being run out of Makerere University and University of Dar Es Salam with multi-donor and Africa based funding.

### *AVOIR African Virtual Open Initiatives and Resources*

AVOIR builds on NetTel, the African Virtual Open Initiatives and Resources (AVOIR) project represents regional capacity building in ICT. In a recently signed MOU, Sun Microsystems will provide 12 African universities with established ICT centers with servers and software. The university centers were already collaborating on software for anti-retroviral tracking, PDAs and other web-applications. It is anticipated that these regional centers will provide ICT application solutions for governments and regional organizations.

The AVOIR network is an ambitious effort to build capacity in the open source software development sector. Building on concepts pioneered by NetTel@Africa (there is about a 75% overlap between AVOIR and NetTel university members) and anchored at the University of Western Cape, AVOIR is looking to bridge both the programming capacity in Africa as well and the gap between the ability of University graduates to fulfill private sector software demands.

The innovative aspects of AVOIR use the same alliance-based approaches tested in NetTel (from an organizational perspective). Using open source software to meet the needs of increasing demand and the process of bridging the employment impact gap of University graduates is another innovation.

## **Conclusion**

USAID programs use a wide variety of ICT applications in their programs, as these examples demonstrate. While hesitant to generalize from an incomplete sample, the following characteristics are identifiable.

- Portals that share information and facilitate collaboration among USAID program officers, partners and development clients are an important part of the work that USAID has supported. While this seems like a simple use of Internet technology, it recognizes the degree to which up-to-date, free, and good quality information can assist decision makers at the policy level, or individuals in terms of providing opportunities that access to information creates.
- USAID programs also build capacity through more sophisticated applications, via on-line training modules and learning centers. In addition, USAID has used the Internet to support other types of ICT applications, such as cell phones. These applications create Internet inroads into many countries and regions.
- USAID expertise in this area is also long-term, and varied by region and sector and can offer a wealth of information to other donors in this field. Further study of USAID experience would yield important insights about the impact of ICT in development projects.

## **Section II: ICT in Other Agencies and Donors**

This section has reviewed documents and websites for several of the major bilateral donors. In terms of general trends, donors are moving away from direct infrastructure support to the ICT sector, and to the use of ICT as a tool in other development activities.<sup>39</sup> SIDA's 2003 report on Digital Empowerment reflects this trend by stressing an emphasis on "content and capacity rather than technology,"<sup>40</sup> as does CIDA's strategy which "envisions ICTs as a tool for enhancing knowledge sharing, and promoting economic development among men and women."<sup>41</sup>

Another observation is that many ICT portals, initiatives and projects are co-funded by several donors. While this finding was not discussed in the reports reviewed here, it is interesting to note that donors have also come together in a number of international forums. The World Summit on the Information Society (WSIS) was a UN Summit, held in two phases in 2003 and 2005. The organizer for this summit was the International Telecommunications Union, and funders included a wide variety of governments, including Germany, France, Sweden, Canada, Japan and many others.<sup>42</sup> The Tunis Commitment, signed at WSIS 2005, reaffirmed aspects of the Geneva Convention relating to ICT and ICT in development. The agreement includes statements on ICT and gender inclusiveness, protection of children, empowerment of youth and much more.<sup>43</sup> Other forums have included the G-8 DOT Force, and the U.N. ICT Task Force.

In a 2003 survey of donors, the Development Assistance Committee of the OECD found that

- donors vary greatly in how they mainstream ICT into their development projects. While some have done so for years, others have begun to do so only recently.
- Every donor surveyed was using ICT in support of broader strategic objectives
- Most donors have ICT for development strategies, that involve many different types of actors, including those in the private sector<sup>44</sup>

Donors are facing an increasingly complex set of demands in relation to ICT and development. Lanvin and Neto note that demands for ICT in development have gone from "i-demands" (ICT focused on ICT specific needs) to "e-demands" (requests related to e-commerce, e-government and the like). More recently, there has been another shift to 'k-demands' which involve knowledge-related needs having to do with vocational training and innovation.<sup>45</sup> The authors argue that donor governments find it difficult to respond to these demands when they involve increasing levels of complexity, moving further away from recipients, and more into the realm of government policy and societal e-readiness.<sup>46</sup>

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<sup>39</sup> Bruno Levin and Isabel Neto. "The Role of International Cooperation in e-Development" in *E-Development: From Excitement to Effectiveness*. World Bank, 2006: p. 130.

<sup>40</sup> SIDA, 3

<sup>41</sup> CIDA, 7

<sup>42</sup> Additional funding information can be found in the WSIS Final Report, which contains a breakdown of the financing by government.

<sup>43</sup> See [www.wsis.org](http://www.wsis.org)

<sup>44</sup> Bruno Levin and Isabel Neto. "The Role of International Cooperation in e-Development" in *E-Development: From Excitement to Effectiveness*. World Bank, 2006: p. 132-133

<sup>45</sup> Ibid.: p. 133.

<sup>46</sup> Ibid. p. 134.

The following sections present information on multilateral initiatives which are primarily web based, cross-sectoral, and focused on knowledge management in development. These initiatives generally include web portals and other mechanisms to promote knowledge sharing and donor coordination, as well as ICT specific activities, which are highlighted. A separate section examines some major government donors, and gives examples of how these donors have integrated IT into their development programs.

## **Multilateral Knowledge Management Initiatives**

### Info Dev

Info Dev<sup>47</sup> is a secretariat housed at the World Bank. The website serves as a neutral conveyer of dialogue as well as a means for donor coordination on ICT projects. The secretariat's work is focused around three themes: Access for All, Innovation and Growth and Mainstreaming IT. Also part of the web portal is produces summary information on ICT for Development topics and sectors. Beyond the web portal, InfoDev's work includes workshops, technical assistance to ICT projects, and research. InfoDev offers **customized workshops** for donors on incorporating ICT into development activities, with a focus on understanding not only what works but also why<sup>48</sup>. InfoDev is funded by Denmark, Germany, Japan, Sweden, Switzerland, Germany, the UK and the World Bank<sup>49</sup>

### World Links

World Links,<sup>50</sup> a 2006 Development Gateway award winner, is a not for profit enterprise spun off from the World Bank that focuses on ICT applications for youth and in particular, e-education. Projects of interest include

- **The Telecenters program**, expanded through a Microsoft grant in 2005, worked with the Peace Corps to connect a volunteer to each telecenter for technical and logistical support. As the centers build sustainability, they have focused on training community members. As of now, five centers are no longer dependant on World Links economic support.
- **Regional seminars on ICT in Education policy** were held in 2006, one held in the Americas, one in Southeast Asia, and one in China.

### The CGAP Initiative

The CGAP initiative serves as a resource for the entire microfinance industry. The CGAP website<sup>51</sup> offers resources such as online tools, articles and other information for implementing microfinance programs. CGAP holds annual meetings where experts present and donors share

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<sup>47</sup> [www.infodev.org](http://www.infodev.org)

<sup>48</sup> <http://www.infodev.org/en/Project.87.html>

<sup>49</sup> <http://www.infodev.org/en/Page.Donors.html>

<sup>50</sup> [www.world-links.org](http://www.world-links.org) Accessed from the WWW June 22, 2007

<sup>51</sup> [www.cgap.org](http://www.cgap.org) Accessed from the WWW June 22, 2007

lessons learned. CGAP receives funding from many governments and foundations, including the U.S. (through USAID). Donors include Canada, Japan, Sweden, Denmark, Germany, Australia, Finland, Italy, the Netherlands, Great Britain, Norway and others<sup>52</sup>. Although housed at the World Bank, which also funds it, it is an independent entity with its own governance structure and board.

The **CGAP Technology Program**, co-funded by the Gates Foundation, focused on IT applications for microfinance. In addition to funding research in this field, the program is hosting a conference on Next Generation Access to Finance in September of 2007.<sup>53</sup>

#### International Development Resource Center (IDRC)

The International Development Resource Center (the IDRC) is a Canadian corporation that receives support from the Canadian government, and partners with other donors in various IDRC housed secretariats and initiatives. IDRC itself has several funding mechanisms for ICT projects. One example is **Connectivity Africa**, an IDRC initiative which funds ICT projects across Africa.<sup>54</sup> This project has funded such initiatives as the development of a medical database system in South Africa to improve HIV/AIDS care in rural areas without connectivity.

#### *Bellanet*

Housed at IDRC, the Bellanet secretariat funds through three main lines, Online Communities, Knowledge Sharing and Open Development.<sup>55</sup> There are three regional Bellanet offices; one in Latin America and the Caribbean, one in Asia and one in Africa. Bellanet's core funders include CDRC, SIDA, SDC and DANIDA.

A Bellanet housed project, **Harambee**, focuses on increasing ICT capacity in Africa based organizations. Harambee project elements include strengthening of existing networks, ICT training, and expertise building within Africa.

#### The Global Knowledge Partnership

The **Global Knowledge Partnership** is an international multilateral network promoting knowledge management and ICT in development. Programming and activities are organized around four thematic areas; access to knowledge, education, resource mobilization and poverty reduction<sup>56</sup>. In partnership with other initiatives and networks, the GKP sponsors awards and hosts international forums.

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<sup>52</sup> For a complete list, please visit the website; <http://www.cgap.org/portal/site/CGAP/menuitem.1b2e54b01647a51067808010591010a0/>. Accessed from the WWW June 22, 2007

<sup>53</sup> <http://cgap.org/portal/site/Technology/>. Accessed from the WWW June 22, 2007

<sup>54</sup> <http://www.connectivityafrica.ca/>

<sup>55</sup> [www.bellanet.org](http://www.bellanet.org)

<sup>56</sup> <http://www.globalknowledge.org/>

The GKP's **Global Partnership Program** organizes members into thematic clusters, within which members have the opportunity to share practices, debate, and engage in face-to-face networking.

#### The World Bank and the International Finance Corporation

The World Bank Group is “the largest multi-lateral financier and provider of policy advice in the field of ICT in developing countries.” The World Bank Group has provided more than US\$3 billion of funding in over 80 countries through its three financing arms in the last five years, through the IBRD, the IFC, and MIGA. In addition, the Bank Group provides policy advice in the area of ICT, and grants for innovative projects. Recent programs include the Africa Regional Communications Infrastructure (RCIP) program is financing the rollout of communications infrastructure across Eastern and Southern Africa. The project has three components, including an ‘enabling environment’ component, a ‘connectivity’ component, and an ‘e-government applications’ component.<sup>57</sup>

#### Development Gateway Foundation

The Development Gateway Foundation (DGF) is an international non-profit organization, headquartered in Washington DC, that focuses on stimulating change in developing countries through information technology and the reduction of poverty. In order to assist aid and development efforts throughout the world, the DGF provides Web-based platforms that focus on providing ICT for effective government, knowledge sharing and collaboration, and local partner programs.<sup>58</sup> DGF also supports activities in over 50 countries through programs focused on aid management, online procurement, e-government, and the Country Gateways, as well through research and training center relationships.<sup>59</sup>

The Development Gateway Award, presented by the DGF, intends to increase the positive impact ICT technologies can have in developing countries, particularly on young people. The Award is open to initiatives by individuals and organizations, both for- and not-for-profit, which use Information and Communication Technologies (ICT) to improve the conditions of youth in developing countries.<sup>60</sup>

The work of the foundation is made possible through donation. The following states donate to the DGF: Australia, Canada, China, Germany, India, Italy, Japan, South Korea, Luxembourg, Netherlands, Pakistan, Rwanda, Switzerland, Bavaria (Germany) and North Rhine-Westphalia. The foundation is also sponsored by the UNDP, UNPF, World Bank as well as by some private sector corporations and individuals.<sup>61</sup>

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<sup>57</sup> World Bank “About GICT” <http://go.worldbank.org/VKHGDY6PY0> and “RCIP Program Background” <http://go.worldbank.org/AW2M4FNR30> (Accessed June 25, 2007).

<sup>58</sup> DGF. 2007. “About DGF” *Development Gateway Foundation webpage*. Accessed from the World Wide Web 22 June 2007: <http://www.dgfoundation.org/about.html>

<sup>59</sup> DGF. 2007. “Where we work” *Development Gateway Foundation webpage*. Accessed from the World Wide Web 22 June 2007: <http://www.dgfoundation.org/about/where-we-work.html>

<sup>60</sup> DGA. 2007. “Rules/Eligibility” *Development Gateway Award Webpage*. Accessed from the World Wide Web 22 June 2007: <http://www.developmentgateway.org/award/criteria.do>

<sup>61</sup> DGF. 2007. “Donors” *Development Gateway Foundation webpage*. Accessed from the World Wide Web 22 June 2007: <http://dgfoundation.org/about/donors.html>

## *Country Programs and Strategies*

### Denmark

The Danish government maintains an **ICT for Development Good Practices website**<sup>62</sup>, which categories ICT case studies by sector, country, and ICT element area. The website is intended as a resource for DANIDA staff and DANIDA's partners, advisors and consultants worldwide. As such, the website focuses on DANIDA activity countries, although it contains case studies from other donors as well.

Another example of DANIDA's support for ICT is **the DANIDA Private Sector Development (PSD) website**<sup>63</sup> in Bangladesh, maintained by the Danish embassy. This website enhances the program by assisting both Danish and Bangladeshi entrepreneurs in utilizing the PSD program resources. Both Danish and Bangladeshi companies can register in a database on the website, allowing it to serve as a catalyst for business partnerships.

### Germany

The German Government has focused on mainstreaming ICTs, believing that this will contribute "to the efficient and timely achievement of international development goals."<sup>64</sup> Examples of projects include

GTZ<sup>65</sup> is a partner of **CyberTracker Conservation**, a nonprofit which uses unique environmental data collection software downloadable on a PDA. This software has multiple applications for conservation and disaster relief.

**The African Drive Project** is another example of GTZ's ICT in Development work. This e-learning project began the creation of an Advanced Certificate in science and technology education, and included the development of an ICT curriculum framework, the building of eight learning centers, and the development of partnership arrangements for effective incorporation of ICT into school curriculums<sup>66</sup>.

### Sweden

SIDA integrates IT in all of its cooperation programmes. SIDA seeks to develop IT in development cooperation as a strategic area for Swedish development cooperation. In addition, SIDA participates in **infoDev** and the **Bellanet** initiatives, and has contributed to the WSIS 2005. Also of note:

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<sup>62</sup><http://www.goodictpractices.dk/client/CursumClientViewer.aspx?CAID=214113&ChangedCourse=true>

<sup>63</sup>[www.psdbangladesh.com](http://www.psdbangladesh.com)

<sup>64</sup> Geraldine de Bastion and Romeo Bertolini, "The Role of the Private Sector in Mainstreaming ICT4D" BMZ, 2005. <http://www.gtz.de/de/dokumente/en-digital-reach-ict-mainstreaming-2005.pdf>

<sup>65</sup> GTZ is a German federal enterprise which supports the German government's development objectives. The German Federal Ministry for Economic Cooperation and Development (BMZ) is its major client.

<sup>66</sup>[www.adp.org.za](http://www.adp.org.za)

- SIDA has also founded **SPIDER** (Swedish Program for ICT in Developing Regions) in 2004<sup>67</sup>. This initiative is a collaboration between SIDA, Swedish universities, and businesses to act as a broker, offering the right ICT resources (personnel or technology) for the development project at hand. In 2006, SPIDER released an action plan for 2007-2011 which outlines goals for the coming five years, including **the establishment of an MSc degree in ICT for Development**.
- SIDA sponsors **the 2006 Stockholm Challenge Awards**, which are intended to promote the use of ICT in development. They are awarded each year in six sectors; Public Administration, Education, Economic Development, Culture, Health and Environment. The winners receive a monetary prize and the Stockholm Challenge Trophy. The primary goal of the awards is to work against social and economic disadvantage through the promotion of ICT as a tool for development.<sup>68</sup> It is strongly focused towards developing regions and community, as well as social issues such as gender equality and minorities with needs. Winners of the Stockholm Challenge receive a cash prize as well as a trophy. The latest awards were sponsored by Ericsson, Cisco, Sun Microsystems, SPIDER KTH, and SIDA. It is owned by the Royal Institute of Technology, KTH, and is led by a Steering Group of representatives from KTH and its main sponsors: SIDA, Ericsson, and the City of Stockholm.<sup>69</sup> This year the Challenge has grown by creating a **2007 association with the Global Knowledge Partnership**, sponsoring an interim award in 2007 for Multi-Stakeholder Partnerships among participants of the Stockholm Challenge Award.<sup>70</sup> After the interim award, the next Award is scheduled for 2008.

### Canada

The **International Development Resource Center (the IDRC)**, profiled above is a Canadian corporation that receives support from the Canadian government, and partners with other donors in various IDRC housed secretariats and initiatives. IDRC itself has several large funding mechanisms for ICT projects.

One example of such a mechanism is **Connectivity Africa**, an initiative which funds ICT projects across Africa<sup>71</sup>. This project has funded such initiatives as the development of a medical database system in South Africa to improve HIV/AIDS care in rural areas without connectivity. The IDRC also houses the Bellanet secretariat, profiled above.

The Canadian government is a partner of **the Institute for Connectivity in the Americas**, (the ICA) which funds a wide range of ICT projects across the Americas. These projects include web portals, such as a Virtual Parliament for parliamentarians from across the Americas to exchange resources and ideas, as well as training projects to boost inclusively<sup>72</sup>.

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<sup>67</sup> <http://www.spidercenter.org/>

<sup>68</sup> Stockholm Exchange. 2007. "The Stockholm Challenge—over a decade of success." Stockholm Challenge website. Accessed from the World Wide Web: 21 June 2007: <http://www.stockholmchallenge.se/about/about>

<sup>69</sup> *Ibid.*

<sup>70</sup> Stockholm Exchange. 2007. "The history of the Stockholm Challenge." Stockholm Challenge website. Accessed from the World Wide Web: 21 June 2007: <http://www.stockholmchallenge.se/about/history>

<sup>71</sup> <http://www.connectivityafrica.ca/>

<sup>72</sup> <http://www.icamericas.net/>

## Japan

The Japanese government's **JICA-Net project** has been active since 2002, providing e-learning support to boost its technical cooperation program worldwide. There are four main components; distance courses and seminars, multimedia teaching resources, web-based training (WBT), and teleconferencing; specific examples of JICA-net activities include a distance learning seminar in Lebanon and an international exchange held through videoconference<sup>73</sup>.

The JICA-net initiative has **its own support staff** that a JICA staff member can call on, with the involvement of his/her supervisor, to give technological expertise and help implement the ICT aspect of a program<sup>74</sup>.

## The Netherlands

The Dutch government's major ICT in Development initiative is **the International Institute for Communications and Development (IICD)**, a nonprofit foundation which is now funded by **both the Dutch government and several EU partners, including DFID and SDC**<sup>75</sup>. IICD has approximately 80 projects currently active in 9 countries worldwide, all in coordination with local and international partners.

IICD co-funds **iTrain online** with DFID, OSI, and DGIS. iTrain online is a Web initiative to create a single source for the best and most relevant computer and Internet training resources for development and social change<sup>76</sup>. The online resources offered include articles, a shared events calendar, and an e-newsletter.

## Switzerland

Along with EU counterparts, Swiss Agency for Development and Cooperation (SDC) is part of several multilateral ICT initiatives, including **the IICD, the Global Knowledge Partnership, and the Bellanet secretariat**.

SDC's **CosiLearn** program is working to establish 'virtual campuses' in fifty universities in Africa. Experts at these universities will be able to take courses from QualiLearn, an e-learning company, with the eventual goal of earning a Master's in e-learning from QualiLearn<sup>77</sup>.

- SDC also funds and supervises **chernobyl.info**, a web portal with information on the lasting effects of the Chernobyl disaster. The portal includes a forum for questions and discussion, and a database of Chernobyl related projects<sup>78</sup>.

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<sup>73</sup> <http://www.jica-net.com/en2/about/about.html>

<sup>74</sup> <http://www.jica-net.com/en2/about/support.html>

<sup>75</sup> <http://www.iicd.org/about/>

<sup>76</sup> <http://www.itrainonline.org/itrainonline/english/about.shtml#Funders>

<sup>77</sup> <http://www.coselearn.org/2.html?&L=1>

<sup>78</sup> <http://www.chernobyl.info/index.php>

## France

The French government sponsors **the ADEN initiative**, which has created a series of communications centers across Africa. The project consists of a series of community internet centers, and is governed on the country level by a committee of local NGOs and French embassy representatives. The ADEN initiative recently released a request for proposals for **the ADEN fund**, a fund for projects in countries with ADEN centers. These projects must be computer based, and must be from organizations in sub-Saharan Africa<sup>79</sup>. **AfriNIC**, a membership based organization which serves as the African Regional Internet Registry, has also received French government support.

## Great Britain

DFID is an **InfoDev** donor, and an **IICD** funder. It has acted as a main supporter for the **Emerging Africa Development Fund**, a public-private partnership which invests in African infrastructure, broadly defined to mean telecommunications, water and sewage, and transportation.

DFID also funded **the DEEP Impact study**, an investigation of ICT technologies for teacher education in the Global South. Research began in 2001, and a report was released in 2005<sup>80</sup>. In South Africa, follow on research on handheld devices provided by bridges.org was planned through March 2007.<sup>81</sup> DEEP Impact launched a **videoconference component** in 2005, and will be investigating the impact of videoconferencing on teachers and students through July 2007.<sup>82</sup>

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<sup>79</sup> <http://www.africaden.net/spip.php?article446>

<sup>80</sup> <http://www.open.ac.uk/deep/Public/web/about/introduction.html>

<sup>81</sup> <http://www.open.ac.uk/deep/Public/web/projects/extending.html>

<sup>82</sup> <http://www.open.ac.uk/deep/Public/web/projects/video.html>

### **Section III: Other US Government Agencies**

Work by many other US Government Agencies is coordinated by the President's Digital Freedom Initiative. The review here is partial, due to the lack of a current DFI Annual Report.

#### **The Digital Freedom Initiative**

The President's Digital Freedom Initiative (DFI) involves multiple federal agencies, the private sector, non-profit organizations and universities. The Initiative is coordinated by the office of Ambassador David A. Gross, U.S Coordinator for International Communications and Information Policy. Participating federal agencies include the Small Business Administration, the Department of Commerce, the Peace Corps, Volunteers for Prosperity, and the State Department, and the Federal Communications Commission, in addition to USAID participation. The purpose of DFI is to harness the strengths of the U.S. public and private sectors to help the developing world better utilize ICTs. The DFI has sponsored a number of workshops, including those concerning regulatory training and regional connectivity.

#### **United States Trade and Development Agency (USTDA)**

According to the USTDA annual report, the agency invested approximately 4.4% of its Asia budget in telecommunications, approximately 8.8% of its Europe and Eurasia budget, approximately 2.9% of its LAC budget, approximately 5.1% of its MENASA budget, and approximately 13.2% of its Sub Saharan Africa budget. Projects by USTDA include:

- USTDA DFI projects included sponsorship of a Middle East and North Africa ICT conference, as well as sponsorship of a major sub-Saharan Africa ICT conference in March of 2007.
- Most recently, the USTDA sponsored the Central Asia ICT workshop in April of 2007.
- Other projects in sub-Saharan Africa included training and business support for a wireless operator in Nigeria, an Internet service provider in Kenya, Ethiopia's College of Telecommunications and Information Technologies, and the Kenyan Broadcasting Company. The USTDA has also supported IT policy development in other regions around the world.

#### **Peace Corps**

According to the Peace Corps Congressional Budget Justifications, **Peace Corps Senegal** has been a pilot Peace Corps country for the Digital Freedom Initiative since 2004<sup>83</sup>. Peace Corps volunteers have also supported **World Links Centers** (profiled above). In addition, Peace Corps

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<sup>83</sup> U.S. Peace Corps Congressional Budget Justification 2007;  
[http://www.peacecorps.gov/multimedia/pdf/policies/peacecorps\\_cbj\\_2007.pdf](http://www.peacecorps.gov/multimedia/pdf/policies/peacecorps_cbj_2007.pdf)

volunteers also work with **Cisco Academies** in Least Developed Countries, profiled below, under a partnership with CISCO.

### **Volunteers for Prosperity**

The President's Volunteers for Prosperity initiative places volunteers in organizations abroad that support the Digital Freedom Initiative.

### **The US Telecommunications Training Institute (USTTI)**

The USTTI is a non profit public-private partnership that supports the tuition free training of qualified ICT industry leaders from around the world. **USAID**, the **US Department of State** and **the FCC** are among the government agencies represented on the board of USTTI.<sup>84</sup> USTTI is offering 88 tuition free courses in 2007 on a wide variety of telecommunications topics. Through the missions, USAID provides travel and sustenance funding for highly qualified scholars from less developed countries, and the Department of State also offers training grants to participants in TTI programs.<sup>85</sup>

### **National Telecommunications and Information Administration (NTIA)**

According to its 2006 Annual Report, the NTIA (which is part of the Commerce Department) "worked closely with the State Department, U.S. Agency for International Development, and the FCC to reform the Telecommunications Leadership Program and the Digital Freedom Initiative, to improve technical knowledge and policy making skills among developing country telecommunication leaders (e.g., in Jordan, Central America, Western Africa, Pacific Islands, Vietnam and the Philippines). NTIA also engaged in ministerial-level outreach with eight African telecom ministers during the June African Growth and Opportunity Act (AGOA) forum in Washington."

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<sup>84</sup> <http://ustti.org/about/directors.php3>

<sup>85</sup> <http://ustti.org/about/>

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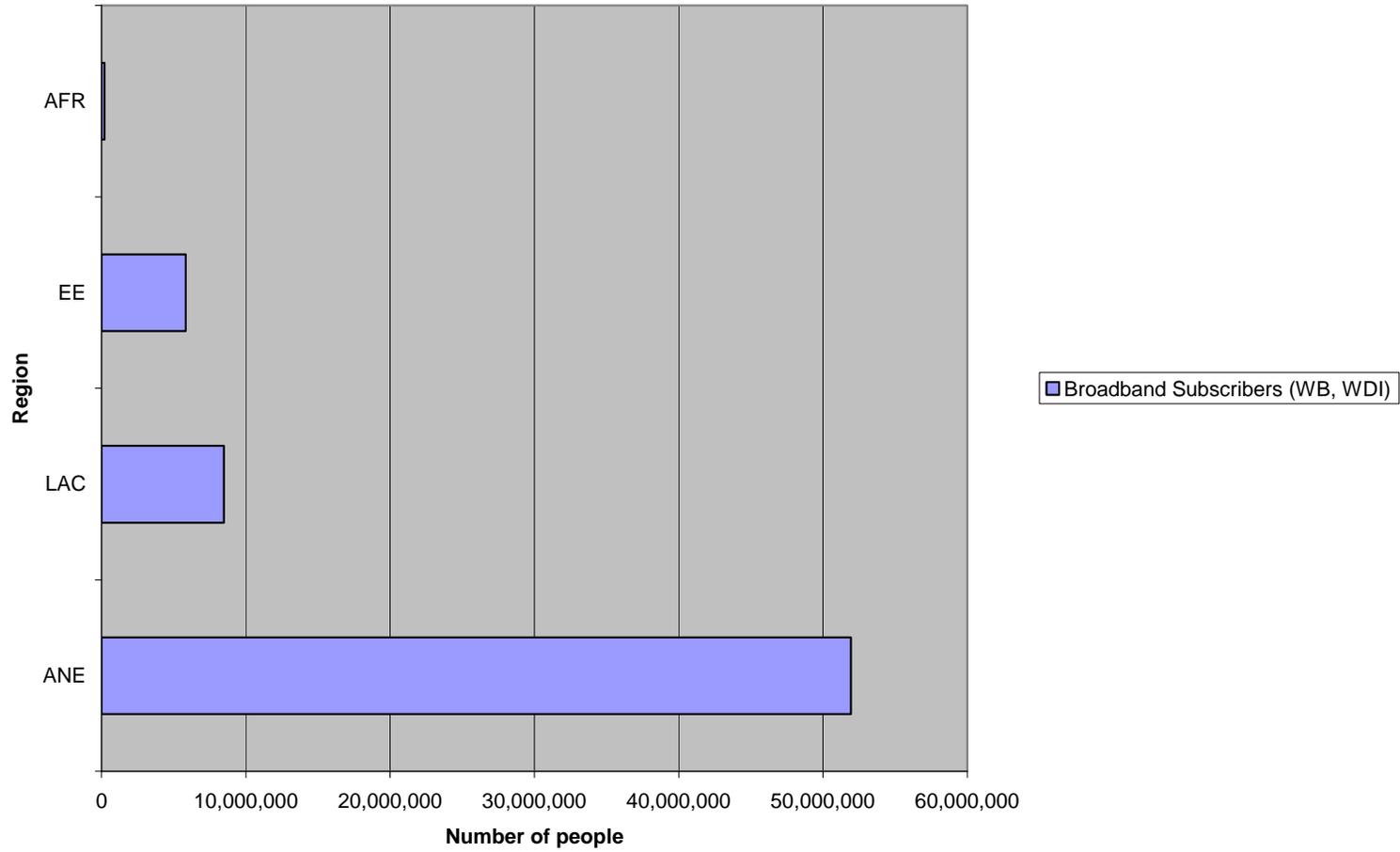
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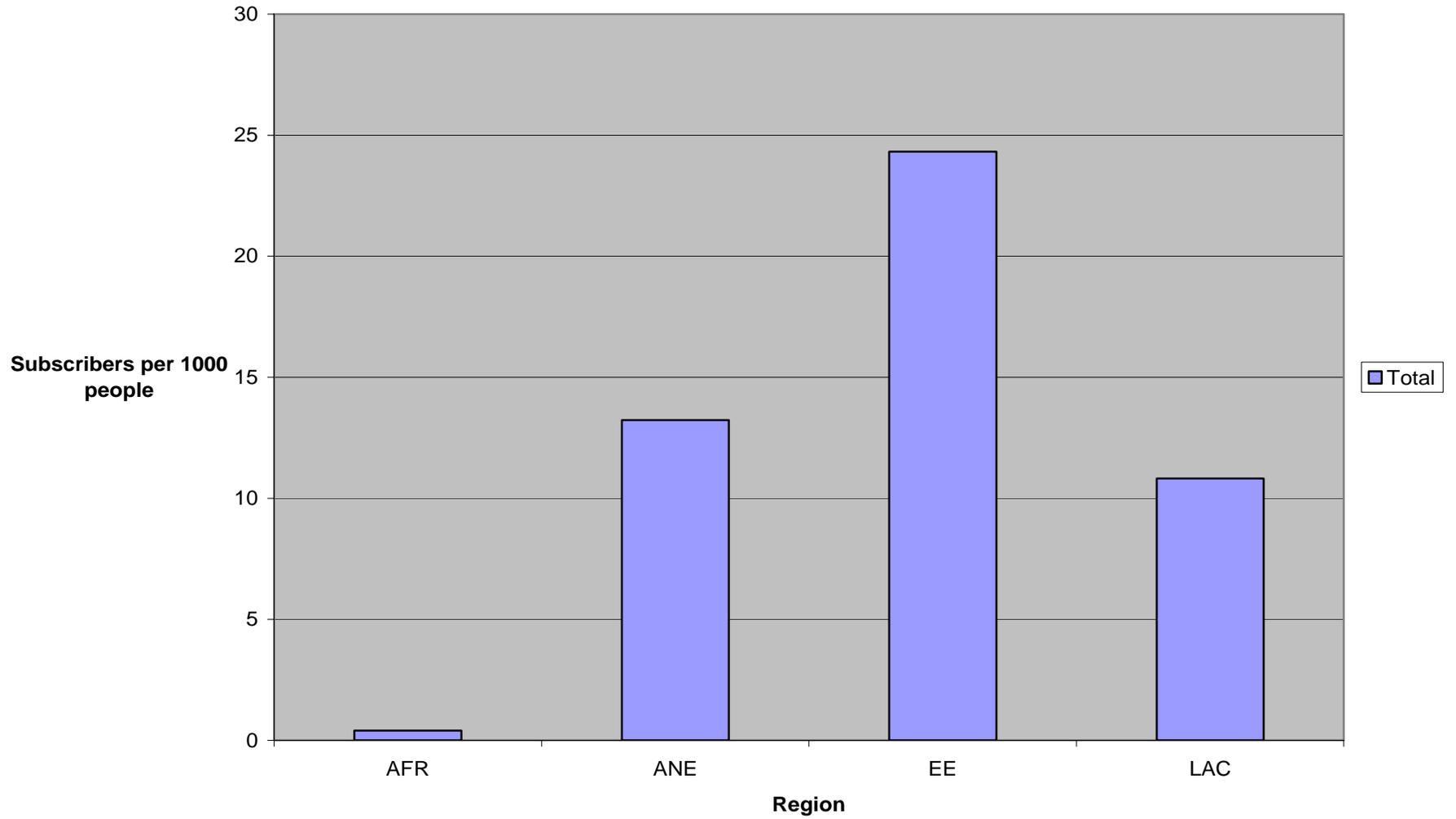
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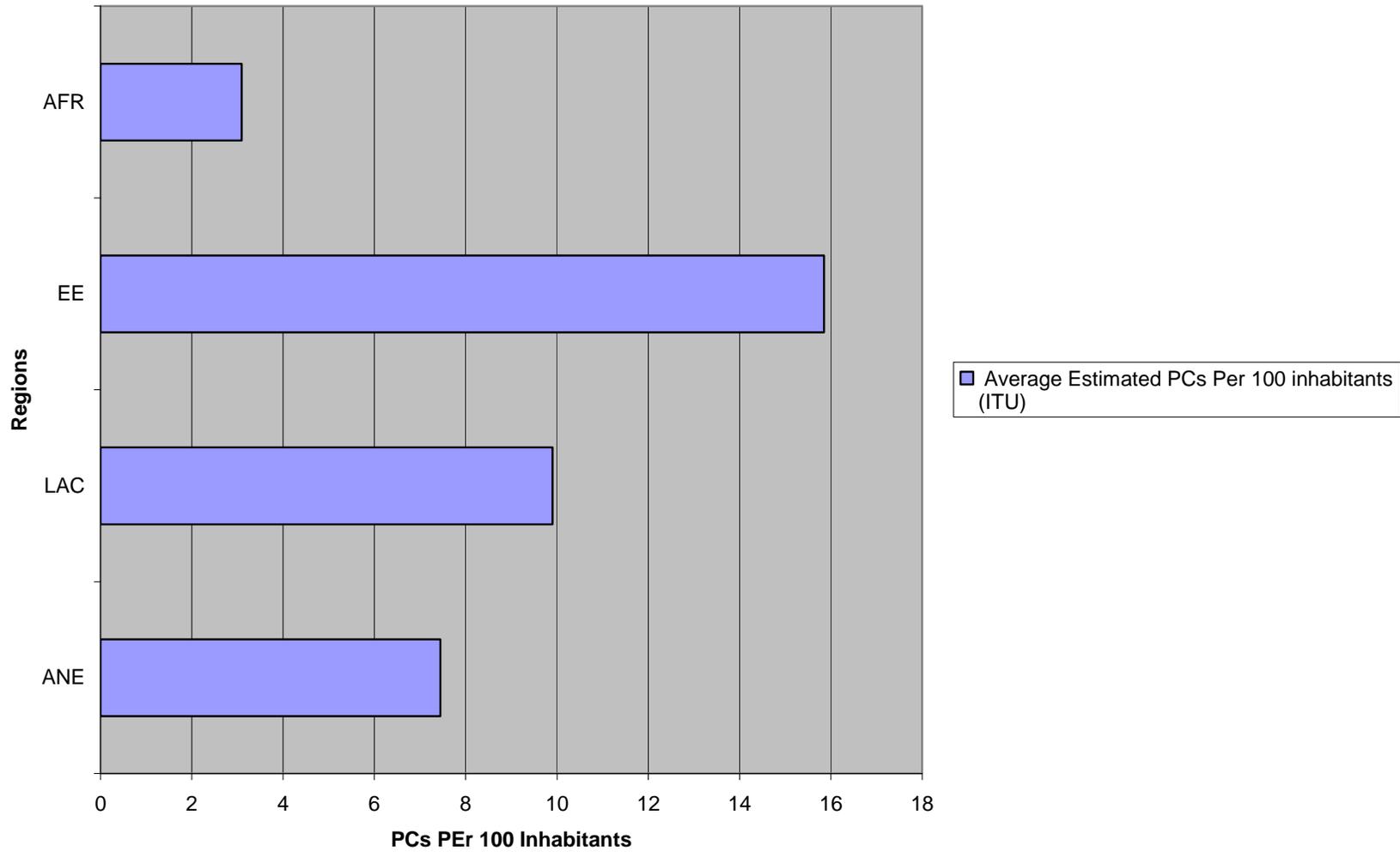
**Broadband Subscribers (WB, WDI)**



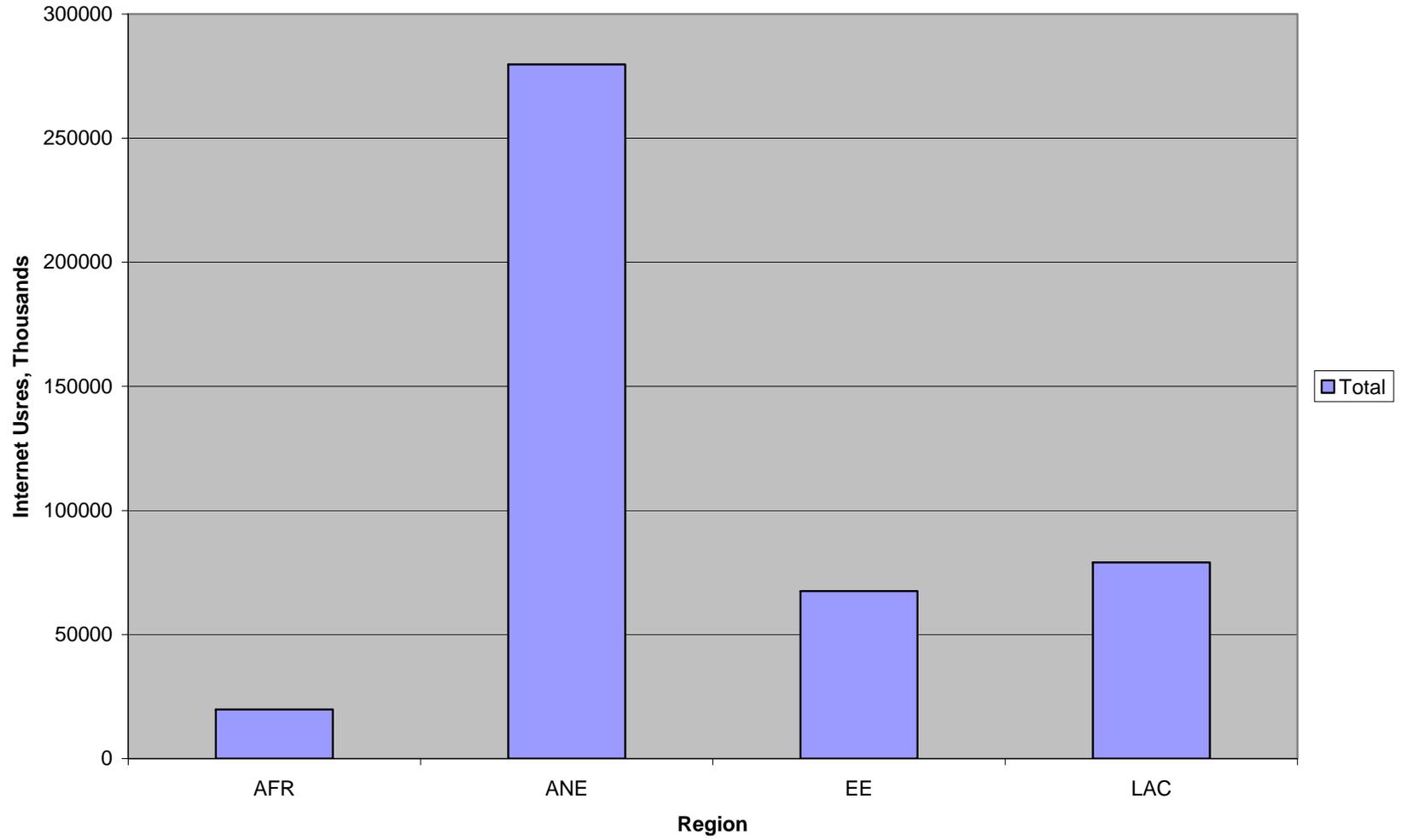
**Average Broadband Subscribers per 1000 people (WB, WDI)**



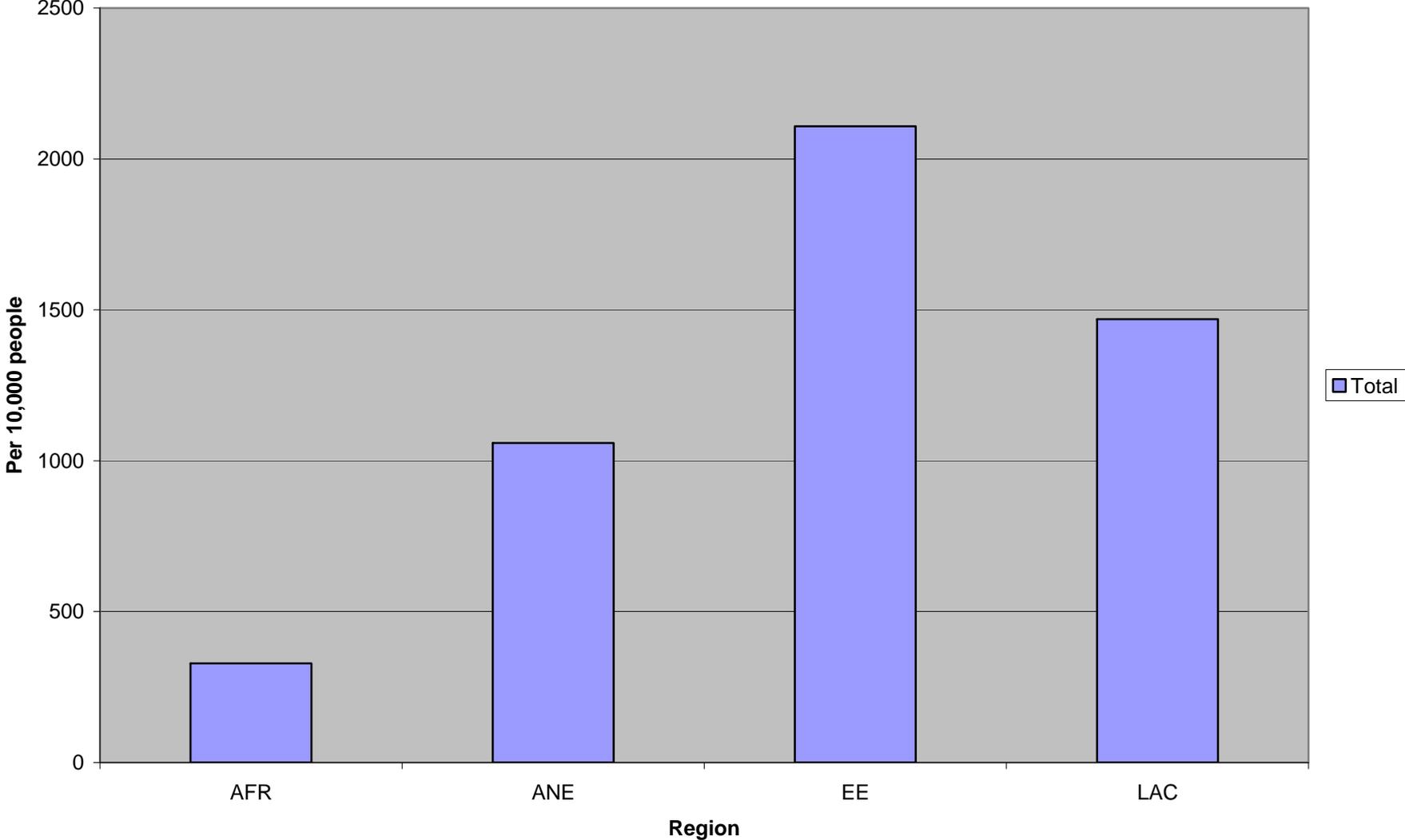
Average Estimated PCs Per 100 inhabitants (ITU)



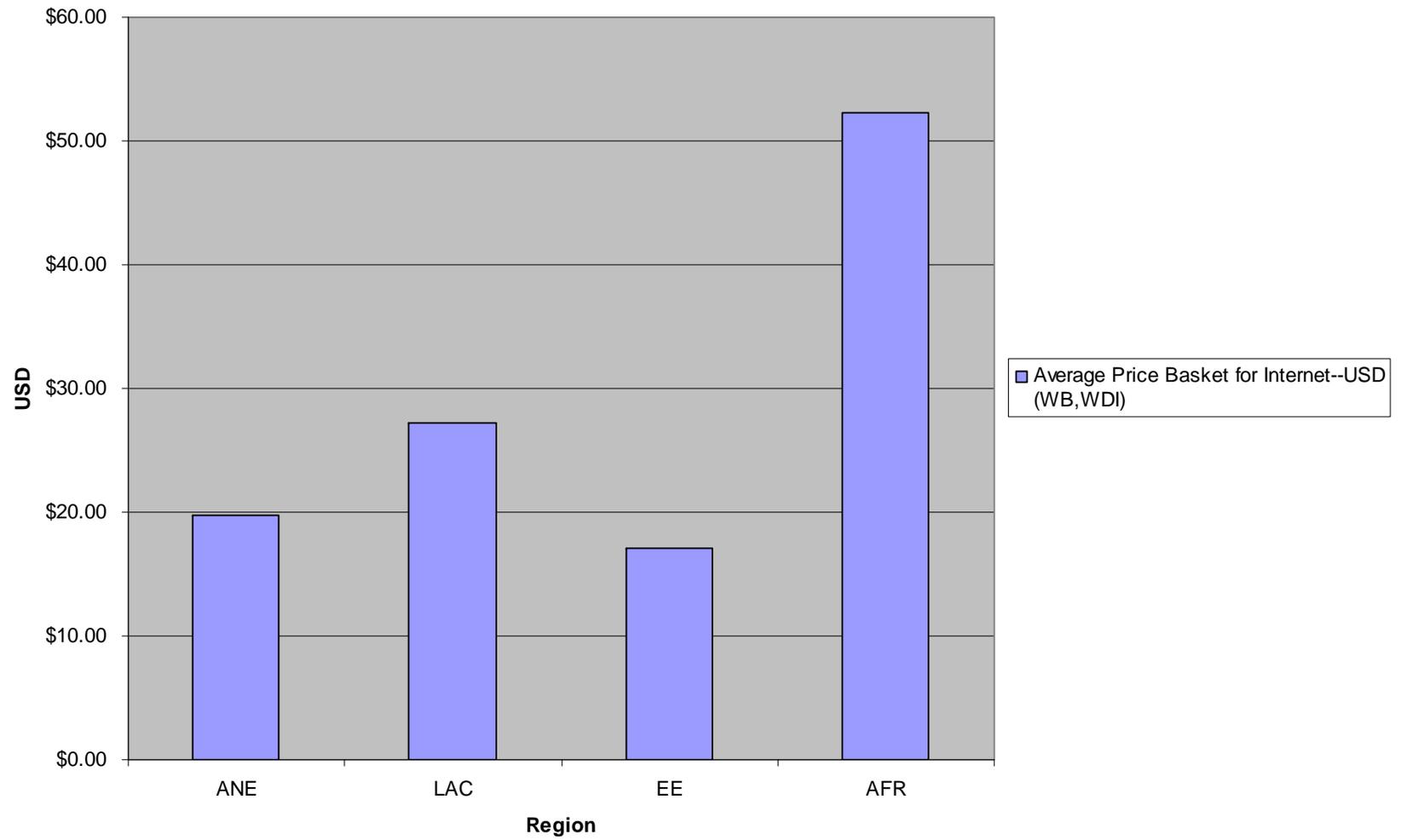
**Internet Users, Thousands (ITU)**



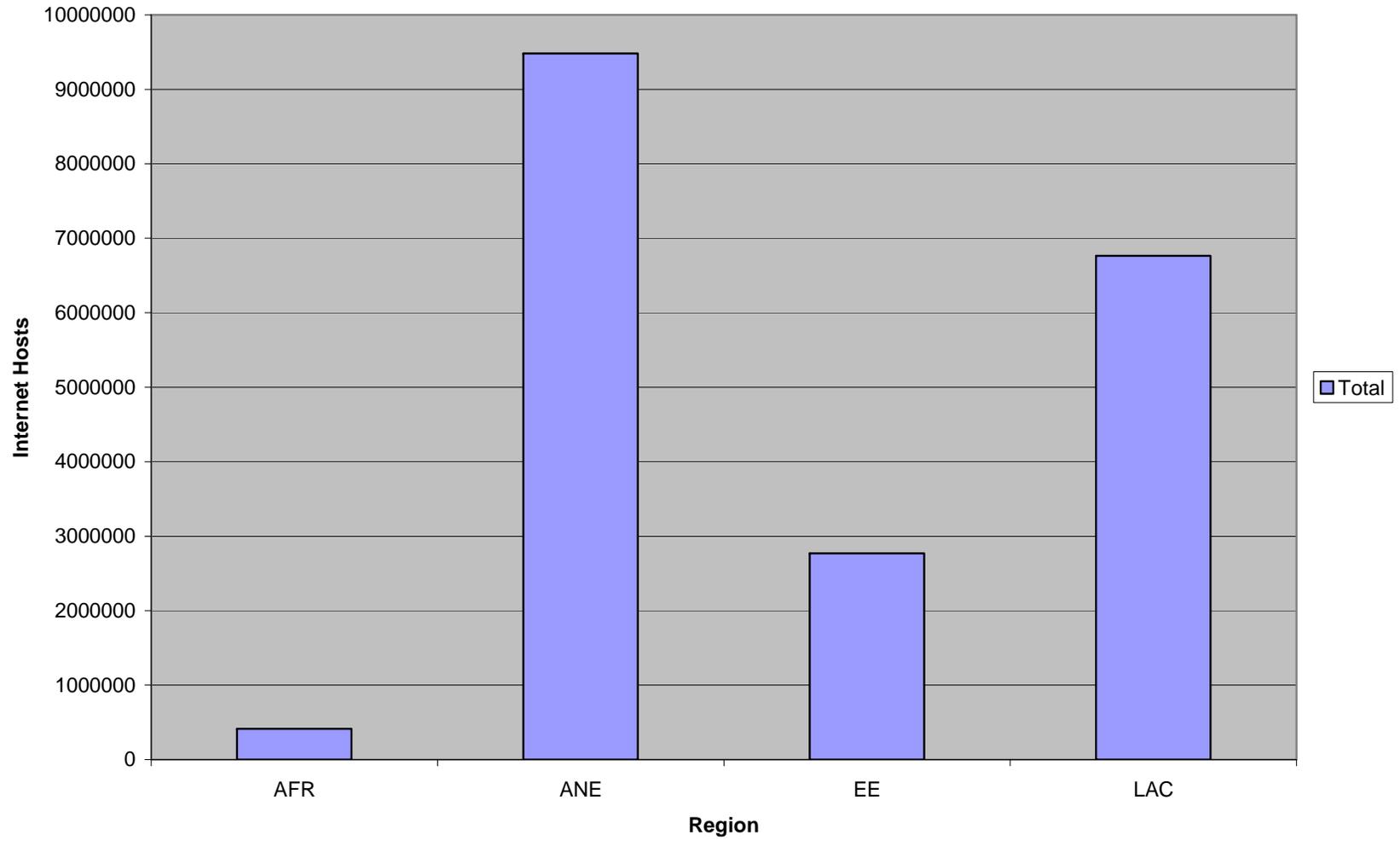
Average Internet Users per 10,000 people



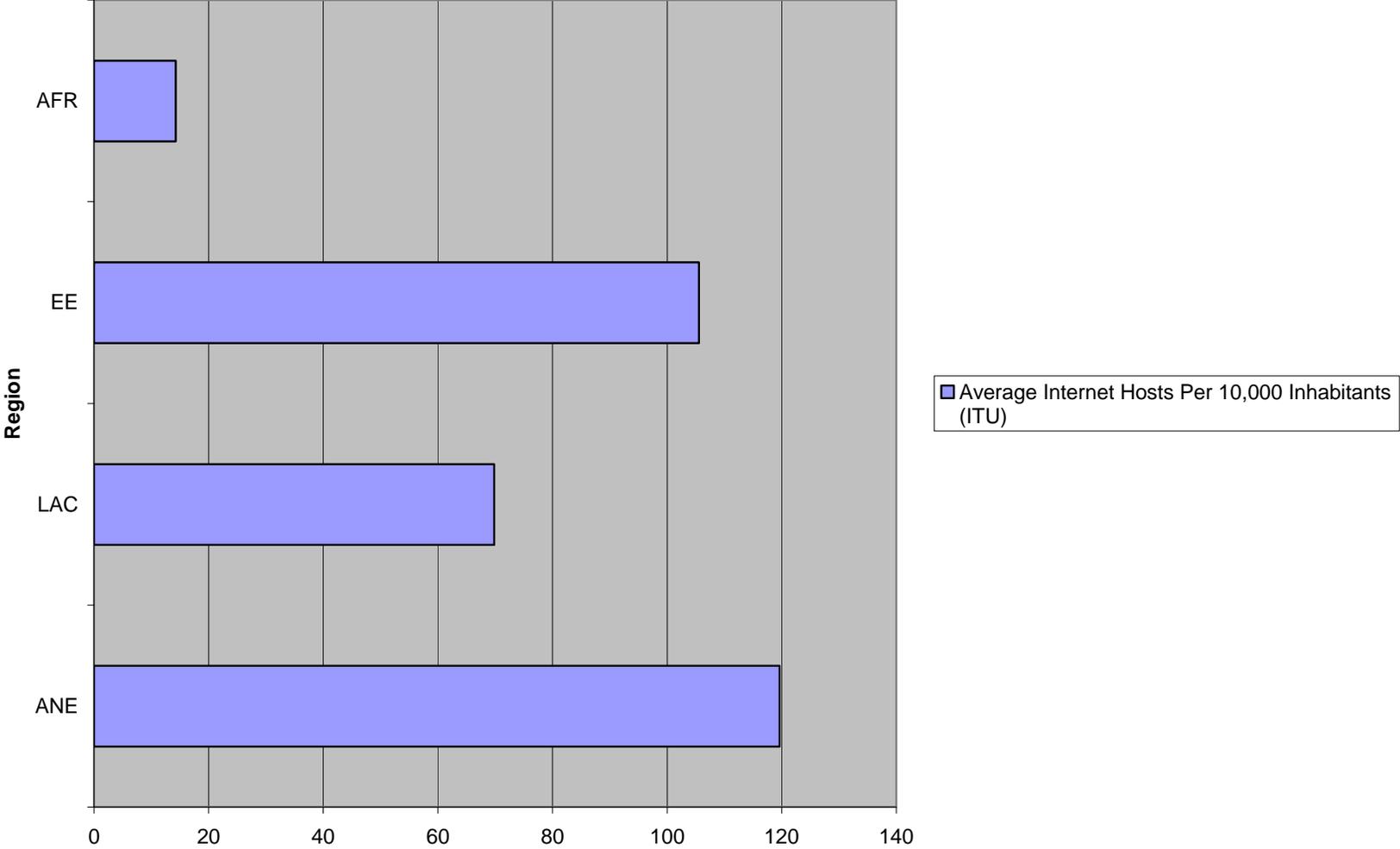
**Average Price Basket for Internet--USD (WB,WDI)**



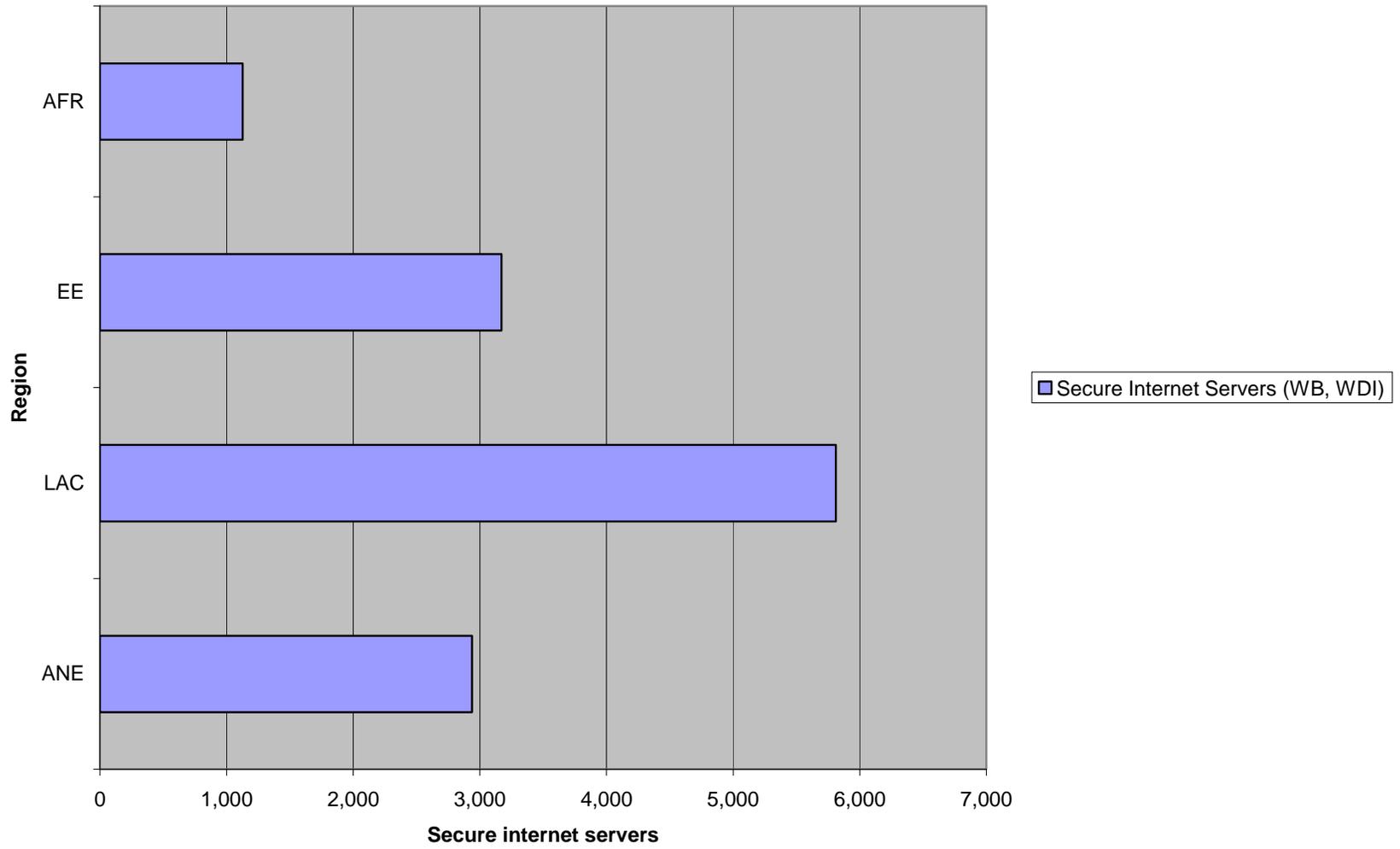
### Internet Hosts (ITU)



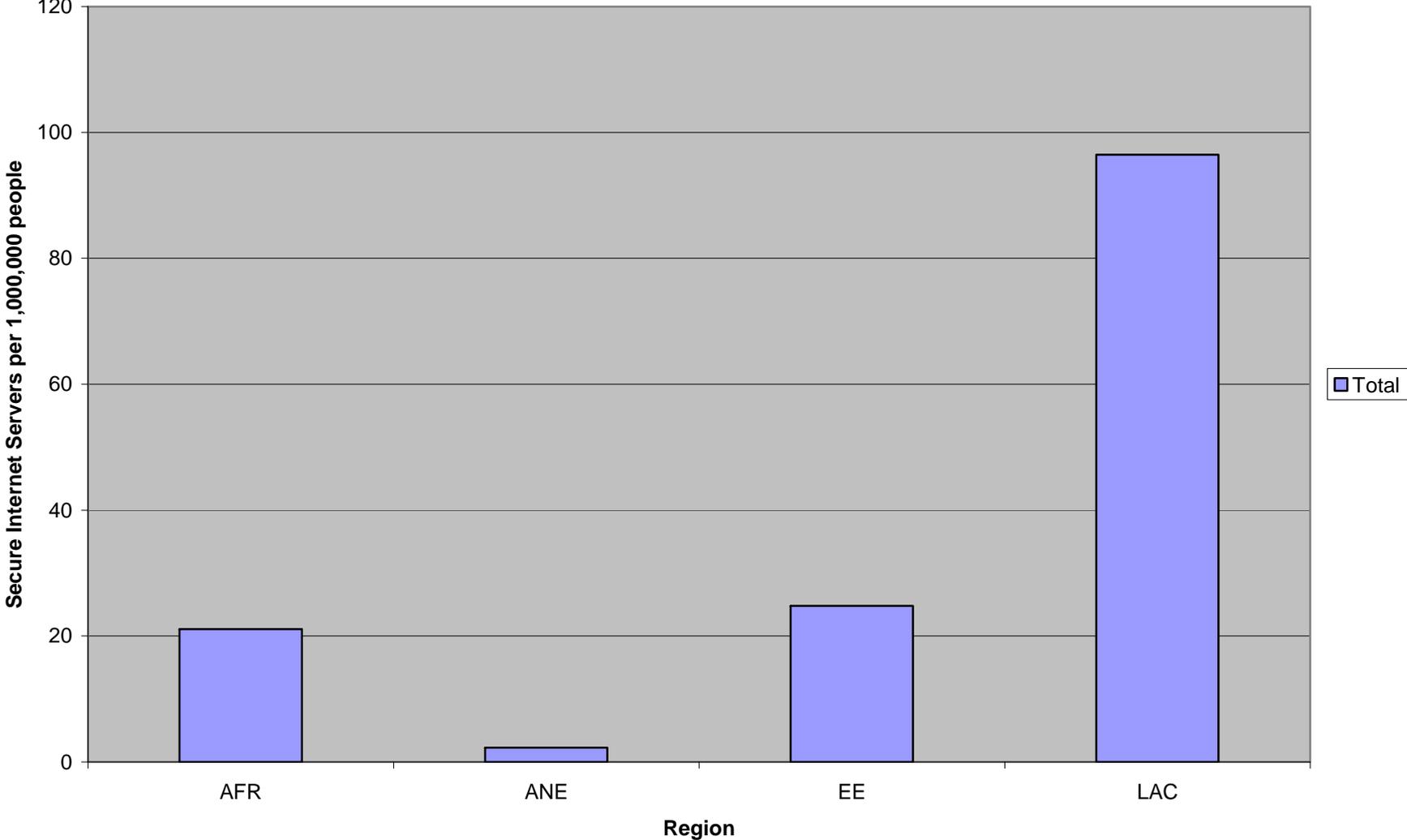
Average Internet Hosts Per 10,000 Inhabitants (ITU)



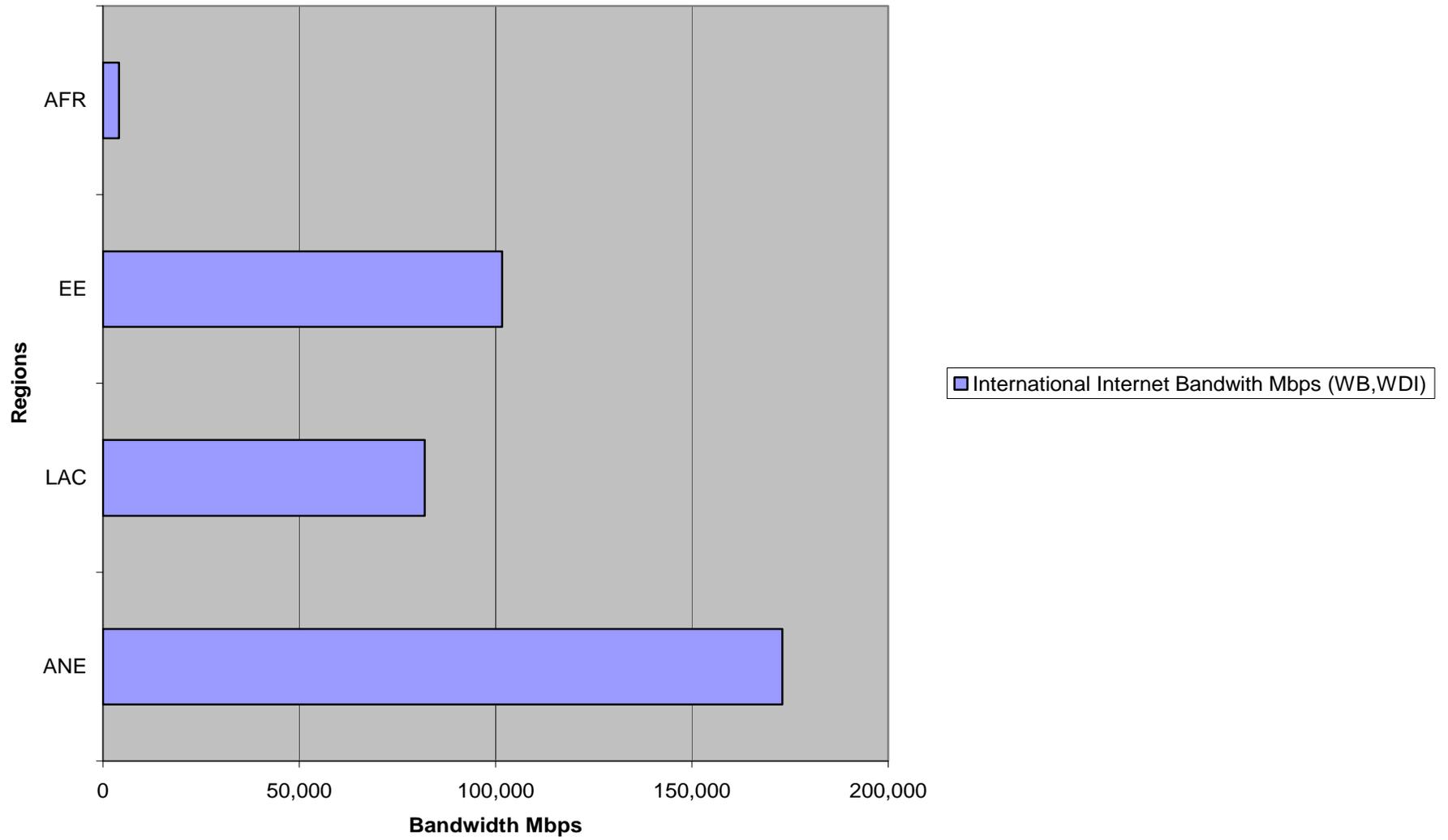
**Secure Internet Servers (WB, WDI)**



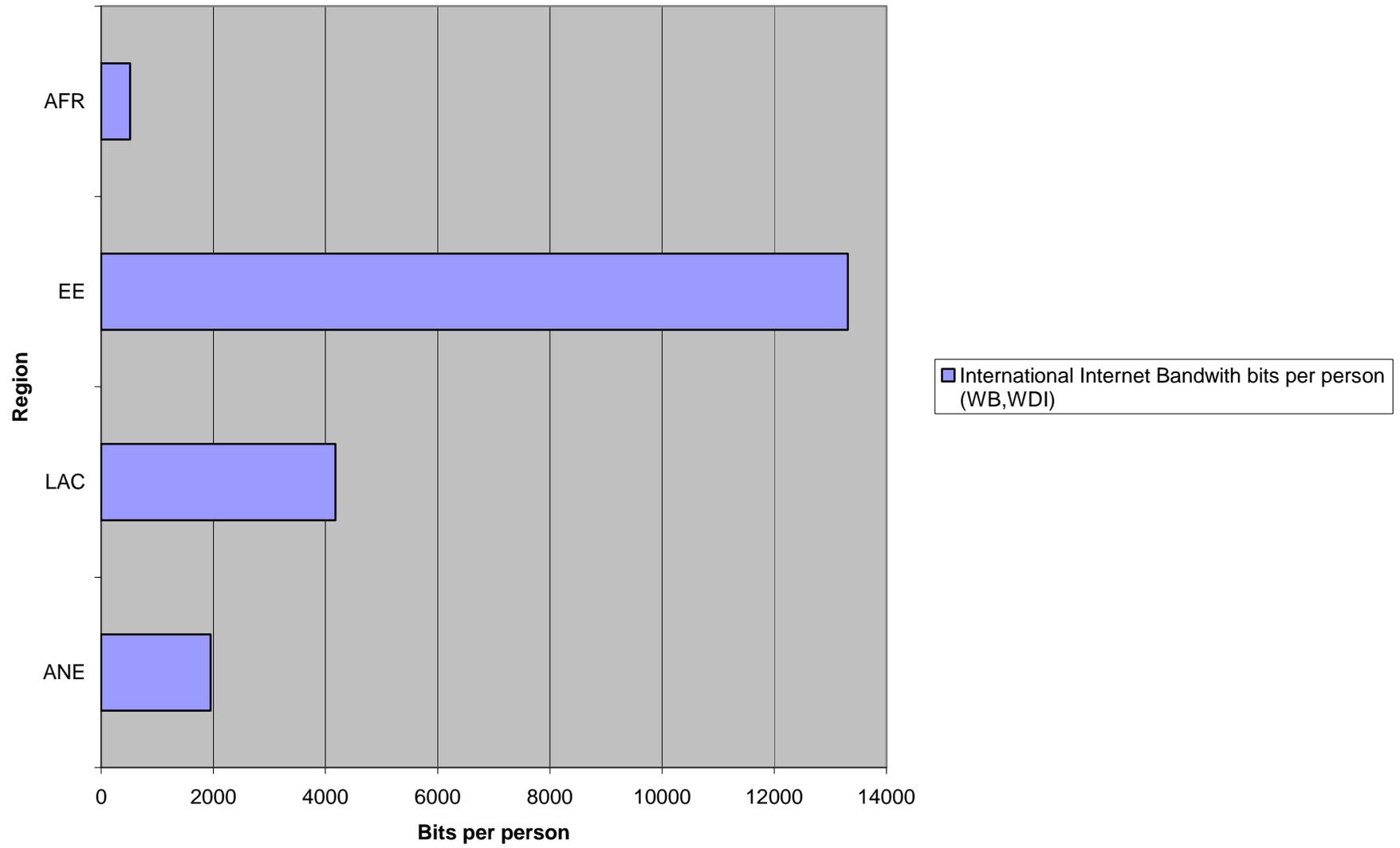
Average Secure Internet Servers per 1,000,000 people



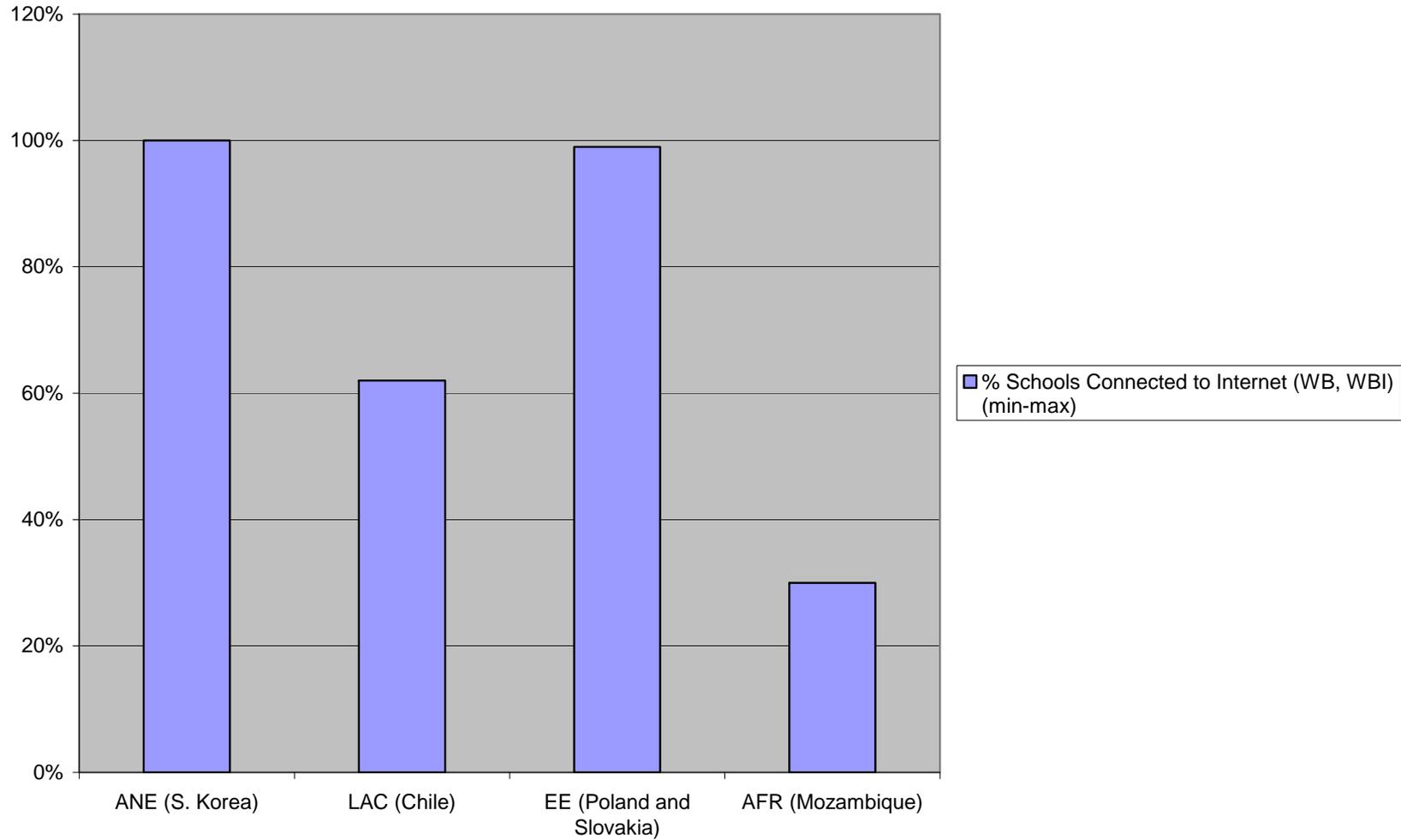
International Internet Bandwidth Mbps (WB,WDI)



International Internet Bandwidth bits per person (WB,WDI)



**% Schools Connected to Internet (WB, WBI) (maximum for region)**



## **Annex II: Internet connectivity and usage statistics for USAID sponsored countries**

### **Introduction**

The statistics in this Annex illustrate differences in Internet access and use in the countries and regions where USAID has programs. The indicators were all taken from the International Telecommunication Union (ITU) and the World Bank World Development Indicators. Data was compiled using USAID's Economic and Social Database (ESDB) which is maintained by USAID Economic Analysis & Data Services (EADS). The data in this annex the latest available; the date ranges from 2000-2005. Averages and totals were calculated with the aid of Microsoft Excel.

This annex will first give an explanation of the indicators. Regional statistics are compiled from countries in which USAID has programs and projects. Then, the statistics will be listed Asia and the Near East (ANE), Europe and Eurasia (EE), and Latin America and the Caribbean (LAC), and Africa (AFR). Totals, the minimum value, maximum value, and the average for the region will follow statistics by country. Statistics describing technology per capita is averaged over a region rather than total; the average provides a more accurate picture. Graphs comparing the region will follow the aggregated data.

### **Explanation of indicators**

#### **Broadband Subscription Data**

- *Broadband Subscribers* and *Broadband Subscribers per 1000 people* are presented together. According to Newton's Telecom Dictionary, "[t]oday's definition of broadband is any circuit significantly faster than a dial-up phone line."<sup>86</sup> Broadband provides faster connection and allows for stronger Internet presence as well as higher information transfer. The indicator of broadband subscribers per 1000 people shows how far broadband has actually penetrated into a population.
- Broadband tends to include cable modems, DSL circuits, T-1 or E-1 circuits from phone companies.<sup>87</sup> The data provided by the ITU measures broadband as high speed access to the public Internet (a TCP/IP connection) at speeds equal to or greater than 256 Kbit/s in one or more directions.<sup>88</sup>
- A comparison between two of the largest broadband subscribing countries in ANE: the People's Republic of China (PRC) and South Korea illustrates the difference between the two figures. PRC has 37,504,000 broadband subscribers; South Korea has only 12,190,710.
- South Korea has a larger percentage of its population with broadband access: for every 1,000 people in South Korea, 252 have broadband access. In China, for every 1,000 people, only 32 people have broadband access. South Korea may have fewer broadband subscribers, but a higher percentage of its population has access to broadband.

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<sup>86</sup> Newton, Harry. 2004. "Broadband" *Newton's Telecom Dictionary*. Gilroy: CMP Books. Page 126.

<sup>87</sup> I Newton, Harry. 2004. "Broadband" *Newton's Telecom Dictionary*. Gilroy: CMP Books. Page 126.

<sup>88</sup> ITU. 2007. Definitions of World Telecommunications/ICT indicators.

## **PCs per inhabitants, Internet Users, and Internet Cost**

- The next cluster of indicators presented together are *PCs per 100 inhabitants* (from ITU), *Internet users(thousands)* (ITU), *Internet users per 1000 people* (ITU), and Internet price basket in USD) (WB, WDI). All of the data is the latest available and is from either the World Bank World Development Indicators or the International Telecommunications union.
- *PCs per 100 inhabitants* are defined by the ITU as: "...self-contained computers designed to be used by a single individual, per 100 people." However, the data doesn't indicate if they are personally owned or owned by a business or government.
- Internet users are people with access to the world wide network. *Internet Users (thousands)*, gives a count of the number of users in a country. The second indicator, *Internet Users per 1000 people*, highlights the permeation of Internet into a society
- *The Price Basket* is an indicator that shows relative cost of Internet subscription. The World Bank describes how the price basket was calculated: "*Price basket* for Internet is calculated based on the cheapest available tariff for accessing the Internet 20 hours a month (10 hours peak and 10 hours off-peak). The basket does not include telephone line rental but does include telephone usage charges if applicable. Data are compiled in the national currency and converted to U.S. dollars using the annual average exchange rate."<sup>89</sup>

## **Internet Hosts and Secure Servers**

- *Internet host* and *secure server* indicators are listed together. Because a server can only support so many clients<sup>90</sup>, these indicators show the ability of a country to participate on the Internet as well as how many people within a country have the ability to use the Internet.
- ITU defines Internet hosts as computers with active Internet Protocol (IP) addresses connected to the Internet. All hosts without country code identification are assumed to be located in the United States (ITU). The World Bank WDI states that "*Secure servers* are servers using encryption technology in Internet transactions."

## **International Internet Bandwidth Information**

- Bandwidth is a measure of transfer ability. Bandwidth statistics are included because with the other indicators listed, it highlights digital transmission ability per capita. According to *Newton's Telecom Dictionary*: "In Telecommunications, bandwidth is

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<sup>89</sup>World Bank. 2007. "ICT at a Glance: Definitions and Statistics." *World Bank: Data and Statistics*. Washington DC: World Bank. Accessed from the World Wide Web 20 June 2007: <http://go.worldbank.org/RFZ8ERLDC0>

<sup>90</sup> The Internet is based on a client-server model. In the computer network, the client sends requests to a server; the server processes the requests and sends them back to the client. Hosts are what are able to connect to the Internet; servers are what are able to provide the services the hosts need.

the width of a communications channel<sup>91</sup>”. There is a difference between analog and digital definition of bandwidth, for the purpose of this annex, only digital communication highlighted. In digital communications, bandwidth is typically measured in bits per second.<sup>92</sup>” A bit<sup>93</sup> is essentially the most basic unit in telecom and data processing.

- Bits per second is defined as “the number of bits passing a specific point per second.” Information on the Internet is transferred as bits, and the higher amount of bits used indicates more information transfer.
- ITU warns about using per capita bandwidth as an indicator: “However, per capita bandwidth may not be meaningful because countries have different levels of Internet penetration. Therefore even if a nation’s per capita bandwidth is low, it may have enough given the number of Internet users in the country. Since Internet use tends to be related to income, this indicator might be adjusted by per capita income to indicate if a nation is doing well relative to its per capita income<sup>94</sup>.”

### **Percentage of Schools connected to the Internet**

- The last indicator listed is *percentage of schools connected to the Internet*. Data is not available for all countries and is the Latest available. (2001-4). Only the countries with data are listed.

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<sup>91</sup> Newton, Harry. 2004. “Bandwidth” *Newton’s Telecom Dictionary*. Gilroy: CMP Books. Page 99.

<sup>92</sup> *Ibid.*

<sup>93</sup> In telecommunications bps typically means bit per second rather than bytes per second. Mbps is megabit per second (one million bits per second.)

<sup>94</sup> <http://www.itu.int/itu-news/issue/2002/10/bandwidth.html>

## Asia and the Near East

Combined Statistics for Asia and the Near East:

### Broadband Subscribers (ANE)

Latest available Data. Data from World Bank, WDI. Date range: 2002-5.

<b>Total Broadband subscribers:</b>	51,940,056
<b>Average Broadband subscribers:</b>	1,997,694
<b>Country with most broadband subscribers:</b>	China: 37,504,000
<b>Number of countries with no broadband subscriptions:</b>	5
<b>Number of countries with no available data:</b>	1

### Broadband Subscribers per 1000 people (ANE)

Latest available Data. Data from World Bank, WDI. Date range: 2002-5

<b>Average ANE Broadband subscribers per 1000 people:</b>	13.23076923
<b>Country with highest number of broadband subscribers per 1000 people:</b>	South Korea (252)
<b>Number of countries with no broadband per 1000:</b>	11
<b>Number of countries with No broadband data:</b>	1

### Estimated PCs per 100 inhabitants (ANE)

Latest available Data. Data from ITU Date range: 2004-5

<b>Average estimated PCs per 100 inhabitants:</b>	7.4428
<b>Country with highest estimated PCs per 100 inhabitants:</b>	South Korea: 54.49
<b>Country with lowest estimated PCs per 100 inhabitants:</b>	Cambodia: 0.26
<b>Number of countries with no available data on PCs:</b>	2

### Internet Users, Thousands (ANE)

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Users (thousands):</b>	279,637.3
<b>Average Internet users (thousands):</b>	10,755.281
<b>Country with Highest Internet users (thousands):</b>	China: 111,000
<b>Country with Lowest Internet users (thousands):</b>	Laos: 25.0
<b>Number of countries with no available data:</b>	1

### Internet Users per 10,000 (ANE)

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet users per 10,000 people:</b>	1,058.81
<b>Country with highest Internet users per 10,000 people:</b>	South Korea (6,835.00)
<b>Country with lowest Internet users per 10,000 people:</b>	Afghanistan (10.00)
<b>Number of countries with no available data:</b>	1

### **Price Basket for Internet--USD (ANE)**

Latest available Data. Data from World Bank WDI Date range: 2002-5

<b>Total Price Basket (USD)</b>	\$ 474.31
<b>Average Price Basket (USD):</b>	\$ 19.76
<b>Country with Highest Price Basket (USD):</b>	East Timor: \$93.80
<b>Country with Lowest Price Basket (USD):</b>	Philippines \$1.91
<b>Number of countries with no available data:</b>	3

### **Internet Hosts (ANE)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Hosts:</b>	9,482,788
<b>Average Internet hosts:</b>	379,311.52
<b>Country with most Internet hosts:</b>	South Korea: 5,433,591
<b>Countries with least Internet hosts:</b>	Burma and Iraq: 4
<b>Countries with no available data:</b>	2

### **Internet Hosts per 10,000 (ANE)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet hosts per 10,000 Inhabitants:</b>	119.65
<b>Country with most Internet hosts per 10,000 Inhabitants:</b>	Taiwan: 1,389.65
<b>Country with least Internet hosts per 10,000 Inhabitants:</b>	Afghanistan: .03
<b>Countries with no available data:</b>	5

### **Secure Internet Servers (ANE)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

<b>Total Secure Internet Servers:</b>	2,938
<b>Average Secure Internet Servers:</b>	117.52
<b>Country with most Secure Internet Servers:</b>	South Korea: 964
<b>Countries with least Secure Internet Servers:</b>	Afghanistan, Cambodia, Burma, East Timor: 1
<b>Countries with no available data:</b>	2

### **Secure Internet Servers per million people (ANE)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

<b>Average Secure Internet Servers per million people:</b>	2.28
<b>Country with most Secure Internet Servers per million people:</b>	South Korea (20)
<b>Number of Countries with 0 Secure Internet Servers per million people:</b>	11
<b>Countries with no available data per million people:</b>	2

### **International Internet Bandwidth (mbps) (ANE)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total International Internet Bandwidth (mbps):</b>	173,058
<b>Average International Internet Bandwidth (mbps):</b>	7,524.26
<b>Country with most International Internet Bandwidth (mbps):</b>	China: 74,429 mbps
<b>Country with least International Internet Bandwidth (mbps):</b>	Laos: 7 mpbs
<b>Countries with no available data:</b>	4

### **International Internet Bandwidth bits per person (ANE)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total I.I. Bandwidth bits per person:</b>	1950
<b>Average I.I. Bandwidth bits per person:</b>	84.78
<b>Country with most I.I. Bandwidth bits per person:</b>	South Korea: 1485
<b>Country with least I.I. Bandwidth bits per person):</b>	Bangladesh: 0
<b>Countries with no available data:</b>	4

### **Percentage of schools connected to the Internet (ANE)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Highest Percent of Schools with an Internet connection:</b>	South Korea: 100%
<b>Lowest Percent of Schools with an Internet connection:</b>	Philippines: 2%
<b>Countries with no available data:</b>	19

**Table 1.1**  
**Broadband Subscription data (ANE)**

Country	Broadband Subscribers (WB, WDI)	Broadband Subscribers per 1000 people (WB, WDI)
Afghanistan	220	0
Bangladesh	0	0
Burma (Myanmar)	119	0
Cambodia	419	0
China	37,504,000	29
East Timor	0	0
Egypt	113,526	2
India	1,300,000	1
Indonesia	38,300	0
Iraq	0	0
Jordan	10,424	2
Laos	170	0
Lebanon	130,000	36
Mongolia	1,800	1
Morocco	249,138	8
Nepal	0	0
Oman	8,378	3
Pakistan	44,600	0
Philippines	55,000	1
South Korea	12,190,710	252
Sri Lanka	14,072	1
Taiwan	NA	NA
Thailand	45,000	1
Tunisia	16,491	2
Vietnam	210,024	3
West Bank-Gaza	7,665	2
Yemen	0	0

Latest available Data. Date range: 2002-5.

**Table 1.2**  
**PCs per inhabitants, Internet Users, and Internet Cost (ANE)**

Country	Estimated PCs Per 100 inhabitants (ITU)	Internet Users, Thousands (ITU)	Internet Users per 10,000 People (ITU)	Price Basket for Internet--USD (WB,WDI)
<b>Afghanistan</b>	NA	30.0	10.00	NA
<b>Bangladesh</b>	1.19	300.0	22.00	\$24.01
<b>Burma (Myanmar)</b>	0.6	78.0	12.00	\$48.87
<b>Cambodia</b>	0.26	41.0	28.00	\$33.08
<b>China</b>	4.08	111,000.0	844.00	\$9.75
<b>East Timor</b>	NA	NA	NA	\$93.80
<b>Egypt</b>	3.78	5,000.0	675.00	\$4.97
<b>India</b>	1.54	60,000.0	544.00	\$6.78
<b>Indonesia</b>	1.36	16,000.0	718.00	\$17.26
<b>Iraq</b>	0.83	36.0	14.00	NA
<b>Jordan</b>	5.34	629.5	1,122.00	\$11.14
<b>Laos</b>	1.69	25.0	42.00	\$32.62
<b>Lebanon</b>	11.45	700.0	1,957.00	\$27.60
<b>Mongolia</b>	12.84	268.3	1,014.00	\$10.00
<b>Morocco</b>	2.35	4,600.0	1,461.00	\$26.80
<b>Nepal</b>	0.47	112.5	41.00	\$8.11
<b>Oman</b>	4.66	245.0	967.00	\$14.53
<b>Pakistan</b>	0.42	10,500.0	682.00	\$9.50
<b>Philippines</b>	4.46	4,400.0	532.00	\$1.81
<b>South Korea</b>	54.49	33,010.0	6,835.00	\$32.62
<b>Sri Lanka</b>	2.72	280.0	144.00	\$4.57
<b>Taiwan</b>	52.78	13,210.0	5,801.00	NA
<b>Thailand</b>	5.83	7,084.2	1,103.00	\$6.95
<b>Tunisia</b>	5.63	953.8	946.00	\$12.38
<b>Vietnam</b>	1.26	10,711.0	1,272.00	\$10.66
<b>West Bank-Gaza</b>	4.59	243.0	656.00	\$15.57
<b>Yemen</b>	1.45	180.0	87.00	\$10.93

Latest available Data. Date range: 2002-5

**Table 1.3**  
**Internet Hosts and Secure Servers (ANE)**

Country	Internet Hosts (ITU)	Internet Hosts Per 10,000 Inhabitants (ITU)	Secure Internet Servers (WB, WDI)	Secure Internet Servers per 1,000,000 people (WB, WDI)
Afghanistan	71	0.03	1	0
Bangladesh	13	NA	3	0
Burma (Myanmar)	4	NA	1	0
Cambodia	827	0.57	1	0
China	162,821	1.25	426	0
East Timor	NA	NA	1	1.03
Egypt	3,499	0.50	39	1
India	143,654	1.33	658	1
Indonesia	111,630	5.01	103	0
Iraq	4	NA	NA	NA
Jordan	2,966	5.28	20	4
Laos	1,470	2.54	2	0
Lebanon	6,875	19.37	34	10
Mongolia	161	0.61	8	3
Morocco	4,118	1.38	22	1
Nepal	2,846	1.15	12	0
Oman	1,506	5.94	10	4
Pakistan	25,096	1.65	46	0
Philippines	65,390	7.91	210	3
South Korea	5,433,591	1,130.06	964	20
Sri Lanka	2,061	1.06	35	2
Taiwan	3,153,004	1,389.65	NA	NA
Thailand	360,255	56.56	312	5
Tunisia	373	0.37	14	1
Vietnam	391	0.05	12	0
West Bank-Gaza	NA	NA	2	1
Yemen	162	0.08	2	0

Latest available Data. Date range: 2002-5

**Table 1.4**  
**International Internet Bandwidth information (ANE)**

Country	International Internet Bandwidth Mbps (WB,WDI)	International Internet Bandwidth bits per person (WB,WDI)
Afghanistan	30	1
Bangladesh	60	0
Burma (Myanmar)	61	1
Cambodia	18	1
China	74429	57
East Timor	NA	NA
Egypt	1412	19
India	12300	11
Indonesia	2244	10
Iraq	NA	NA
Jordan	310	59
Laos	7	1
Lebanon	200	56
Mongolia	22	9
Morocco	775	26
Nepal	18	1
Oman	38	15
Pakistan	800	5
Philippines	3215	39
South Korea	71380	1485
Sri Lanka	324	17
Taiwan	NA	NA
Thailand	3006	47
Tunisia	437	44
Vietnam	1892	23
West Bank-Gaza	80	23
Yemen	NA	NA

Latest available data. Date range: 2000-4

**Table 1.5**  
**Percentage of Schools connected to the Internet (ANE)**

<b>Country</b>	<b>% Schools Connected to Internet (WB, WBI)</b>
<b>Philippines</b>	2.0%
<b>Jordan</b>	18.0%
<b>Mongolia</b>	19.0%
<b>Vietnam</b>	20.0%
<b>Tunisia</b>	25.0%
<b>Thailand</b>	37.0%
<b>Egypt</b>	66.0%
<b>South Korea</b>	100.0%

Latest available Data. Date range: 2000-4  
 Only countries with data are listed.

## **Europe and Eurasia**

Combined Statistics for Europe and Eurasia:

### **Broadband Subscribers (EE)**

Latest available Data. Data from World Bank, WDI. Date range: 2002-5.

<b>Total Broadband subscribers:</b>	5,833,639
<b>Average Broadband subscribers:</b>	208,344.25
<b>Country with most broadband subscribers:</b>	Russia: 1,589,000
<b>Number of countries with no broadband subscriptions:</b>	4
<b>Number of countries with no available data:</b>	1

### **Broadband Subscribers per 1000 people (EE)**

Latest available Data. Data from World Bank, WDI. Date range: 2002-5

<b>Average EE Broadband subscribers per 1000 people:</b>	24.32
<b>Country with highest number of broadband subscribers per 1000 people:</b>	Estonia: 133
<b>Number of countries with no broadband per 1000:</b>	13
<b>Number of countries with No broadband data:</b>	1

### **Estimated PCs per 100 inhabitants (EE)**

Latest available Data. Data from ITU Date range: 2004-5

<b>Average estimated PCs per 100 inhabitants:</b>	15.85
<b>Country with highest estimated PCs per 100 inhabitants:</b>	Estonia: 48.91
<b>Country with lowest estimated PCs per 100 inhabitants:</b>	Albania: 1.17
<b>Number of countries with no available data on PCs:</b>	7

### **Internet Users, Thousands (EE)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Users (thousands):</b>	67479.6
<b>Average Internet users (thousands):</b>	2409.99
<b>Country with Highest Internet users (thousands):</b>	Russia: 21,800
<b>Country with Lowest Internet users (thousands):</b>	Tajikistan: 5
<b>Number of countries with no available data:</b>	1

### **Internet Users per 10,000 (EE)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet users per 10,000 people:</b>	2108.54
<b>Country with highest Internet users per 10,000 people:</b>	Slovenia: 5,541
<b>Country with lowest Internet users per 10,000 people:</b>	Tajikistan: 8.00
<b>Number of countries with no available data:</b>	1

### **Price Basket for Internet--USD (EE)**

Latest available Data. Data from World Bank WDI Date range: 2002-5

<b>Total Price Basket (USD)</b>	\$476.75
<b>Average Price Basket (USD):</b>	\$17.03
<b>Country with Highest Price Basket (USD):</b>	Turkmenistan: \$69.46
<b>Country with Lowest Price Basket (USD):</b>	Uzbekistan: \$5.67
<b>Number of countries with no available data:</b>	1

### **Internet Hosts (EE)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Hosts:</b>	2,769,004
<b>Average Internet hosts:</b>	98,893
<b>Country with most Internet hosts:</b>	Russia: 854,310
<b>Countries with least Internet hosts:</b>	Tajikistan: 154
<b>Countries with no available data:</b>	1

### **Internet Hosts per 10,000 (EE)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet hosts per 10,000 Inhabitants:</b>	105.55
<b>Country with most Internet hosts per 10,000 Inhabitants:</b>	Hungary: 479.17
<b>Country with least Internet hosts per 10,000 Inhabitants:</b>	Tajikistan: .24
<b>Countries with no available data:</b>	4

### **Secure Internet Servers (EE)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

<b>Total Secure Internet Servers:</b>	3170
<b>Average Secure Internet Servers:</b>	121.92
<b>Country with most Secure Internet Servers:</b>	Poland: 838
<b>Countries with 1 Secure Internet Server:</b>	Uzbekistan, Albania, Macedonia
<b>Countries with no available data:</b>	3

### **Secure Internet Servers per million people (EE)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

<b>Average Secure Internet Servers per million people:</b>	24.77
<b>Country with most Secure Internet Servers per million people:</b>	Cyprus: 217
<b>Number of Countries with 0 Secure Internet Servers per million people:</b>	4
<b>Countries with no available data per million people:</b>	3

### **International Internet Bandwidth (mbps) (EE)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total International Internet Bandwidth (mbps):</b>	101,700 mbps
<b>Average International Internet Bandwidth (mbps):</b>	3,766.67 mbps
<b>Country with most International Internet Bandwidth (mbps):</b>	Czech Republic: 25,000 mbps
<b>Country with least International Internet Bandwidth (mbps):</b>	Turkmenistan: 0 mbps
<b>Countries with no available data:</b>	2

### **International Internet Bandwidth bits per person (EE)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total I.I. Bandwidth bits per person:</b>	13,311
<b>Average I.I. Bandwidth bits per person:</b>	493
<b>Country with most I.I. Bandwidth bits per person:</b>	Estonia: 3,410
<b>Countries with 0 I.I. Bandwidth bits per person:</b>	Turkmenistan, Azerbaijan, Tajikistan
<b>Countries with no available data:</b>	2

### **Percentage of schools connected to the Internet (EE)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Highest Percent of Schools with an Internet connection:</b>	Poland and Slovenia (99%)
<b>Lowest Percent of Schools with an Internet connection:</b>	Kyrgyz Republic (1%)
<b>Countries with no available data:</b>	16

**Table 2.1**  
**Broadband Subscription data (EE)**

Country	Broadband Subscribers (WB, WDI)	Broadband Subscribers per 1000 people (WB, WDI)
Albania	0	0
Armenia	1,000	0
Azerbaijan	2,184	0
Belarus	1,564	0
Bosnia-Herzegovina	13,702	4
Bulgaria	1,291	0
Croatia	89,800	20
Cyprus	26,684	35
Czech Republic	447,682	44
Estonia	179,200	133
Georgia	1,410	0
Hungary	651,689	65
Kazakhstan	1,997	0
Kosovo	NA	NA
Kyrgyz Rep.	2,459	0
Latvia	260,770	113
Lithuania	234,081	69
Macedonia	12,436	6
Moldova	10,395	2
Poland	1,243,949	33
Romania	751,060	35
Russia	1,589,000	11
Serbia & Montenegro	0	0
Slovak Republic	138,569	26
Slovenia	169,950	85
Tajikistan	10	0
Turkmenistan	0	0
Ukraine	0	0
Uzbekistan	2,757	0

Latest available Data. Date range: 2002-5.

**Table 2.2**  
**PCs per inhabitants, Internet Users, and Internet Cost (EE)**

Country	Estimated PCs Per 100 inhabitants (ITU)	Internet Users, Thousands (ITU)	Internet Users per 10,000 People (ITU)	Price Basket for Internet--USD (WB,WDI)
Albania	1.17	75	235.00	\$16.32
Kyrgyz Rep.	1.9	280	532.00	\$12.00
Azerbaijan	2.31	678.8	807.00	\$9.99
Moldova	2.63	406	952.00	\$25.33
Serbia & Montenegro	3.7	1200	1,141.00	\$13.18
Ukraine	3.89	4560	981.00	\$7.67
Georgia	4.25	175.6	389.00	\$9.89
Bulgaria	5.94	1591.7	2,060.00	\$7.32
Armenia	6.61	150	496.00	\$52.48
Romania	11.3	4500	2,076.00	\$16.96
Russia	12.13	21800	1,519.00	\$12.72
Hungary	14.62	3000	2,971.00	\$11.04
Lithuania	15.47	1221.7	3,567.00	\$7.20
Croatia	19.07	1451.1	3,188.00	\$16.11
Poland	19.1	10000	2,595.00	\$11.27
Latvia	21.92	1030	4,465.00	\$12.48
Macedonia	22.17	159.9	786.00	\$25.33
Czech Republic	24	5100	4,997.00	\$18.76
Cyprus	30.86	298.0	3,693.00	\$20.76
Slovak Republic	35.72	2500	4,629.00	\$18.95
Slovenia	41.08	1090	5,541.00	\$18.62
Estonia	48.91	690	5,192.00	\$10.78
Turkmenistan	NA	36	73.00	\$69.46
Tajikistan	NA	5	8.00	\$12.31
Belarus	NA	3394.4	3,480.00	\$10.53
Kazakhstan	NA	400	270.00	\$15.84
Uzbekistan	NA	880	332.00	\$5.67
Bosnia-Herzegovina	NA	806.4	2,064.00	\$7.78
Kosovo	NA	NA	NA	NA

Latest available Data. Date range: 2002-5

**Table 2.3**  
**Internet Hosts and Secure Servers (EE)**

Country	Internet Hosts (ITU)	Internet Hosts Per 10,000 Inhabitants (ITU)	Secure Internet Servers (WB, WDI)	Secure Internet Servers per 1,000,000 people (WB, WDI)
Albania	527	1.65	1	0
Armenia	1,897	6.27	4	1
Azerbaijan	355	0.42	4	0
Belarus	6,905	7.04	5	1
Bosnia-Herzegovina	8,393	21.69	13	3
Bulgaria	65,759	84.73	67	9
Croatia	34,695	78.57	176	40
Cyprus	7,624	94.47	181	217
Czech Republic	384,633	376.84	425	42
Estonia	63,609	476.44	137	102
Georgia	6,303	13.95	20	4
Hungary	483,814	479.17	303	30
Kazakhstan	22,625	15.25	13	1
Kosovo	NA	NA	NA	NA
Kyrgyz Rep.	5,601	11	3	1
Latvia	59,136	258.69	87	38
Lithuania	94,503	274.25	74	22
Macedonia	3,595	17.71	1	0
Moldova	6,669	31.21	15	4
Poland	271,767	70.5	838	22
Romania	49,077	22.64	116	5
Russia	854,310	59.37	348	2
Serbia & Montenegro	27,578	26.22	19	2
Slovak Republic	122,377	227.26	99	18
Slovenia	53,421	269.67	158	79
Tajikistan	154	0.24	NA	NA
Turkmenistan	598	1.21	NA	NA
Ukraine	130,144	27.7	62	1
Uzbekistan	2,935	1.11	1	0

Latest available Data. Date range: 2002-5

**Table 2.4**  
**International Internet Bandwidth information (EE)**

Country	International Internet Bandwidth Mbps (WB,WDI)	International Internet Bandwidth bits per person (WB,WDI)
Albania	12	4
Armenia	36	12
Azerbaijan	2	0
Belarus	355	36
Bosnia-Herzegovina	300	77
Bulgaria	620	80
Croatia	1410	317
Cyprus	300	363
Czech Republic	25000	2451
Estonia	4600	3410
Georgia	NA	NA
Hungary	10000	989
Kazakhstan	48	3
Kosovo	NA	NA
Kyrgyz Rep.	19	4
Latvia	2248	972
Lithuania	666	194
Macedonia	50	25
Moldova	180	43
Poland	21380	560
Romania	4033	186
Russia	14365	100
Serbia & Montenegro	706	87
Slovak Republic	12355	2295
Slovenia	2167	1085
Tajikistan	2	0
Turkmenistan	0	0
Ukraine	814	17
Uzbekistan	32	1

Latest available data. Date range: 2000-4

**Table 2.5**  
**Percentage of Schools connected to the Internet (EE)**

<b>Country</b>	<b>% Schools Connected to Internet (WB, WBI)</b>
<b>Kyrgyz Rep.</b>	1.0%
<b>Moldova</b>	50.0%
<b>Lithuania</b>	56.0%
<b>Romania</b>	57.0%
<b>Bulgaria</b>	60.0%
<b>Russia</b>	65.0%
<b>Slovak Republic</b>	65.0%
<b>Serbia &amp; Montenegro</b>	70.0%
<b>Estonia</b>	75.0%
<b>Hungary</b>	85.0%
<b>Czech Republic</b>	90.0%
<b>Poland</b>	90.0%
<b>Slovenia</b>	99.0%

Latest available Data. Date range: 2000-4  
 Only countries with data are listed.

## **Latin America and the Caribbean**

Combined Statistics for Latin America and the Caribbean:

### **Broadband Subscribers (LAC)**

Latest available Data. Data from World Bank, WDI. Date range: 2002-5.

<b>Total Broadband subscribers:</b>	8,471,998
<b>Average Broadband subscribers:</b>	302,571.36
<b>Country with most broadband subscribers:</b>	Brazil: 3,304,000
<b>Number of countries with no broadband subscriptions:</b>	4
<b>Number of countries with no available data:</b>	0

### **Broadband Subscribers per 1000 people (LAC)**

Latest available Data. Data from World Bank, WDI. Date range: 2002-5

<b>Average LAC Broadband subscribers per 1000 people:</b>	10.82
<b>Country with highest number of broadband subscribers per 1000 people:</b>	Dominica: 46
<b>Number of countries with no broadband per 1000:</b>	4
<b>Number of countries with No broadband data:</b>	0

### **Estimated PCs per 100 inhabitants (LAC)**

Latest available Data. Data from ITU Date range: 2004-5

<b>Average estimated PCs per 100 inhabitants:</b>	9.90
<b>Country with highest estimated PCs per 100 inhabitants:</b>	St. Kitts-Nevis: 26.07
<b>Country with lowest estimated PCs per 100 inhabitants:</b>	Honduras: 1.57
<b>Number of countries with no available data on PCs:</b>	3

### **Internet Users, Thousands (LAC)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Users (thousands):</b>	79,007
<b>Average Internet users (thousands):</b>	2,821.7
<b>Country with Highest Internet users (thousands):</b>	Brazil: 22,000
<b>Country with Lowest Internet users (thousands):</b>	St. Vincent and the Grenidines (8)
<b>Number of countries with no available data:</b>	0

### **Internet Users per 10,000 (LAC)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet users per 10,000 people:</b>	1469.32
<b>Country with highest Internet users per 10,000 people:</b>	Jamaica: 3,987
<b>Country with lowest Internet users per 10,000 people:</b>	Nicaragua: 223
<b>Number of countries with no available data:</b>	0

### **Price Basket for Internet--USD (LAC)**

Latest available Data. Data from World Bank WDI Date range: 2002-5

<b>Total Price Basket (USD)</b>	\$763.38
<b>Average Price Basket (USD):</b>	\$27.26
<b>Country with Highest Price Basket (USD):</b>	Haiti: \$70.99
<b>Country with Lowest Price Basket (USD):</b>	Colombia: \$7.78
<b>Number of countries with no available data:</b>	

### **Internet Hosts (LAC)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Hosts:</b>	6,764,626
<b>Average Internet hosts:</b>	250,541.70
<b>Country with most Internet hosts:</b>	Brazil: 3,485,773
<b>Countries with least Internet hosts:</b>	St. Vincent and the Grenedines: 15
<b>Countries with no available data:</b>	1

### **Internet Hosts per 10,000 (LAC)**

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet hosts per 10,000 Inhabitants:</b>	69.81
<b>Country with most Internet hosts per 10,000 Inhabitants:</b>	Uruguay: 333.81
<b>Country with least Internet hosts per 10,000 Inhabitants:</b>	St. Vincent and the Grenedines: 1.24
<b>Countries with no available data:</b>	0

### **Secure Internet Servers (LAC)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

<b>Total Secure Internet Servers:</b>	5,812
<b>Average Secure Internet Servers:</b>	207.57
<b>Country with most Secure Internet Servers:</b>	Brazil: 2637
<b>Countries with 1 Secure Internet Server:</b>	Guyana
<b>Countries with no available data:</b>	0

### **Secure Internet Servers per million people (LAC)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

<b>Average Secure Internet Servers per million people:</b>	96.46
<b>Country with most Secure Internet Servers per million people:</b>	St. Kitts-Nevis: 1042
<b>Number of Countries with 1 Secure Internet Servers per million people:</b>	3
<b>Countries with no available data per million people:</b>	

### **International Internet Bandwidth (mbps) (LAC)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total International Internet Bandwidth (mbps):</b>	81,955 mbps
<b>Average International Internet Bandwidth (mbps):</b>	3,414.79 mbps
<b>Country with most International Internet Bandwidth (mbps):</b>	Bolivia: 27,449 mbps
<b>Country with least International Internet Bandwidth (mbps):</b>	St. Vincent and the Grenedines: 2 mbps
<b>Countries with no available data:</b>	4

### **International Internet Bandwidth bits per person (LAC)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total I.I. Bandwidth bits per person:</b>	4,179
<b>Average I.I. Bandwidth bits per person:</b>	189.95
<b>Country with most I.I. Bandwidth bits per person:</b>	Colombia: 30
<b>Country with Least I.I. Bandwidth bits per person:</b>	Brazil: 3
<b>Countries with no available data:</b>	

### **Percentage of schools connected to the Internet (LAC)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Highest Percent of Schools with an Internet connection:</b>	Chile: 62%
<b>Lowest Percent of Schools with an Internet connection:</b>	Peru: 2.6%
<b>Countries with no available data:</b>	21

**Table 3.1**  
**Broadband Subscription data (LAC)**

Country	Broadband Subscribers (WB, WDI)	Broadband Subscribers per 1000 people (WB, WDI)
Antigua and Barbuda	0	0
Argentina	841,000	22
Belize	4,280	15
Bolivia	10,788	1
Brazil	3,304,000	18
Chile	708,358	43
Colombia	318,683	7
Costa Rica	27,931	7
Dominica	3,253	46
Dominican Republic	35,856	7
Ecuador	26,786	2
El Salvador	42,314	6
Grenada	609	6
Guatemala	27,106	2
Guyana	2,000	3
Haiti	0	0
Honduras	0	0
Jamaica	9,000	3
Mexico	2,304,520	22
Nicaragua	10,534	2
Panama	17,567	5
Paraguay	5,600	1
Peru	349,582	12
St. Kitts-Nevis	500	11
St. Lucia	0	0
St. Vincent and the Grenedines	3,647	31
Uruguay	61,186	18
Venezuela	356,898	13

Latest available Data. Date range: 2002-5.

**Table 3.2**  
**PCs per inhabitants, Internet Users, and Internet Cost (LAC)**

Country	Estimated PCs Per 100 inhabitants (ITU)	Internet Users, Thousands (ITU)	Internet Users per 10,000 People (ITU)	Price Basket for Internet--USD (WB,WDI)
Antigua and Barbuda	NA	20.00	2,484.00	\$22.14
Argentina	8.37	6,863.50	1,778.00	\$14.37
Belize	13.51	35.00	1,341.00	\$45.67
Bolivia	2.33	480.00	523.00	\$12.26
Brazil	10.52	22,000.00	1,196.00	\$25.98
Chile	14.75	2,800.00	1,796.00	\$25.63
Colombia	4.15	4,738.50	1,039.00	\$7.78
Costa Rica	21.89	1,000.00	2,354.00	\$28.08
Dominica	18.23	20.50	2,875.00	\$20.73
Dominican Republic	NA	938.30	1,053.00	\$18.76
Ecuador	3.89	616.00	466.00	\$36.96
El Salvador	5.09	637.10	926.00	\$22.60
Grenada	15.65	19.00	1,864.00	\$22.14
Guatemala	1.82	756.00	597.00	\$54.34
Guyana	3.86	160.00	2,130.00	\$12.52
Haiti	NA	500.00	609.00	\$70.99
Honduras	1.57	222.30	318.00	\$33.41
Jamaica	6.2	10,367.00	3,987.00	\$34.25
Mexico	13.08	18,622.50	1,740.00	\$20.05
Nicaragua	3.57	140.00	223.00	\$28.11
Panama	4.56	206.20	639.00	\$38.45
Paraguay	7.47	200.00	325.00	\$11.70
Peru	10.01	4,600.00	1,645.00	\$23.56
St. Kitts-Nevis	26.07	10.00	2,141.00	\$22.14
St. Lucia	16.3	55.00	3,449.00	\$22.14
St. Vincent and the Grenadines	13.22	8.00	661.00	\$22.14
Uruguay	13.27	680.00	2,098.00	\$23.87
Venezuela	8.19	2,312.70	884.00	\$42.61

Latest available Data. Date range: 2002-5

**Table 3.3**  
**Internet Hosts and Secure Servers (LAC)**

Country	Internet Hosts (ITU)	Internet Hosts Per 10,000 Inhabitants (ITU)	Secure Internet Servers (WB, WDI)	Secure Internet Servers per 1,000,000 people (WB, WDI)
Antigua and Barbuda	2,113	262.43	71	877
Argentina	926,667	242.42	418	11
Belize	3,696	141.61	75	257
Bolivia	8,346	9.26	22	2
Brazil	3,485,773	189.53	2637	14
Chile	219,250	142.27	343	21
Colombia	192,761	42.53	191	4
Costa Rica	11,194	26.35	267	62
Dominica	686	96.21	8	111
Dominican Republic	65,949	75.02	52	6
Ecuador	8,800	6.67	54	4
El Salvador	4,387	6.63	37	5
Grenada	19	1.86	3	28
Guatemala	23,743	18.75	70	6
Guyana	642	8.56	1	1
Haiti	NA	NA	6	1
Honduras	3,968	5.67	30	4
Jamaica	1,456	5.44	38	14
Mexico	1,523,277	145.17	863	8
Nicaragua	10,094	17.76	11	2
Panama	6,945	21.89	182	56
Paraguay	8,418	13.99	8	1
Peru	110,118	39.69	145	5
St. Kitts-Nevis	55	13.04	50	1042
St. Lucia	41	2.57	6	36
St. Vincent and the Grenadines	15	1.24	11	92
Uruguay	108,188	333.81	90	26
Venezuela	38,025	14.53	123	5

Latest available Data. Date range: 2002-5

**Table 3.4**  
**International Internet Bandwidth information (LAC)**

Country	International Internet Bandwith Mbps (WB,WDI)	International Internet Bandwidth bits per person (WB,WDI)
Antigua and Barbuda	28	358
Argentina	12248	319
Belize	46	163
Bolivia	398	44
Brazil	27449	149
Chile	12704	788
Colombia	5560	124
Costa Rica	30	NA
Dominica	489	420
Dominican Republic	NA	NA
Ecuador	489	38
El Salvador	422	62
Grenada	45	426
Guatemala	706	57
Guyana	18	NA
Haiti	NA	NA
Honduras	18	3
Jamaica	NA	Na
Mexico	11238	110
Nicaragua	1000	186
Panama	926	292
Paraguay	155	26
Peru	5644	205
St. Kitts-Nevis	2	42
St. Lucia	NA	NA
St. Vincent and the Grenedines	3	25
Uruguay	1000	291
Venezuela	1337	51

Latest available data. Date range: 2000-4

**Table 3.5**  
**Percentage of Schools connected to the Internet (LAC)**

<b>Country</b>	<b>% Schools Connected to Internet (WB, WBI)</b>
Antigua and Barbuda	NA
Argentina	NA
Belize	NA
Bolivia	NA
Brazil	50.0%
Chile	62.0%
Colombia	50.0%
Costa Rica	NA
Dominica	NA
Dominican Republic	NA
Ecuador	NA
El Salvador	NA
Grenada	NA
Guatemala	NA
Guyana	NA
Haiti	NA
Honduras	NA
Jamaica	9.6%
Mexico	60.0%
Nicaragua	NA
Panama	NA
Paraguay	NA
Peru	2.6%
St. Kitts-Nevis	NA
St. Lucia	NA
St. Vincent and the Grenedines	NA
Uruguay	50.0%
Venezuela	NA

Latest available Data. Date range: 2000-4  
 Only countries with data are listed.

## Africa South of the Sahara

Combined Statistics for Africa South of the Sahara:

### Broadband Subscribers (AFR)

Latest available Data. Data from World Bank, WDI. Date range: 2002-5.

<b>Total Broadband subscribers:</b>	203,150
<b>Average Broadband subscribers:</b>	4514.44
<b>Country with most broadband subscribers:</b>	South Africa: 165,290
<b>Number of countries with no broadband subscriptions:</b>	25
<b>Number of countries with no available data:</b>	0

### Broadband Subscribers per 1000 people (AFR)

Latest available Data. Data from World Bank, WDI. Date range: 2002-5

<b>Average AFR Broadband subscribers per 1000 people:</b>	0.4
<b>Country with highest number of broadband subscribers per 1000 people:</b>	Seychelles: 7
<b>Number of countries with no broadband per 1000:</b>	39
<b>Number of countries with No broadband data:</b>	0

### Estimated PCs per 100 inhabitants (AFR)

Latest available Data. Data from ITU Date range: 2004-5

<b>Average estimated PCs per 100 inhabitants:</b>	3.09
<b>Country with highest estimated PCs per 100 inhabitants:</b>	Seychelles: 19.84
<b>Country with lowest estimated PCs per 100 inhabitants:</b>	Niger: .07
<b>Number of countries with no available data on PCs:</b>	8

### Internet Users, Thousands (AFR)

Latest available Data. Data from ITU Date range: 2002-5

<b>Total Internet Users (thousands):</b>	19,788.90
<b>Average Internet users (thousands):</b>	449.75
<b>Country with Highest Internet users (thousands):</b>	South Africa: 5,100
<b>Countries with Lowest Internet users (thousands):</b>	Central African Republic, Djibouti: 9
<b>Number of countries with no available data:</b>	1

### Internet Users per 10,000 (AFR)

Latest available Data. Data from ITU Date range: 2002-5

<b>Average Internet users per 10,000 people:</b>	328.51
<b>Country with highest Internet users per 10,000 people:</b>	Seychelles: 2,502.80
<b>Country with lowest Internet users per 10,000 people:</b>	Liberia: 0

**Number of countries with no available data:** 0

### **Price Basket for Internet--USD (AFR)**

Latest available Data. Data from World Bank WDI Date range: 2002-5

**Total Price Basket (USD)** \$2199.03  
**Average Price Basket (USD):** \$52.31  
**Country with Highest Price Basket (USD):** Central African Republic: \$147.80  
**Country with Lowest Price Basket (USD):** Sierra Leone: \$10.56  
**Number of countries with no available data:** 2

### **Internet Hosts (AFR)**

Latest available Data. Data from ITU Date range: 2002-5

**Total Internet Hosts:** 415,696  
**Average Internet hosts:** 9,447.64  
**Country with most Internet hosts:** South Africa: 350,501  
**Countries with least Internet hosts:** Somalia: 1  
**Countries with no available data:** 1

### **Internet Hosts per 10,000 (AFR)**

Latest available Data. Data from ITU Date range: 2002-5

**Average Internet hosts per 10,000 Inhabitants:** 14.24  
**Country with most Internet hosts per 10,000 Inhabitants:** Seychelles: 332.87  
**Countries with least Internet hosts per 10,000 Inhabitants:** Chad, Ethiopia: .01  
**Countries with no available data:** 2

### **Secure Internet Servers (AFR)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

**Total Secure Internet Servers:** 1,126  
**Average Secure Internet Servers:** 36.32  
**Country with most Secure Internet Servers:** South Africa: 962  
**Countries with 1 Secure Internet Server:** 9  
**Countries with no available data:** 14

### **Secure Internet Servers per million people (AFR)**

Latest available Data. Data from World Bank, WDI Date range: 2002-5

**Average Secure Internet Servers per million people:** 21.12  
**Country with most Secure Internet Servers per million people:** Seychelles: 473  
**Number of Countries with 0 Secure Internet Servers per million people:** 22  
**Countries with no available data:** 14

### **International Internet Bandwidth (mbps) (AFR)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total International Internet Bandwidth (mbps):</b>	4059
<b>Average International Internet Bandwidth (mbps):</b>	92.25
<b>Country with most International Internet Bandwidth (mbps):</b>	Zimbabwe: 1,955
<b>Countries with 0 International Internet Bandwidth (mbps):</b>	Central African Republic, Comoros, Liberia
<b>Countries with no available data:</b>	1

### **International Internet Bandwidth bits per person (AFR)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Total I.I. Bandwidth bits per person:</b>	516
<b>Average I.I. Bandwidth bits per person:</b>	11.73
<b>Country with most I.I. Bandwidth bits per person:</b>	Zimbabwe: 151
<b>Number of Countries with 0 I.I. Bandwidth bits per person:</b>	14
<b>Countries with no available data:</b>	1

### **Percentage of schools connected to the Internet (AFR)**

Latest available Data. Data from World Bank, WDI Date range: 2001-4

<b>Highest Percent of Schools with an Internet connection:</b>	Mozambique: 30%
<b>Lowest Percent of Schools with an Internet connection:</b>	Ethiopia and Uganda: 1%
<b>Countries with no available data:</b>	39

**Table 4.1**  
**Broadband Subscription data (AFR)**

Country	Broadband Subscribers (WB, WDI)	Broadband Subscribers per 1000 people (WB, WDI)
Angola	0	0
Benin	196	0
Botswana	0	0
Burkina Faso	384	0
Burundi	0	0
Cameroon	0	0
Cape Verde	937	2
Central African Republic	0	0
Chad	0	0
Comoros	4	0
Congo-Brazzaville	0	0
Congo-Kinshasa	0	0
Côte d'Ivoire	826	0
Djibouti	42	0
Eritrea	0	0
Ethiopia	57	0
Gambia	71	0
Ghana	1,904	0
Guinea	0	0
Guinea-Bissau	0	0
Kenya	0	0
Lesotho	45	0
Liberia	0	0
Madagascar	0	0
Malawi	404	0
Mali	0	0
Mauritania	164	0
Mauritius	2,708	2
Mozambique	0	0
Namibia	0	0
Niger	212	0
Nigeria	500	0
Rwanda	0	0
São Tomé and Príncipe	0	0
Senegal	18,396	2
Seychelles	575	7
Sierra Leone	0	0
Somalia	0	0
South Africa	165,290	4
Swaziland	0	0

Country	Broadband Subscribers (WB, WDI)	Broadband Subscribers per 1000 people (WB, WDI)
Tanzania	0	0
Togo	0	0
Uganda	0	0
Zambia	250	0
Zimbabwe	10,185	1

Latest available Data. Date range: 2002-5.

**Table 4.2**  
**PCs per inhabitants, Internet Users, and Internet Cost (AFR)**

Country	Estimated PCs Per 100 inhabitants (ITU)	Internet Users, Thousands (ITU)	Internet Users per 10,000 People (ITU)	Price Basket for Internet--USD (WB,WDI)
Angola	0.19	172	122.00	\$34.28
Benin	0.43	425	567.00	\$20.73
Botswana	4.52	60	339.00	\$21.28
Burkina Faso	0.24	64.6	49.00	\$90.56
Burundi	0.48	25	102.00	\$52.00
Cameroon	0.98	167	535.00	\$44.56
Cape Verde	10.27	25	23.00	\$40.34
Central African Republic	0.28	9	23.00	\$147.80
Chad	0.17	35	40.00	\$86.35
Comoros	0.63	20	251.00	\$37.92
Congo-Brazzaville	0.45	36	94.00	\$84.51
Congo-Kinshasa	NA	140.6	24.00	\$93.24
Côte d'Ivoire	1.55	160	95.00	\$67.08
Djibouti	3.09	9	132.00	\$41.11
Eritrea	0.8	70	159.00	\$28.63
Ethiopia	0.31	113	16.00	\$23.32
Gambia	1.57	49	335.00	\$17.78
Ghana	0.52	401.3	181.00	\$23.56
Guinea	0.56	46	59.00	\$24.72
Guinea-Bissau	NA	26	199.00	\$74.95
Kenya	0.95	1054.9	322.00	\$75.93
Lesotho	NA	43	239.00	\$38.55
Liberia	NA	NA	0.00	NA
Madagascar	0.5	90	50.00	\$45.94
Malawi	0.19	52.5	51.00	\$41.92
Mali	0.4	60	53.00	\$28.42

Country	Estimated PCs Per 100 inhabitants (ITU)	Internet Users, Thousands (ITU)	Internet Users per 10,000 People (ITU)	Price Basket for Internet--USD (WB,WDI)
Mauritius	16.22	180	1,460.00	\$17.46
Mozambique	0.59	138	73.00	\$32.87
Namibia	10.94	75	373.00	\$48.70
Niger	0.07	24	19.00	\$101.82
Nigeria	0.68	5000	380.00	\$50.42
Rwanda	NA	38	45.00	\$30.13
São Tomé and Príncipe	NA	20	1,307.00	\$53.21
Senegal	NA	540	463.00	\$25.58
Seychelles	19.84	20	2,502.80	\$31.45
Sierra Leone	NA	10	19.00	\$10.56
Somalia	0.63	90	109.00	NA
South Africa	8.36	5100	1,075.00	\$63.21
Sudan	8.97	2800	773.00	\$65.51
Swaziland	3.32	36	332.00	\$51.74
Tanzania	0.74	333	89.00	\$93.60
Togo	3.01	300	488.00	\$44.69
Uganda	0.87	500	174.00	\$99.59
Zambia	0.98	231	201.00	\$68.43
Zimbabwe	10.08	1000	840.00	\$24.58

Latest available Data. Date range: 2002-5

**Table 4.3**  
**Internet Hosts and Secure Servers (AFR)**

Country	Internet Hosts (ITU)	Internet Hosts Per 10,000 Inhabitants (ITU)	Secure Internet Servers (WB, WDI)	Secure Internet Servers per 1,000,000 people (WB, WDI)
Angola	420	0.3	5	0
Benin	899	1.24	1	0
Botswana	2,097	11.85	1	1
Burkina Faso	436	0.33	2	0
Burundi	155	0.22	1	0
Cameroon	461	0.28	2	0
Cape Verde	228	4.88	NA	NA
Central African Republic	12	0.03	NA	NA
Chad	6	0.01	NA	NA
Comoros	9	0.11	3	5
Congo-Brazzaville	46	0.12	2	1
Congo-Kinshasa	163	0.03	3	0
Côte d'Ivoire	3,801	2.25	5	0
Djibouti	772	11.35	1	1

Country	Internet Hosts (ITU)	Internet Hosts Per 10,000 Inhabitants (ITU)	Secure Internet Servers (WB, WDI)	Secure Internet Servers per 1,000,000 people (WB, WDI)
Ethiopia	38	0.01	1	NA
Gambia	784	5.36	NA	NA
Ghana	373	0.17	3	0
Guinea	385	0.49	NA	NA
Guinea-Bissau	2	0.02	NA	NA
Kenya	11,016	3.05	9	0
Lesotho	152	0.84	NA	NA
Liberia	17	0.05	NA	NA
Madagascar	883	0.49	3	0
Malawi	65	0.05	2	0
Mali	364	0.33	1	0
Mauritania	27	0.09	1	0
Mauritius	4,243	34.41	23	18
Mozambique	7,167	3.78	3	0
Namibia	3,359	16.7	14	7
Niger	145	0.12	1	0
Nigeria	966	0.08	24	0
Rwanda	1,744	2.06	NA	NA
São Tomé and Príncipe	1,025	67.01	NA	NA
Senegal	685	0.66	3	0
Seychelles	266	332.87	40	473
Sierra Leone	277	0.52	NA	NA
Somalia	1	NA	NA	NA
South Africa	350,501	74.25	962	21
Sudan	NA		NA	NA
Swaziland	2,642	24.4	2	2
Tanzania	5,908	1.57	NA	0
Togo	81	0.16	2	0
Uganda	2,678	0.96	1	0
Zambia	2,342	2.04	2	0
Zimbabwe	8,055	6.77	3	0

Latest available Data. Date range: 2002-5

**Table 4.4**  
**International Internet Bandwidth information (AFR)**

Country	International Internet Bandwidth Mbps (WB,WDI)	International Internet Bandwidth bits per person (WB,WDI)
Angola	7	0
Benin	47	6
Botswana	40	23
Burkina Faso	48	4
Burundi	4	1
Cameroon	50	3
Cape Verde	10	20
Central African Republic	0	0
Chad	4	0
Comoros	0	0
Congo-Brazzaville	1	0
Congo-Kinshasa	10	0
Côte d'Ivoire	40	2
Djibouti	2	3
Eritrea	8	2
Ethiopia	20	0
Gambia	2	1
Ghana	25	1
Guinea	2	0
Guinea-Bissau	NA	NA
Kenya	34	1
Lesotho	1	1
Liberia	0	0
Madagascar	34	2
Malawi	5	0
Mali	18	1
Mauritania	10	3
Mauritius	180	146
Mozambique	18	1
Namibia	9	4
Niger	4	0
Nigeria	155	1
Rwanda	10	1
São Tomé and Príncipe	2	14
Senegal	310	27
Seychelles	6	72
Sierra Leone	1	0
Somalia	3	0

Country	International Internet Bandwidth Mbps (WB,WDI)	International Internet Bandwidth bits per person (WB,WDI)
<b>South Africa</b>	882	19
<b>Swaziland</b>	1	1
<b>Tanzania</b>	16	0
<b>Togo</b>	12	2
<b>Uganda</b>	61	2
<b>Zambia</b>	12	1
<b>Zimbabwe</b>	1955	151

Latest available data. Date range: 2000-4

**Table 4.5**  
**Percentage of Schools connected to the Internet (AFR)**

Country	% Schools Connected to Internet (WB, WBI)
<b>Ethiopia</b>	1.0%
<b>Uganda</b>	1.0%
<b>Ghana</b>	1.4%
<b>Namibia</b>	3.9%
<b>Mauritius</b>	18.7%
<b>South Africa</b>	26.5%
<b>Mozambique</b>	30.0%

Latest available Data. Date range: 2000-4  
Only countries with data are listed.

## **Annex III: Overview of current USAID Funded ICT Development Programs**

### Introduction

This annex, although not entirely comprehensive, gives a brief survey of ICT-internet projects funded by USAID and still active in 2007. Only projects determined as active are included in this annex; impact assessments, feasibility studies, propositions, and requests for applications are not.

In order to locate the projects in this annex, a variety of sources were searched: The USAID Development Experience Clearinghouse, The USAID Congressional Budget Justification, the National Resource Development Clearinghouse, the USAID Intranet and extranet, USAID Bureau pages, USAID Mission pages, partner/contractor web-sites, and the dot-COM Alliance. In addition, internet searches on Google and Clusty were used to locate other information.

The annex divides projects into five regions: Worldwide (projects which take place in multiple regions), Asia and the Near East, Europe and Eurasia Latin America and the Caribbean, and Africa. Within each region, the projects are divided into the following sectors: multi-sectoral (projects in more than one sector), health, democracy and governance, environment/natural resource management, education, and economic growth. The end of the Annex cites the sources of information on each of the listed projects.

### Worldwide

#### *Health*

**Program:** Basics III  
**Pillar:** GH  
**Regions:** AFR, LAC, ANE  
**Countries:** Democratic Republic of Congo, Liberia, Madagascar, Malawi, Nigeria, Rwanda, Senegal, Swaziland, Tanzania, Cambodia, India, Iraq, Timor-Leste, Bolivia, LAC Region

Begun in 1994 and now in its third 5-year cycle, BASICS is implemented by the Partnership for Child Health Care, Inc. BASICS provides assistance to USAID Missions that are seeking to develop and implement newborn and child survival strategies that strengthen health systems; improve the quality of care; address inequalities in coverage; expand the reach and effectiveness of health services through community-based and private sector approaches. Internet development includes:

- Facilitating distance- and web-based learning in health, management, and leadership.

**Program:** Capacity Project  
**Pillar:** GH  
**Regions:** AFR, ANE, LAC, E&E  
**Countries:** Multiple

The purpose of the Capacity Project is to strengthen the human resources needed to implement quality health programs. It is a cross-cutting project that can address the human capacity needs of reproductive health, HIV/AIDS, child survival, maternal health and infectious disease programs. Two of the Capacity Project's main goals are improving health worker skills and ensuring capacity-building within in-country organizations and institutions.

- The Capacity project develops the internet for use for training, teaching, and spread of information.

**Program:** INFO Project  
**Regions:** AFR, ANE, LAC, E&E  
**Countries:** Worldwide

The INFO Project is based at the Johns Hopkins Bloomberg School of Public Health's Center for Communications Programs. The project uses sustainable and ICT technology to increase the flow of information to doctors, medical professionals, policy makers, health officials, teachers and trainers, donors, and academics/researchers in the developing world. It also seeks to connect the medical professionals with others throughout the world. Projects and results include:

- Sehetna (<http://www.sehetna.com>) an award-winning Jordan health portal in Arabic.
- SHARE Portal (Southeast Asia HIV/Aids Resource Exchange: <http://sharegmr.org>) which is a collaborative portal providing public and private space for information exchange.
- Provides support to online networks and communities in family planning and reproductive health

**Program:** Studies in Security, Population, Health and Environmental Relationships (SSPHERE)  
**Pillar:** GH/PRH  
**Regions:** AFR, ANE, LAC, EE  
**Countries:** Worldwide

This program works on advancing USAID/GH/PRH's global leadership priorities in population-health-environment, gender, poverty and equity, and repositioning family planning. The project includes the following ICT internet development component:

- Expand worldwide dissemination of information on critical linkages among population, health, environment and security among academics, donors, policymakers and field implementers/practitioners through publications, events, website content, and building partnerships with outside organizations.

### *Environment /Natural Resource Management*

**Program:** Aquaculture CRSP – Appropriate Technology  
**Regions:** AFR, ANE, LAC  
**Countries:** Bangladesh, Cambodia, El Salvador, Honduras, Kenya, Laos, Mexico, Nicaragua, Panama, Thailand, Vietnam.

The objective of the Appropriate Technology Aquaculture Collaborative Research Support Program (CRSP) theme is to develop socially acceptable and environmentally friendly

aquaculture technologies. The research is based on the assumption that the modification of current practices, tools and facilities will lessen the environmental impact of aquaculture activities. One ICT aspect of the program is:

- Institutionalizing web-based information systems for Tilapia culture in Latin America

**Program:** World Lake Basin Management Initiative

**Regions:** AFR, ANE, LAC, EE

**Countries:** Armenia, Canada, Ethiopia, India, Indonesia, Kyrgyzstan, Mexico, Nicaragua, Philippines, USA

The goal of the Basin Initiative is to foster international cooperation on sustainable watershed management issues for 32 world-wide lakes. International cooperation is heightened through technical assistance, capacity building and experience sharing. The project promotes stewardship, education, leadership development, strengthening local lakes associations, exchanging knowledge, best practices and lessons learned.

- A web-based geographic information system (GIS) is in use to enhance information technology to support lake management programs worldwide.

### *Economic Growth*

**Project:** Infrastructure and Engineering

**Pillar:** EGAT

**Region:** All

**Countries:** Worldwide

“FY 2007 Program: EGAT will continue to concentrate its ICT efforts in three thematic areas:

- improving the ICT policy and regulatory environment;
- providing ICT access and connectivity for the underserved by scaling up the Last Mile Initiative Program; and
- Embedding the use of ICTs throughout programs and projects in all of USAID’s sectors.”

### Asia and the Near East

#### *Democracy and Governance*

##### **Afghanistan**

**Project:** AIMS—Afghanistan Information Management Service

**Region:** ANE

**Countries:** Afghanistan

The overall goal of AIMS is to promote the development of common data, technological standards, and the free flow of information in Afghanistan. To accomplish this goal, the project seeks to build information management capacity within the Afghani Government and to provide information management services to the greater humanitarian community. Ongoing and completed ICT projects include:

- Developed and hosted new websites for the Central Statistics Office (CSO).
- Developed 9 original databases including 'Political Rights Complaints,' Activity Tracking, AIMS Management Information System (MIS), 'Who is Doing What and Where for MRRD,' and the Corporate Register.

### **Philippines**

**Project:** Conflict Reduced in Mindanao and Other Areas.

**Pillar:** EGAT

**Region:** ANE

**Countries:** Philippines

**FY 2007 Program:** Principal Implementer: LBG. Expand and Improve Access To Economic and Social Infrastructure (\$500,000 DA; \$4,350,000 ESF). USAID plans to fund the construction of an additional 12 mid-scale and 220 community infrastructure projects in CAAs.

- USAID will provide computers and internet connection to 60 more schools.

### *Education*

#### **India**

**Project:** Technology Tools for Teaching and Training in India (Project T4)

**Pillar:** EGAT

**Region:** ANE

**Countries:** India

This project is being implemented in the states of Karnataka, Chhattisgarh and Jharkhand in India.

- It develops Information and Communication Technology based tools to improve quality of primary education and ensure better access to the same, with special focus on girls and other vulnerable populations.

#### **Philippines**

**Project:** GEM's Computer Literacy and Internet Connection (CLIC) Program.

**Pillar:** EGAT

**Region:** ANE

**Countries:** Philippines

- Selected schools will be provided with up to ten computers, LANs, printers, software as well as satellite or microwave-based Internet connections. Teachers will also be trained.

#### **Afghanistan**

**Project:** Improve quality of Workforce through Vocational Educational Training

**Pillar:** EGAT

**Region:** ANE

**Countries:** Afghanistan

#### **FY 2007 Program:**

- Internet networks will become operational on a majority of Afghan university campuses, and several hundred Afghan students and junior faculty will be able to enroll in e-Learning-based degree programs through the ABC program and its alliance partners

### **Lebanon**

**Project:** Expand and Improve Access to Economic and Social Infrastructure  
**Pillar:** EGAT  
**Region:** ANE  
**Countries:** Lebanon

**FY 2006 Program:** Principal Implementers: Chemonics and Nathan Associates Expand and Improve Access to Economic and Social Infrastructure. This program is continued in to FY 2007, (\$3,000,000 ESF).

- USAID is providing broader Kingdom-wide access to Information and Communications Technology (ICT) services, including computer education in schools and communities, liberalization of the telecommunications sector, and electronic access to government services.

**Project:** Lebanese Tourism Industry Growth Partnerships Project  
**Pillar:** EGAT  
**Region:** ANE  
**Countries:** Lebanon

This project works to improve the competitiveness of Lebanese industries including agrobusiness, information and communication technology (ICT) and tourism. The overall goal of the project was to generate full-time employment, increase agricultural exports, improve the productivity of small businesses and farmers, and augment internet users and tourists.

- The national marketing venture involved reviewing and updating a Lebanon tourism attractions database, collaborating with stakeholders to produce a website, and developing articles about Lebanese tourism for publications and international media.

### ***Economic Growth***

#### **Regional**

**Project:** Program Development and Learning.  
**Pillar:** EGAT  
**Region:** ANE  
**Countries:** Regional

**FY 2007 Program:** Increase Trade and Investment (\$3,365,000 DA). In order to promote the Jobs for the 21<sup>st</sup> Century initiative, USAID will promote workforce development, trade, and investment in Asia and the Middle East.

- Internet technology will also be developed that to strengthen the international trading system.

#### **Mongolia**

**Project:** Last Mile Initiative (LMI) Mongolia

**Pillar:** EGAT  
**Region:** ANE  
**Countries:** Mongolia

- The LMI project supported last mile demonstration projects at the soum- level to reach rural communities by leveraging existing private sector technology investments.

## Europe & Eurasia

### *Multi-sector*

#### **Kyrgyzstan**

**Project:** Kyrgyzstan eCenter Project  
**Pillar:** EGAT  
**Region:** E&E  
**Country:** Kyrgyzstan

In this project, five pilot eCenters were established in rural Kyrgyzstan through a competitive tender process.

- The eCenters stimulate access to information and communication technology improves economic growth, bolster efforts toward conflict mitigation and lead to non-traditional employment training and job creation.

### *Education*

#### **Macedonia**

**Project:** Macedonia for eWorld  
**Pillar:** EGAT  
**Region:** E&E  
**Country:** Macedonia

- This project prepares Macedonian youth for employment through ICT -informed education programs and improves the quality and relevance of instruction at the primary and secondary school levels.

**Project:** Macedonia connects  
**Pillar:** EGAT  
**Region:** E&E  
**Country:** Macedonia

- Connects 460 schools -- and a number of other local institutions-- to the internet to supplement e-schools project.

## Ukraine

**Project:** eSchool Revitalization Project (eSRP)  
**Pillar:** EGAT  
**Region:** E&E  
**Country:** Ukraine

- UPS teamed up with AED to help train teachers and students in ESL and computer literacy using a state of the art telecenter in the school.
- The e-School Revitalization Project (eSRP) is now helping over 600 teachers and students. Thanks to an award from USAID's GDA program, AED is offering its School Report Card model and is establishing Ukraine's first Parent Teacher Association (PTA).
- AED's Global Learning Portal (GLP) is also exploring the opportunity to link the school with schools in neighboring Poland.

## *Economic Growth*

### Georgia

**Project:** Georgia: Promoting Energy Efficient Product Distribution through ICT Access  
**Pillar:** EGAT  
**Region:** E&E  
**Country:** Georgia

Pilot project three of dot-ORG's ICT & Energy Activity.

- Young entrepreneurs (under 35) will be trained in the use of an online B2B portal, facilitating the development of distribution channels for energy efficient building materials and other products.

## Latin America and the Caribbean

### *Multi-sector*

**Project:** MACGA—Mesoamerican and Caribbean Geospatial Alliance  
**Pillar:** EGAT  
**Region:** LAC  
**Countries:** Belize, Panama, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica.

The main objectives of the MACGA project are to increase access and distribution of existing and new spatial data sets; foster harmonization and integration of data sets in the region; promote the appropriate use of common standards; and establish a coordinating mechanism to link data providers and data users.

- Support provided by the project includes assistance in the development, implementation, staging, and cataloging of specific data sets and products described in action plans developed during the capacity-building.

- The project is designed to complement and enhance USAID programs across the following sectors: agriculture, conflict relief and humanitarian assistance, economic growth and trade, environment and energy, and health.
- One of its achievements was procuring and obtaining GIS and Internet Map Server software grants from ESRI for more than 10 partner agencies in the MAC region.

### *Democracy and Governance*

#### **Cuba**

**Project:** Civil Society Developed  
**Pillar:** DCHA  
**Region:** LAC  
**Countries:** Cuba

**FY 2007 Program:** Strengthen Civil Society (\$9,000,000 ESF). USAID will work with US universities, US and Cuban NGOs as well as independent Cuban citizens to support the distribution of reports by independent journalists in Cuba. They will also transmit accurate information on free enterprise, democracy and human rights.

- The majority of the distribution is internet based.

### *Education*

#### **Paraguay**

**Project:** Last Mile Initiative (LMI) Paraguay  
**Pillar:** EGAT  
**Region:** LAC  
**Countries:** Paraguay

- The project's primary objective is to provide rural and underserved areas of Paraguay with reliable and affordable publicly-available access to information and communication technologies (ICTs) and training through the creation of sustainable telecommunications access centers.

### *Economic Growth*

**Project:** PROARCA-Programa Regional Ambiental para Centroamérica (Phases I and II)  
**Pillar:** EGAT  
**Region:** LAC  
**Countries:** Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

Through its small grants program, the project supports various ecotourism promotion activities throughout the region.

- PROARCA/CAPAS (Central America Protected Areas System) supported the design and development of 5 ecotourism marketing websites, evaluation of 8 ecotourism suppliers for certification, development of a manual of ecotourism best practices and training in ecotourism services.

**Program:** QCP- Quality Coffee Program

**Pillar:** EGAT

**Regions:** LAC

**Countries:** Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama

As part of the Quality Coffee Program, project partners work to maintain an online information tool for the coffee market. GeoCafe maps farms, cooperatives and mills in participating countries with global positioning system (GPS) devices and collects information on climatic conditions, socioeconomic data, certification issues, method for coffee processing and harvesting periods. The data is integrated into a database and converted into digital maps for online display.

The objectives of the website, GeoCafe, are the following:

- Facilitate access to information over the internet on the production, processing and marketing of coffee and other agricultural products
- Assist agricultural producers to establish direct contact with buyers and obtain premium prices for their quality products
- Provide training to agricultural sector representatives on the use of the internet as a source of information and as a marketing and communications tool

### **Bolivia**

**Program:** Increase Markets for Certified Forest Exports Project

**Pillar:** EGAT

**Region:** LAC

**Country:** Bolivia

USAID provided support for the startup of the Amazonian Center for Sustainable Forest Enterprise (CADEFOR), a nongovernmental organization (NGO) working with the Bolivian forest industry and community forests to link certified products to the international market. USAID partners in the project provide continuing technical assistance and training to support sustainable forest management and increased capacity for private and public institutions, for instance, the following ICT product:

- A website promoting the marketing of Bolivian forest products

### **Brazil**

**Project:** Expanding Access to ICT through a Sustainable Electrification Model – PRISMA

**Pillar:** EGAT

**Region:** LAC

**Country:** Brazil

Pilot Project one of dotORG's ICT & Energy Activity.

- This pilot project proposes the integration of Internet services in a decentralized rural electrification model designed for isolated Amazonian communities in Brazil.

## Africa

### *Health*

**Project:** Africa 2010  
**Regions:** AFR  
**Countries:** multiple

Africa 2010 is a USAID sponsored program with AED that focuses on capacity building of health in Africa. Africa 2010 will design a range of targeted products to provide support for evidence-based advocacy on health issues.

- This approach will support the production of technical publications, websites, program briefs, toolkits, e-newsletters, and interactive web-based CD-ROMS, that can reach thousands of health professionals and decision makers in Africa.

### *Environment /Natural Resource Management*

**Project:** E-INFORM-Environmental Information for Natural Resource Management  
**Pillar:** EGAT  
**Regions:** AFR  
**Countries:** Angola, Botswana, Congo DR, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe.

E-INFORM aims to increase the data and information gathering capacity of regional organizations, community groups, conservation NGOs, and government natural resource management authorities.

- One component of the program is increasing access and user networking in SADC countries.
- The SADC-RRSU will also provide technical assistance for the adoption of geospatial data clearing house technology which will leverage Internet technology and build the spatial data infrastructure of the region to facilitate access and use by a broader spectrum of users.

### *Education*

#### **Mali**

**Project:** Improving Quality of Basic Education  
**Pillar:** EGAT  
**Region:** AFR  
**Countries:** Mali

#### **FY 2007 Program:**

USAID will expand interactive instruction in Mali by broadcasting professional development radio programs for teachers.

- Student teachers and professors at four teacher training colleges will be trained to use new technologies, including the Internet, to assist in classroom teaching.

### **Senegal**

**Project:** Better-Educated Youth

**Pillar:** EGAT

**Region:** AFR

**Countries:** Senegal

#### **FY 2007 Program:**

- Information and Communication Technology will be expanded by pursuing a GDA with Microsoft. Schools are targeted in three regions.
- USAID will assist local communities in setting up ICT and science clubs and make them available to students all year long.

### ***Economic Growth***

#### **Ghana**

**Project:** CBEP—Community Based Ecotourism Project

**Pillar:** EGAT

**Region:** AFR

**Country:** Ghana

The project seeks to develop community-owned and-operated ecotourism activities at environmentally sensitive rural destinations throughout Ghana—creating opportunities for rural communities to earn income and create tourism jobs by conserving their local ecosystems. CBEP's strategic ecotourism development goal is to develop 14 community-based ecotourism destinations by improving the ecotourism-enabling environment necessary for such growth, specifically by:

- Improving basic ecotourism facilities and technical support at each site;
- Actively marketing the ecotourism destinations; and
- One result of the Community-Based Ecotourism Project (CBEP) was the development of a website to promote ecotourism in Ghana.

#### **South Africa**

**Program:** USAID/South Africa's 2006-2007 Annual Program Statement  
Program for Employment Generation through Small, Medium,  
and Micro Enterprise (SMME) Development.

**Pillar:** EGAT

**Region:** AFR

**Country:** South Africa

This APS solicits proposals in support of USAID/South Africa's program to increase market-driven employment, stimulating employment through the growth of historically disadvantaged agribusinesses and SMMEs.

- This project includes internet-based technical assistance.

### **Mozambique**

**Project:** Last Mile Initiative (LMI) Mozambique  
**Pillar:** EGAT  
**Region:** AFR  
**Countries:** Mozambique

The Carr Foundation will be the lead implementer of the Last Mile Initiative project which will include the following components:

- Bringing broadband to Gorongosa National Park and to communities in the buffer zone;
- setting up two thin-client labs;
- Establishing a community telecenter

### **Zambia**

**Project:** ZAMTIE—Zambia Trade and Investment Enhancement  
**Pillar:** EGAT  
**Region:** AFR  
**Countries:** Zambia

ZAMTIE's goal is to stimulate trade investment in order to increase rural incomes. It focuses on agriculture and agribusiness, natural resources and tourism. Under its goal the project has 3 components: 1) to reduce barriers to trade and investment; 2) to build capacity in public and private sector organizations to facilitate economic growth and reduce poverty; and 3) to foster linkages to optimize rural income-generating investment and trade opportunities.

- Under component 3, fostering linkages, ZAMTIE's activities include establishing a trade and investment website, supporting trade fairs, conducting third-country trade missions and observation tours, conducting in-country observation tours and organizing inter-country visits for regional investors, traders and other business people.

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