

Study on ICT Access Gaps in Kenya

Report

Prepared for



Communications
Commission
of Kenya

By



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LIST OF ACRONYMS

2G	Second Generation Mobile Communications
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ADSL	Asymmetric Digital Subscriber Line
CCK	Communications Commission of Kenya
CDMA	Code Division Multiple Access
EvDO	Evolution-Data Optimized
GIS	Geographic Information System
GSM	Global System for Mobile Communications
ICT	Information and Communication Technologies
KICA	Kenya Information and Communications Act
KNBS	Kenya National Bureau of Statistics
KPLC	Kenya Power & Lightning Corporation
PCK	Postal Corporation of Kenya
UA	Universal Access
UAF	Universal Access Fund
USF	Universal Service Fund

EXECUTIVE SUMMARY

The objective of this study was to assist the Commission in developing the most appropriate framework, based on international best practice, to ensure the provision of affordable ICT services which include telephony, Internet, postal services and broadband to all parts of the country including rural and high cost areas. In this regard this study has focused on voice, data, and postal services, understanding data services as 3G internet services.

Access to voice services has been growing rapidly in recent years due to the development of mobile networks. Four companies are currently providing mobile services in Kenya with more than 25 million of mobile subscribers. Despite this growth, we estimate that there are still 1 119 sublocations (out of 7 149) that lack of access to voice services.

Access to data services is still low in Kenya. However, data services have started to growth thanks to the installation of mobile 3G networks. Still there are only 4.7 million of internet/data subscriptions in Kenya of which 84 726 are broadband subscriptions (greater or equal to 256 Kbps). We estimate that only 893 sublocations in Kenya have access to broadband data services.

The postal market in Kenya is characterized by a high number of operators (116). PCK the public operator is the major player in the market with around 700 offices. The per capita mail volumes for basic letter-mail in Kenya (2.4 pieces per person per year) is higher than the average for other countries in Kenya's GDP range (0.83 pieces) still it is not sufficient level to fund a nationwide postal network. In terms of access to post offices, all counties have at least 03 PCK postal offices. However, only 677 (out of the 7149) sublocations in Kenya have at least one PCK office within its borders.

It has been identified that the 03 main obstacles for increasing coverage in un-served areas are:

- High operation and maintenance costs, especially due to lack of electricity, access to roads and in providing security for the infrastructure deployed (vandalism);
- Low population.
- High licenses and spectrum fees, and lack of definition of spectrum policy for these areas (voice and data services).

Three principles have been suggested in order to define the USF strategies:

- It is recommended to apply supply side subsidies instead a demand side subsidy.
- It is recommended to incorporate private operators as important players on the strategy
- It is recommended that the USF executes its fund effectively and efficiently

Three strategies have been proposed to close voice and data gaps following these principles. However, before applying any of these schemes it is necessary that the USF defines the access gap areas, i.e. the areas that will be part of the UA implementation plan. The definition of these areas is the main prerequisite to apply any of the three schemes. The three proposed strategies are:

- First-come first-served scheme: the objective is to waive spectrum fees to operators that compromise to expand services in access gap areas. The scheme follows a first-come first-serve policy in the sense that operators present their solicitude to the USF and once this solicitude is approved they are granted the waiver subject to the compliance of agreed coverage compromises
- Private initiative scheme: the objective of this scheme is to promote private operators to present universal access projects and benefit from doing it. One of the main advantages of this scheme is that it reduces the administrative a costs of designing universal access project by giving this task to private operators. Operators presenting UA projects will have a bonus when participate in the bidding contest
- Lowest-subsidy auctions: the objective of this scheme is to design a universal access project that will be partially funded by the Universal Access Fund. The main advantage of this scheme is that it is executed to provide voice and/or data services to non covered areas following the priorities of the USF.

To close postal services gaps the suggested alternative is to use the funds collected through the USF levy and other sources to increase the number of sub-post offices staffed by private individuals. The principle advantage of this alternative is lower total cost and the avoidance of long-term institutionalized costs.

The Kenya Information and Communication Act has also defined as objectives of the USF:

- To support the development of information and communication technologies, including related human capacity and technological innovation.
- To provide support for the introduction and expansion of communication services to schools, health facilities and other organizations serving public needs.

- To facilitate the development of and access to a wide range of local and relevant content.

In this context, two additional strategies are proposed in order to achieve the capacity building objectives of the USF:

- Include obligations in broadband funded projects of providing connectivity to schools, health facilities and other organizations serving public needs and provide capacity building workshops.
- Establish a Capacity Building Fund to support capacity building projects on a demand basis. The suggested capacity building projects to be funded are:
 - Support the establishment of IT laboratory with broadband access in public educational institutions.
 - Support the establishment of ICT facilities in health centres and hospitals.
 - Support the establishment of ICT facilities in organizations serving public needs.
 - Finance telecentres.
 - Finance the establishment of ICT training centres.
 - Support collaborative initiatives to develop and disseminate local ICT content and its application in areas like health, education, market information, agriculture, local administration and commerce in a sustainable way so as to encourage faster uptake and productive use of ICT.
 - Support at institutions of higher learning (in collaboration with other organizations) to undertake research that explores new ways of using ICT to support Rural Development (ICT4RD) and disseminate the findings.

The costs of closing the access gaps have been estimated in \$ 876 million in accordance with the following structure:

- US\$ 169 million to close the voice gap, 889 sublocations have been defined as the USF gap target for voice services.
- US\$ 687 million to close the data gap, 4374 sublocations have been defined as the USF gap target for data services.

- US\$ 6 million to install 147 additional postal offices and support them during the next 5 years.
- US\$ 14.3 million to support the Capacity Building Fund and fund 470 IT school projects, 235 ICT health centres projects, 84 ICT hospital projects, 94 ICT public offices projects, 470 telecentres, 20 ICT training centres, 20 local content projects, and 10 It research projects.

After reviewing the universal access objectives set in the Kenya Information and Communication Act; Kenya National Information and Communications Technology (ICT) Policy; CCK Strategic Plan 2008-2013, and the Universal Access Strategic Plan and Implementation Guidelines for 2005-2010, we propose to focus the USF on three priorities:

- First priority: close the communication access gap by expanding voice services.
- Second priority: promote access to broadband services in order to close the data access gap.
- Third priority: provide capacity building by expanding the use of internet services in schools, health facilities and other organizations serving public needs and by facilitating the development of and access to a wide range of local and relevant content.

These priorities should be developed in two phases. The first phase should focus on meeting the first priority in the next 05 years. The second phase should focus on meeting the second and third priority by 2030. The reason for having two phases is that the voice market is more developed than the data market. The data market has just started to grow and it is likely that data services will be expanded in the near future without requiring resources of the USF. In contrast, the voice market is likely to have reached the maximum profitable coverage and will require addition incentives in order to continue expanding its coverage. In addition the third priority will depend on the progress of the second priority since it is necessary to expand broadband services before awarding capacity building projects. In this context the proposed targets for the USF are:

- By 2015: Close the voice gap
- By 2030:
 - Close the data gap for all sublocations with more than 2 000 inhabitants.

- Implement capacity building projects: 470 IT school projects, 235 ICT health centres projects, 84 ICT hospital projects, 94 ICT public offices projects, 470 telecentres, 20 ICT training centres, 20 local content projects, and 10 IT research projects .

In order to reach these targets, the following institutional and policy recommendations have been given:

- The USF should be directed by an independent department within the CCK.
- Additional staff is required in order for the Fund to operate efficiently.
- Waive spectrum fees for universal access projects and private projects oriented to cover access gap areas.
- Include as an obligation in all broadband funded projects to connect all schools, health facilities and other organizations serving public needs free of charges.
- Promote neutral competition (technology and license neutrality) in USF projects
- Promote national roaming
- Promote network sharing

After reviewing the expected budget of the USF, it is recommended to analyze the current USF funding and review the possibility of increasing the USF resources in order to achieve the USF goals promptly. With the current USF budget it will take a minimum of 10 years to close the voice gap, it will not be possible to close the whole data gap by 2030 and no resources could be spent in capacity building projects.

Postal services have not been considered within the first three priorities of the USF since the postal sector has proved to be dynamic with several operators (116) serving the country. In addition, it has been found that all counties in Kenya have a minimum of 03 PCK offices providing postal services. Additional field work is recommended in order to identify areas of the Kenya that cannot be reached by private (formal or informal) or public post. So far, evidence suggests that all areas of Kenya can be reached by post (mainly by transportations companies). In this regard it is recommended to focus on related regulatory initiatives that could help increase private sector participation and investment in the postal sector while increasing access to universal services:

- Develop a more precise definition of the universal service obligation based on the objects included (e.g., letters and cards up to 2 Kg, parcels up to 20 Kg etc.).

- Review the current reserved area (up to 350 grams and five times PCK's basic letter postage rates) to determine its economic contribution to USO maintenance.
- Define guidelines for costing and pricing within the reserved and competitive areas of the USO.
- Develop parameters for interconnection amongst postal operators including access to PCK's network and possible access to post office boxes by private operators based on an adequate level of compensation.
- Review current licensing procedures
- Strengthen CCK regulations concerning universal service where necessary
- Review PCK contracting processes for sub-post offices
- Establish policy and regulations concerning financial transfers through the postal network

If the CCK finds necessary to expand the number of postal offices it has been estimated that additional offices will require an annual subsidy of 72 612 KES. In addition to increasing access points, some other countries have used their USFs to support projects that benefit both users and public and private operators. These include: developing post code systems or enhancing the use existing post codes; and contributing to efforts to improve national address infrastructures.

Finally, the NOFBI was reviewed and recommendations were given in order to extend its use and reach. These recommendations are:

- Promote the use of the whole NOFBI
- Promote access to the NOFBI on a competitive basis

Connect all Kenyan counties headquarters to the NOFBI with an approximate investment cost of \$ 4 million.

