

AISI-Connect National ICT Profile

KENYA (KE)

GENERAL DATA	ICT-INFRASTRUCTURE	ICT POLICIES
Capital: Nairobi	Fixed lines (K) '98: 272	Competition in local loop: Monopoly
98 Population (M): 29.01	97-98 % Fixed Line Growth: 0.0	Competition in telephone terminals: Yes
Currency: KSH	98 Mobile Lines (K): 5	Independent regulator: Yes
Exch rate (/US\$): 74.1	Mobile Line Growth (%):	Private Wireless Data allowed: No
Currency Stability:	Cities with Internet POPs: 6	Independent Internet VSAT Allowed: No
97 GDP US\$/person: 347.0	Local Call National Internet: No	VSAT License Fees:
97 Total GDP (\$B):	Dialup Internet subscribers: 35000	Satellite Phone access: No
Local Stock Exchange: Yes	International Bandwidth (Kbps): 4096	Universal Service Obligations:
Personal Safety: 16	Internet Hosts: 560	IAP License Fees (\$/yr): 1300
Political Stability:	Internet domains:	Private Phone Kiosks: No
Tertiary ICT Students:	Dialup Internet Cost 20hrs/mnth (\$): 123	Public VOIP Allowed: No
ICT Training seats:	64K Local Internet link (\$/mnth):	Business Ownership Rules:
ISDN: No	64K Internat Internet Link (\$/mnth): 3250	Repatriation of Profits Rules:
VPN Services: No	Local phone call cost (US\$/hr: 1.36	Restrictions on market entry:
UNDP Human Devel Index:	Monthly tel line rental (\$/mnth):	Export Credit Guarantees:
.	Telephone waiting time/Wait List:	.
.	Internet Access Providers 34	.
.	Mobile Operators:	.
.	Fixed Line Telecom Operators:	.

[Key to table values](#) All figures above in US Dollars (\$)

ICT Profile:

Internet:

Kenya has one of the largest Internet sectors in Africa, with over 30 licensed ISPs. Full Internet services were established in 1995 and the national telecom operator, KPTC, then liberalized the market for third party services which have now become the responsibility of the national communications regulator which requires ISPs to purchase a license. Businesses wishing to provide Internet services must also be 70% locally owned.

The national telecom operator operates the main international Internet gateway and a national 2Mbps Internet backbone service in 6 cities called JamboNet. Almost all ISPs rely on this gateway for their upstream connectivity, although some of the larger ISPs use satellite broadcast links to augment their incoming bandwidth and lease separate data lines for backup purposes. As yet it is unclear if KPTC will provide end-user services, or confine itself to resale to ISPs. Most ISPs offer leased line services but so far these have mostly been analogue services. Recently one ISP (AfricaOnline) announced that it will be able to provide users with 768Kbps links. In November 2000 Kenya established an independent national Internet exchange point (IX) with initial participation by AfricaOnline, KenyaWeb(formerly Form-Net), SwiftGlobal and ISPKenya. Other ISPs are encouraged to get connected to the IXP. Details can be obtained from the ISP association secretariat

Seven ISPs operate POPs in the second major town of Mombasa: iKenya, SwiftMombasa, Interconnect, Unet, Africaonline, KenyaWeb(FormNet), and Net2000 (AfricaOnline)

Just over 1000 domains were registered under the .ke Top Level Domain (TLD) in Sept 2000.

Based in Nairobi, the **East African Internet Association (EAIA)** has a membership of 19 service providers in Ethiopia, Kenya, Tanzania, and Uganda, while the more recently formed Telecommunication Service Providers Association of Kenya (TESPOK) focusses on national telecom and ISP services.

Telecommunications:

The recently formed **Communications Commission of Kenya (CCK)** is the regulatory authority for the sector.. The national operator, Telkom Kenya is to be privatised shortly and it is expected that a 49% share will be sold to a strategic partner. The CCK is also licensing eight additional telecommunications operators. Sixty five prospective bidders have bought the tender documents in readiness to bid to operate as Regional Telecommunications Operators (RTO). The RTOs will operate in all regions of the country with the exception of Nairobi Province, which will be served by Telkom Kenya Limited exclusively for a period of five years. The RTOs will operate in their licensed areas in competition with Telkom Kenya. The regions to be served by RTOs are North Rift, South Rift, Central, Nyanza, Western, Eastern and North Eastern. CCK's target is to bring the telephone line density to 20 lines / 100 people in urban areas and 1 line per 100 in rural areas by the year 2015.

Kenya's telephone network has about 400 000 lines for almost 30 million people. The quality of the network has improved substantially over the past few years with about 400 000 lines and KPTC has recently established a national and international digital leased line service (KenStream). It has also rolled out a VSAT network called KenSat for outlying areas which will be able to connect to the publicswitched network and Kenpac or Kenstream. The terminals will be sold on the open market. The size of the Kenyan telecommunications market was estimated at over US\$100million in 1999.

KPTC also operates a GSM mobile service in partnership with Vodafone called Safaricom. A second GSM operators' license is held by KenCell, which is a joint Franco-Kenyan venture between Vivendi Telecom International and Sameer Investments Group, which paid US \$55million for the franchise. The company expects to invest about Ksh 30 billion in the next five years to roll-out the network.

KPTC is host to **AFRALTI** - the intergovernmental ITU Anglophone sub-regional training centre (the counterpart to ESMTF in Senegal).

South Africa's Multichoice operates a subscriber cable station in a joint venture with the national broadcaster KBC.

Communication Costs:

Dialup Full Internet (Ksh/mnth) Africaonline - 10 000, Interconnect - 7 250 + VAT, Swift Global - 7 000 + VAT, Net 2000 - 7500 + VAT, NairobiNet - 9000, Thorntree Unlimited dialup during off-peak hours - 880 Ksh/month, peak rate access - 1 250 Ksh / month. Insight Kenya: 7000Ksh/month unlimited access, 1725Ksh/month for unlimited email and 6hrs a month, addnl hours 350Ksh/hr. Email only - 1000Ksh/month. VAT is 17%. Telephone line installation:2300Ksh, Rental: 354ks/month, usage: 4.7Ksh/3mins, no off-peak rate.

Local analogue leased lines from Kenya Telecom across town are relatively cheap (about US\$120/month). Some ISPs incorporate their costs this into their monthly fee for a leased line permanent Internet gateway for mail/low traffic web sites. Digital leased lines (64Kbps) are priced relatively expensively by KPTC - about US\$1200/month for a line across town, resulting in fees from ISPs ranging from US\$2500-\$3500/month. KPTC's Internet service, JamboNet, costs \$4,500 for a 64K connection, \$6,366 for 128K and \$1,534 for 256K. This however does not include a set-up charge of \$767, neither does it include VAT, which raises the monthly charge to \$5,220.

Local calls cost 3.5Ksh / 3 minutes + 17% VAT. - \$1.36 USD / hr. KPTC has recently expanded its local dial area to up to 60km.

Safaricom's charges are US\$500 setup fee, US\$333 pre-payment and US\$30/month.

Kenya has only two charge bands - a call is either local (within 60 Km radius) or national. All of East Africa is national at Ksh 28at busy hour and falls to Ksh 7 at economy rate in the middle of the night - the lowest rate in Africa. Line installation charges are Ksh 10 000 and rental of Ksh 2 000/month.

Computer prices now average 60,000 Shillings (US\$1,000), following cuts in import duty and growing competition among importers.

National ICT Activities:

In general there has been little leadership emerging from the academic, research and public sectors in the area of national networking and use of ICTs. This is partly explained by the political climate, the lack of broad institutional support from government for the academic sector, and the tight controls the state puts on its organs regarding communications. Currently there are no policies by government to use the Internet to disseminate government Information.

In 1999 Kenya held a workshop to assess the status of e-commerce and propose a way forward. The symposium took a decision to establish a National Task Force to harness all efforts to support development of e-commerce. The NTF is considering a set of activities to create awareness, build confidence, extend e-commerce infrastructure, encourage investment in e-commerce systems, establish pilots among other things.

Healthnet Kenya was among the first email providers in the country.

Mission Aviation Fellowship, the **United Bible Societies** and the **Urban Mission Support Group** also provide email services for their constituencies.

The **Kenya Meteorological Office** (KMO) has built up substantial experience with electronic communications - being the focal point for all of Africa's meteorological departments.

Moi University near the town of Eldoret in the north east of the country is the UNESCO/RINAF programme focal point.

The Department of Humanitarian Affairs (DHA) at the **UN Office at Nairobi** (UNON) has for some

years supported networking on an informal basis.

The **Environment Liason Centre International (ELCI)** established the first email service and link to the Internet, but has suffered from poor telephone connections. The **African Regional Standards Organisation (ARSO)** has its headquarters in Nairobi and at one stage provided email services for some organisations with support from IDRC. **Kenyatta University** in Nairobi is the Kenyan participant in the InfoDev/World Bank African Virtual University (AVU) project. The **International Centre for Research in Agriculture and Forestry (ICRAF)** and the **International Livestock Research Institute (ILRI)** have their own direct links to the US for full Internet access as well as voice calls to other CGIAR centers. The **International Centre for Insect Physiology and Entymology** will be the centre of an African Pest Management Network supported by USAID and others.

The **Regional Center for Services in Surveying, Mapping and Remote Sensing** has a leased line with support from RIO/ORSTOM. The **University of Nairobi** Institute of Computer Science has an email link via RCSSMRS.

The Jomo Kenyatta University of Agriculture and Technology has a number of independent email connections.

The **Nation Media Group** have a series of popular web sites which have an average 50 000 hits a day.

There is a useful [Paper on Kenyan Telecoms'](#).

Organisational Activities in the ICT Sector:

[Karisi Communications](#) info@AfricaOnline.co.ke

[RECOSCIX](#) Operates a regional Indian Ocean network for marine scientists.
recoscix@gn.apc.org

[Suzanne Drouilh](#) ICT activist working with the East African Internet Association.

[Tairel](#) Alejandro@tairel.sasa.unep.no

[Telecommunications Foundation for Africa \(TFA\)](#) The Telecommunications Foundation of Africa is supported by its members to help improve the ICT environment in Africa with a particular focus on information sharing and policy change in the telecommunications sector.

[UST](#) ISP (Jerry Tribe)

[African Telecommunications Union \(ATU\)](#) Formerly known as PATU, ATU is the intergovernmental agency established by the OAU as the primary co-ordinating body for telecommunications initiatives in the region. After years of stagnation while located in Kinshasa, in the Congo, ATU has seen rejuvenation following its move to Nairobi. ATU is actively developing a network of African regulators for information exchange. <http://www.atu.int/>

[Communications Commission of Kenya \(CCK\)](#) The independent regulatory authority for the communications sector. <http://www.cck.go.ke/> Mrs Fatuma Hirsi Mohamed

[East African Internet Association](#) Based in Nairobi, (EAIA) has a membership of 19 service

providers in Ethiopia, Kenya, Tanzania, and Uganda. The Kenyan branch is formally established as a not-for-profit body incorporated in Kenya. The group initially came together to promote Internet use including the idea of sharing an international link, but with the spread of commercial Internet and competition between members, this has not yet happened. More recently, discussions on setting up national peering points for the ISPs in each city have taken place. The Kenyan members of the group have also been active in the country providing feedback on the draft communications bill (see below) in collaboration with the Institute of Economic Affairs and EcoNews Africa. The group communicate via a general purpose mailing list hosted at UNON. There is also a mailing list on Linux related topics -<mailto:eaia@ocha.unon.org>. eaia@ocha.unon.org

Telkom Kenya Formerly the Kenya Posts and Telecommunications Corporation (KPTC), Telkom Kenya is the soon to be privatised national telecommunications operator which is currently the sole provider of basic telecommunications services. It also operates the national Internet backbone and international Internet gateway, JamboNet, and the Safaricom GSM mobile service. There is no voice mail, data or SMS services on the GSM service. <http://www.eafix.net/> Mr Adimo Rajula agmsp@nsbnet.co.ke

Tell Bell Ltd Telecommunications specialists and Ericsson mobile phone distributors. <http://www.telebell.co.ke/> info@telebell.co.ke

Africa Online Holdings Holding group for the African Regional ISP AfricaOnline which operates local ISPs across Africa. <http://www.africaonline.com/> Sam Nganga snganga@africaonline.com

Africa Online Kenya The Head Office of the regional ISP which was founded in 1994 by three Kenyans studying at M.I.T. and Harvard University. AfricaOnline is now operating ISPs in Kenya, Uganda, Tanzania, Zimbabwe, Namibia, Swaziland, and the Ivory Coast, and has reached late stages of planning for opening in South Africa and Egypt. It is also in advanced negotiations to enter the Nigerian, Zambian, Ethiopian, and Senegalese markets. The company hopes to be in 15 countries by the end of 2000. Africa Online is also active in content development with many newspapers available on their web sites. The Kenya office also operates POPs in Mombasa, Nakuru, Eldoret and Kisumu. <http://www.africaonline.co.ke/> Gunnar Hillgartner Support@africaonline.co.ke

ARCC A full service ISP. Shem Ochuodo shem@arcc.co.ke

Gateway Online ISP and e-commerce solutions provider. <http://www.gatewayonline.co.ke/> George Charles Kabue gkabue@gatewayonline.co.ke

Insight Technologies A full-service ISP which started giving services in October 1997. Currently operating in Nairobi only on a 64k lease line. Clients number are slightly over 1,000 as of March 1999. <http://www.insightkenya.com/> John Macharia jom@insightkenya.com

Inter-Connect Kenya A new ISP. <http://www.icconnect.co.ke/>

ISPKenya One of the more recent ISPs to enter the Kenyan market <http://www.ispkenya.com/> John Nderitu sales@nbi.ispkenya.com

Kenya Online A full-service ISP provider. <http://www.kenyaonline.com/>

NairobiNet One of the newer Kenyan ISPs, recently launching the East African Electronic Yellow Pages which provides a searchable listing of companies in Eastern African region - Kenya, Uganda and Tanzania. NairobiNet is a locally owned Kenyan startup company which began in 1996, offering dialup Internet services and web hosting facilities. <http://www.nbnet.co.ke/> Sammy Buruchara info@nbnet.co.ke

Pwani Telecoms Ikenya Mombasa-based ISP trading as Ikenya <http://www.ikenya.com/> Mustafa Hemani md@ikenya.com

Skyweb Technologies Ltd An ISP which emphasises strong customer service as its primary differentiator from other ISPs in Kenya. <http://www.skyweb.co.ke/> Sam Okeyo okeyoso@skyweb.co.ke

Swift Global Also has a POP in Mombasa. <http://www.swiftkenya.com/> Sammy Kimathi kimathi@swiftkenya.com

ThornTree The only commercial store and forward email service. Crispin Sikuku csikuku@thorntree.com

Wilken Afsat Kenya Headquarters of the Wilken Afsat group, a VSAT/Internet & Telecom service provider in Uganda, Tanzania and Kenya. <http://www.afsat.com/> wtkl@africaonline.co.ke

Kenya Meteorological Office It has built up substantial experience with electronic communications - being the focal point for all of Africa's meteorological departments, the Met Office operates a large hub of leased line connections all over Africa as well as around the country. These include links to Harare, Lusaka, Lagos, Niamey, Dakar, Pretoria, Kampala, Dar es Salaam, Brazzaville, Reunion, Cairo and Doula, as well as to Trieste in Europe where it connects into the WMO backbone. While most of these links are currently low speed telex links or X.25 circuits, the network will shortly be upgraded to high speed digital (64Kbps) TCP/IP based links both nationally and internationally. KMO also established the first private wireless link into the public switched in the country. KMO has offered support for networking projects, both in carrying traffic on their network and in providing technical support using their engineers. <http://lion.meteo.go.ke/> Evans Makolwe director@lion.meteo.go.ke

RECOSCIX-WIO PROJECT (Kenya Marine and fisheries Research Institute)
<http://www.recoscix.org/> rdc@recoscix.org

GeoPath.net Wireless and network systems integrator and installation provider
<http://www.geopath.net/> Gilbert Arum garum@geopath.net

Interactive Technology Provider of Brilliant and Quickbooks accountin solutions, Europress Education software, Dragon speech recognition software, Gateway and Compaq PCs, networking, web design and hosting services. <http://www.itlweb.com/> info@itlweb.com

LANTech Systems Integrator for east and central Africa. <http://www.lantech.co.ke/> Aquinas Wasike aquinasw@lantech.co.ke

Safari-Surf Web Services Ltd Safari-Surf Web Services provide web based solutions in the East African region for both personal and corporate users. Web Design, Hosting, Domain Name Regs, E-mail accounts, Web Advertising, Corporate Intranets, Java + CGI scripting, Consultancy and Training <http://www2.sn.apc.org/africa/www.safari-surf.com> sales@safari-surf.com

Vector International East African supplier of Emerson-Liebert UPS and stabilisers.
vector@iconnect.co.ke

AFRALTI KPTC is host to this intergovernmental ITU Anglophone sub-regional training centre (the counterpart to ESMT in Senegal). Recently a joint project with the IDRC's Acacia programme, the ITU and Nortel Networks was announced a project to assist Afralti and ESMT to become centres of excellence in universal service and rural telecommunications <http://www.afralti.org/> Lyton Zinyemba afralti@net2000ke.com

African Virtual Library Initiative The African Virtual Library Initiative (AVL-I) works with libraries in Africa to catalyze them to adopt ICTs in information management. The stakeholders of the AVL-I have set the 2010 as the year during which all major libraries in Africa should offer online services to local and international clientele. The AVL-I intercedes for recognition of libraries for funding, and for their recognition as centres of excellence in any given situation, and to uplift the dignity of information workers everywhere. The AVL-I works with library ICT champions all over Africa to elevate the African knowledge to the global platform, and to provide technical leadership in matters relating to the application of ICTs. <http://www2.sn.apc.org/africa/www.avli.org> William G. Kinyanjui avlib@avli.org

Jomo Kenyatta University of Agriculture and Technology It has a number of independent e-mail connections, including the library. <http://www.nbnet.co.ke/jkuat> William G. Kinyanjui jku_lib@nbnet.co.ke

Kenyatta University The Kenyan participant in the InfoDev/World Bank African Virtual University (AVU) project. <http://www.avu.intr.net/>

Moi University The RINAF node. Dr J Odjambo sam@rinaf.mufis.moiuniversity.ac.ke

National Council for Science and Technology Science and Technology development co-ordinating agency. Mrs E K Muthigani

University of Nairobi Computer Sciences Has Vax Cluster, DecStation, ICL, NCR Unix Towers, Apple Mac, Olivetti M24s, 100 Terminals. Has an email link via RCSSMRS. postmaster@unics.gn.apc.org

HealthNet Kenya Healthnet Kenya was among the first email providers in the country, having started with satellite based email system, switching to dialup connection from Satelife in Boston and is now in the process of obtaining a leased line link. The director, dr. Fred Bukachi, MD has advised on a number of other networking projects including HealthNet nodes in other countries and the GHAI project. <http://www.healthnet.org/hnet/ken.html> fbukachi@ken.healthnet.org

African Regional Standards Organisation Store and forward Internet service provider. It has its headquarters in Nairobi and at one stage provided email services for some organisations with support from IDRC. postmaster@arso.gn.apc.org

AITEC Kenya Kenya office of the UK-based trade show and ICT magazine publisher <http://www.aitec-africa.com/> aitec@africaonline.co.ke

East Africa Tea Traders Association This trade association provides an online Tea Market Report, auction prices and statistics. <http://www.africaonline.co.ke/eatta> eatta@africaonline.co.ke

Eastern Produce Kenya Tea producer providing weekly quotations and availability, also for Malawi. <http://www.easternproduce.co.ke/> lintonmk@africaonline.co.ke

Kenya Flower Council Kenya flower exports <http://www.kenyaflowers.co.ke/> kfc@africaonline.co.ke

Kenya National Archives and Documentation Musila Musembi knarchives@form-net.com

African Regional Centre for Computing Recipient of ODA and NSF funding for an international Internet connection to the US.

The African Regional Centre for Computing (ARCC) is a non profit making organisation (NGO)

whose main aim is to promote the Development and Usage for Computing and Communication technologies in Africa with an initial focus on Kenya. ARCC has installed communication facilities which are very fast and cost effective particularly to the members of the International business Community. These facilities include the electronic mail (e-mail), Internet, Bulletin Boards Services (BBS) for communication and advertising globally. In an effort to optimize network utilization, the African Regional Centre for Computing runs at their premises a two-day Monthly electronic Networking Training Seminar/Workshop on every last Wednesday & Thursday of every Month. <http://arcc.or.ke/seminar/Welcome.html> postmaster@arcc.co.ke

Environment Liaison Centre International (ELCI) Store and forward Internet service provider for NGOs. It established the first email service and link to the Internet in the country via a dialup connection to the GreenNet gateway in London. ELCI recently closed its email service due to the poor telephone lines in the area, the rise of commercial Internet and changes in technical staff have hampered any growth in the user base. postmaster@elci.gn.apc.org

International Centre for Insect Physiology and Entomology Connected via a 64Kbps leased line to ISP AfricaOnline. ICIPE will be the centre of an African Pest Management Network supported by USAID and others. <http://www.icipe.org/>

Mission Aviation Fellowship Provides e-mail services to its constituency. <http://www.maf.org/index.html> Brian.Longwe@maf-europe.org

Regional Center for Services in Surveying, Mapping and Remote Sensing Has a leased line with support from RIO/ORSTOM. postmaster@rcssmrs.rio.org

UN Department of Humanitarian Affairs (DHA) The DHA at the **UN Office at Nairobi** (UNON) has for some years supported networking on an informal basis, largely due to the efforts of an enthusiastic and resourceful individual (Ben Parker). Mr Parker runs an email hub and mailing-list host called Sasa as part of DHA's general communications activities and this also provides a common connection point for a number of small store and forward email hosts in Nairobi. DHA specialises in information on the Great Lakes Region and has accumulated about 80Mb of data that has been distributed to over 900 people on mailing lists. <http://www.unon.org/> Ben Parker postmaster@dha.unon.org

United Bible Societies Provides e-mail services and Web site consultancy services to its constituency. <http://www.biblesociety.org/> Sam Wanyoike sam@cngs.com

United Nations Environment Programme (UNEP) UNEP has its head office in Nairobi which hosts a full Internet connection. UNEP has also supported the connection of its InfoTerra country representatives to the nearest local host. <http://www.un.org/depts/uneep>

Urban Mission Support Group Provides e-mail services to its constituency. sysop@umsg.org

Source:

AISI-Connect database - <http://www2.sn.apc.org/africa> Telecom/GDP stats source: ITU/World Bank. Internet hosts: Network Wizards

If located in Africa and not listed here, [add your organisation to this page](#).