

**UNIVERSAL SERVICE IN TELECOMMUNICATION  
IN *a* LIBERALISING ENVIRONMENT *with*  
REFERENCE TO KENYA**

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Supervisor

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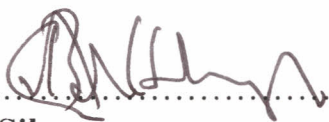
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**DECLARATION**

**I, Samuel Kiprono Chepkonga** do hereby declare that this project is my original work and has been submitted either in part or in whole and is not currently being submitted for a degree in any other university.

Signed.....*S. Chepkong'a*.....  
**Samuel Kiprono Chepkong'a**

This project has been submitted for examination with my approval as University of Nairobi supervisor.

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## **ABSTRACT**

Telecommunication policy is always a balance between economic growth and social justice. Universal service is generally concerned with the latter, which underlines the ability to pay and equity in its objectives of provision of telecommunication lines and access to services available on that line to every applicant upon request at affordable and/or equitable prices. Universal services are used in this description to connote a telephone at the premises or houses while universal access means a telephone within a reasonable distance. It is the obligation placed on universal service providers to ensure that standard telephone services, payphones and prescribed carriage services are reasonably accessible to all people on an equitable basis wherever they reside or carry on business.

In Kenya, Telkom Kenya Ltd (TKL) is the universal service provider, TKL was expected to meet the roll-out targets prescribed in the license issued in July 1999 that enjoins it to install certain number of payphones in urban as well as in the rural areas. A central object of the Universal Service Obligation (USO) regime in a monopoly situation is that the losses that may result from supplying loss making services in the course of fulfilling USO will be recouped from the high tariffs that TKL charges telephone calls for international and long distance during the exclusivity period.

In the post exclusivity period, the Communication Commission of Kenya (CCK) is expected to make arrangements to ensure that telecom services are accessible to all Kenyans as recognised by the International Telecommunication Union (ITU) as a human right. Section 83 of the Kenya Communications Act, 98 (KCA) provides for universal services for postal sub-sector and no equivalent provision was made for telecommunications sub sector particularly in a liberalised environment although the Government policy has expressly provided for USO in the telecommunication Sector. This project intends to discuss the USO provision in Kenya in post Exclusivity period and particularly in a fully liberalised and privatised environment to determine how this service and access may be provided throughout Kenya. The current connectivity is 250,000 telephone lines which translate to a teledensity of below one per centum. This indeed is a pathetic situation taking into account the central role that telecommunication is playing in the information age and the impact it has on the overall development and growth of the economy.

Kenya is lagging behind in this sector and there is need to develop innovative ways to deal with this poverty of information that is fast determining the competitive edge a country may have in the wake of liberalisation and globalisation. In this regard, therefore, this article intends to examine the various models that have been adopted in more advanced economies as well as the recent initiatives that have been promulgated by the developing countries to bridge the digital divide.

This project will then examine a model that Kenya has developed and adopted to leapfrog into the global superhighway taking into account the need to fast track the adoption of the Internet that is currently fuelling e-Commerce. This project will further review the proposed instruments and mechanisms that are proposed to be deployed to bring about the even development of the telecommunication sector in both the urban and rural areas as well as the served and the underserved areas in Kenya in a fully liberalised environment.

## **Preface**

In order to gain insight into the institutional evolution and regulatory framework in the development of telecommunication sector in Kenya, I have drawn repeatedly on the analytical framework and supporting evidence developed by Laila N. Macharia in her LLM Thesis of 2000. I have also relied extensively on my experience drawn from working for Kenya Posts and Telecommunication Corporation as its Corporation Secretary and Communications Commission of Kenya as its first Director General. This project has drawn its materials from the World Wide Web, the recent universal access study conducted by CCK and IDRC and the most informative article on cyber law by Dr. Bernard Sihanya.

## **Acknowledgements**

“We are what we repeatedly do. Excellence is not an act but a habit.” This is a quote from Aristotle who lived between 384 and 322 BC. It has been indeed true for me to see how I began as a novice but over time and with the help of the very dedicated Lecturers, I have experienced a transformation through the habit of continual struggle to excel in this course. This is what makes Aristotle quote a truly realistic episode in my short yet scintillating stint at this distinguished university. The world of cyberspace being “there” is now “here” for me and the mystery of infotainment has been unraveled.

I would like to express my sincere gratitude to the people that made this project possible. First, I would like to thank my project Supervisor, Dr. Ben Sihanya, who offered invaluable input and guidance on the substance, methodology and framework of this project. Second, the staff of CCK who provided me with most of the materials for this project particularly Mr. Christopher Kemei regarding the licensing process and the up-to-date roll-out data and Lydiah Tigogo for her remarkable effort in ensuring that this Research Project is in its current formatted style.

Finally, I would like to recognize my family especially my dear wife Jennifer and children Jemutai, Kipkosgei and Jebet, and friends for evincing remarkable interest and patience while at the same time offering encouragement at every stage of this project.



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## ABBREVIATIONS

AT&T	American Telegraph and Telephone
BT	British Telecom
CCK	Communications Commission of Kenya
EAC	East African Community
EAP&TC	East African Posts & Telecommunications Corporation
FDT	Fundo de telecomunicaciones(Chile)
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IDRC	International Development Research of Centre of Canada
ITU	International Telecommunications Union
KCA	Kenya Communications Act,1998
KCR	Kenya Communications Regulations 2001
KP&TC	Kenya Posts & Telecommunications Corporation(Defunct)
MTN	Mobile Telecommunications Network company of Uganda
NARC	National Rainbow Coalition
OECD	Organisation of Economic Countries of Developed
PCK	Postal Corporation of Kenya
POPs	Points of Presence
RCDF	Rural Communications Development Fund(Uganda)
RTOs	Regional Telecommunication Operators
SMP	Significant Market Power
SUBTEL	Subsecretaria de Telecomunicaciones(Peru)
TAR	Total Accounting Rates
TKL	Telkom Kenya Limited
UA	Universal access
UAF	Universal Access Fund
UCC	Uganda Communications Commission
USD	United States Dollar
USO	Universal Service Obligation
VAP	Valleta Action Plan
VSAT	Very Small Aperture Terminals
WTDC	World Telecommunication Development Conference
WTO	World Trade Organisation

## **Table of Statutes**

Kenya Communications Act, 1998, Kenya Gazette Supplement No.63 (Act No.3)

Kenya Communications Regulations, 2001, Kenya Gazette supplement No.33

Kenya Posts & Telecommunication Corporation Act, Chapter 411(repealed).

The Kenya Information and Communication Technology (draft) Bill, July 2005

## **Table of policy Statements**

Telecommunications and Postal Sector Policy Statement, 1997, Ministry of Transport & Communications.

Telecommunications and Postal Sector Policy Statement, 1999, Ministry of Transport & Communications.

Telecommunications and Postal Sector Policy Statement, 2001, Ministry of Transport & Communications.

Draft National Information and Communication Technology (ICT) Policy, July 2005, Ministry of Information and Communication.



# CHAPTER 1

## PROPOSAL

### 1.1 Statement of the problem

Telecommunication penetration in developing countries and in particular in Kenya is very low in the Rural as well as unserved urban areas. I intend to investigate mechanisms to improve telecommunication penetration and breach the gap between urban and rural areas especially using the model of universal access.

Liberalisation of the telecommunication sector is gaining momentum but still a large number of people in rural and remote areas cannot afford a telephone, and will become increasingly marginalised in a connected globe. It has been observed by Sihanya that in the post monopoly period these segments are avoided by investors keen on skimming or cherry picking. He argues that the public interest requires that those who cannot pay should also be served.<sup>1</sup>

### 1.2 Argument

In this project I argue that universal access can be used as a framework to bridge the telecommunication gap in the developing countries and the possibility for this lies with the Government and the regulators. Second I also argue that the rationale of wiring up the rural as well as the remote areas is not only for free flow of information but is a major point of departure of development discourse and cannot be regarded as an altruistic effort by the "haves" to help the "have nots." I further argue that there is indeed money to be made out of this misery, in this context the International Telecommunication Union (ITU) observes that "indeed paradoxically there is a lot of money to be made."<sup>2</sup> However, while I concur with them that there is a lot of money to be made, there is equally the daunting task of making these areas attractive to prospective investors.

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<sup>1</sup> Bernard Sihanya (2001) "Infotainment and cyber-law in Africa: Regulatory Benchmarks for the Third Millennium," vol. 10 No.2 Journal of the University of Iowa. Page 583.

<sup>2</sup> [www.itu.int/](http://www.itu.int/) ITU Focus group 7 "Universal Access," 2001.



### **1.3 Background**

Universal access is seen as the mechanism to address what is commonly recognized as a gap between the financial cost of what the government sets as the target for universal access and what a “liberalized market” will be able to achieve without external inducement.<sup>3</sup> This problem is often referred to as “the access gap.” The gap can be envisaged in two dimensions - poverty and isolation. Poverty of course exists in both urban and rural areas. However the cost of addressing both poverty and isolation together, as exists in many rural settings, is much higher. Providing access to the urban poor can be achieved through policies and innovations that are well within the reach of the market, often without much special finance. The main requirement is to allow entrepreneurs who wish to re-sell and retail telecommunication services to people who cannot afford their own private telecommunications facilities to be free to do so. On the other hand, reaching some poor rural areas may be well beyond the reach of the market. Special concern should be given to providing general access to the poorer areas, unlike in the developed economies where majorities have access to phones and other communication facilities.

Universal access may mean different things to different regions of the world and has been a changing concept over time, as technology develops and expectations change. According to International Telecommunication Union (ITU) universal access is a requirement of the telecoms service providers to meet minimum criteria in the following three areas; availability, accessibility and affordability.<sup>4</sup> In order to understand the general deficiency of the telecommunication services in the rural areas it is important to trace the development of the telecom sector in Kenya.<sup>5</sup> The definition of UA will be explained in detail here below.

### **1.4 Development of telecommunications in Kenya**

The development of telecommunication sector in Kenya started with the dawn of colonialism in the last one hundred years ago. It has operated under public control and administrative process corrupted during the colonial period and distorted under post

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<sup>3</sup> Andrew Dymond (2004) “Uganda’s approach to universal access & rural communication Development Fund: Guide book for policy makers and regulators.”

<sup>4</sup> *ibid.*

<sup>5</sup> Pauline Wangui, “Making Universal Access a reality,” *Daily Nation* (Nairobi), 1<sup>st</sup> February 2005.

independent Governments. It was also affected by disruptive politics coupled with rent seek that has led to the decline of telecommunication sector over the years.<sup>6</sup>

In 1949 the posts and telecommunication services were reorganized to be self-financing and the service standards improved leading to steady network expansion. In the East African territory the number of telephone lines increased from 12,000 in 1946 to nearly 48,000 in 1955, an increase of about 30%. With the independence of the three East African countries they formed the East African Community (EAC) in 1967 and the East African Posts and Telecommunication Corporation (EAP&TC) was also established.<sup>7</sup>

In 1977 the EAC collapsed and the EAP&TC was also dissolved. Each country incorporated its own organization, Kenya established the Kenya Posts and Telecommunication Corporation (KP&TC). With time KP&TC became a bureaucratic institution and suffered the general malaise of a state corporation as it became unresponsive to customer demands, suffered poor operating performance, inadequate capital reinvestment, distorted prices and tariffs that no longer reflected the cost of providing such services. There was also the tendency to retain unproductive staff and by 1990 there were 120 staff per 1000 telephones giving a ratio of 1:8 compared to the International Telecommunication Union recommended average ratio of 1:125.<sup>8</sup>

During the same period KP&TC was increasingly turned into a source of rent seeking and political patronage thereby compounding its problems and further constraining telecommunication service delivery. In this same period KP&TC had become a major burden to the Government's increasing budget deficit since it was no longer able to meet its financial obligation to its external equipment suppliers. When I joined KP&TC in 1995 it became increasingly clear that KP&TC was not able to fulfill the social and development objectives that it had been established to achieve and this led to calls by the civil society, particularly the consumer organizations, to be made for its privatisation as a solution to the mirage of problems it was suffering from.

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<sup>6</sup> Laila N. Macharia (2000) *Property Rights, Regulatory Risk and Private Investment in Kenya's Telecommunication Sector* LLM Thesis, Stanford University.

<sup>7</sup> *ibid.* page 14.

<sup>8</sup> *ibid.* page 19.

In 1998 the Government enacted the Kenya Communications Act; this split KP&TC into three entities namely, Communication Commission of Kenya, Telkom Kenya Ltd and Postal Corporation of Kenya.<sup>9</sup> Telkom Kenya Ltd (TKL) was designated in July 1999 by the Government as the universal service provider, TKL was expected to meet the roll-out targets prescribed in its license that I issued in July 1999 that enjoins it to install 10,000 payphones in both urban and rural areas. The Regulatory Authority, Communications Commission of Kenya (CCK) that was established in February 1999, has inbuilt in the license roll-out targets for TKL in the rural areas and made them a condition of the license that TKL was expected to comply with and if it failed to connect any one of the prescribed lines it will be penalised Kshs. 200 per line.<sup>10</sup> According to the Government Sector Policy of year 2001 about 1.5 million telephone lines are to be installed in the rural areas over a period of 15 years translating to about 100,000 lines annually to be installed at a cost of US\$ 150 million. However, the TKL license merely provided for a total of 25,000 lines for the first year, 60,000 lines, 75,000 lines, 75,000 lines, and 75,000 lines for the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> years respectively.<sup>11</sup>

The existing mechanisms for extending communication services to rural areas and other reform initiatives by the Government in the last five years have not had much impact on availing communication services to the rural areas. As an example, a special licensing programme for Regional Telecommunications Operators (RTOs) to deliver telecommunication services to the rural areas was first devised in 1999. The attempt to license RTOs to compete with TKL and focus resources into rural areas in 2001 failed miserably. At the same time, competition between operators, especially the mobile operators and Internet Service Providers (ISPs), has tended, as expected, to marginalize the less endowed rural areas.<sup>12</sup>

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<sup>9</sup> Kenya Communications Act, 1998.

<sup>10</sup> Telkom Kenya Limited Licence, July 1999.

<sup>11</sup> *ibid.*

<sup>12</sup> This is an initiative that was began by CCK pursuant to the Government telecom sector policy statement of 1999 that set out the market structure to include RTO's. This policy sought to replicate the United States of America Bell Western experiences without conducting any study to determine their viability in Kenya. The high license fees of US \$ 27 million to have been paid by the winning consortium of Widestream Wireless Ltd was uneconomical and the Company failed to pay the initial license fees as per its bid.



A central object of the Universal access (UA) regime in a monopoly environment is that the losses that may result from supplying loss making services in the course of fulfilling UA will be recouped from the high tariffs that TKL charges for international and long distance telephone services during the exclusivity period.<sup>13</sup>

In the post exclusivity period, CCK is expected to make arrangements to ensure that telecommunication services are accessible to all Kenyans as required of it by Section 23(1) of the Kenya Communications Act, 1998 (KCA). Section 83 of the said Act, provides for universal service for postal sub-sector and no equivalent provision was made for the telecommunications sub sector particularly in the post exclusivity period although the Government sector policy has expressly provided for UA in the telecommunication sub-Sector. This project intends to review the UA provision in Kenya in the post exclusivity period and particularly in a liberalising environment to determine how this service and access may be provided throughout Kenya. The current connectivity in the fixed line currently stands<sup>14</sup> at 250,000 telephone lines that translate to a teledensity of below one per centum. This indeed is a pathetic situation taking into account the central role that telecommunication plays in the information age and the impact it has on the overall development and growth of the economy.

From the foregoing Kenya is lagging behind in this sub-sector and there is need to develop innovative ways to deal with this poverty of information that is fast determining the competitive edge a country may have in the wake of liberalisation and globalisation. In this regard, therefore, I intend to examine the various instruments that have been adopted in more advanced economies as well as the recent initiatives that have been formulated in the developing countries to bridge the gap in the urban and rural telecommunication services using the universal access model. Further I will propose the likely instruments and mechanisms that may be deployed to bring about the even development of the

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<sup>13</sup> This is according to the audit that was carried out by TKL after the NARC Government came to power in 2003 with the appointment of a new Managing Director. This was to determine whether TKL was complying with the license conditions of 1999. This audit, according to Mr. Joseph Ogutu of TKL, revealed that the number of lines had gone down by 41,000 lines since the introduction of competition in the cellular mobile sub-sector.

<sup>14</sup> Laila Macharia, *supra* note 6.

telecommunication sub-sector in both the urban and rural areas as well as the served and the underserved areas in Kenya in a liberalising environment

Telkom Kenya Ltd. as shown above has been unable to meet the subscriber targets under its licence particularly to the Rural and remote parts of Kenya. Moreover, the existing telephone connections generally reveal an imbalance in telecommunication penetration between the urban and rural areas with a ratio of 21:1 in favour of the urban areas. It is apparent that Telkom Kenya has been unable to meet the roll out targets for the rural areas thus further complicating the Government's stated objective of ensuring that telecommunication services are provided on an equitable basis throughout the country to fulfill its developmental agenda for the telecommunication sector. It is against this backdrop and the inability of Telkom Kenya to meet the Government's social obligation that calls for innovative ways of improving telephone penetration in the rural and remote areas of Kenya.

### **1.5 What is universal access?**

Universal Access is a concept that is rapidly becoming the best-practice standard to support access to telecommunications for the poor and rural populations in low-income countries. Universal access has a particular role in the context of universal access policy. This is the mechanism to enable a liberalized or liberalizing telecommunications sector to mobilize private sector investment into rural areas, by offering "smart subsidies" and investment incentives to investors.<sup>15</sup> Universal access is the policy objective to provide convenient and affordable telecommunications access, on a community basis, through public access facilities such as payphones and telecentres to the whole population.<sup>15</sup> Universal access may be defined as placing a publicly accessible telephone in every population centre above a certain population size, or placing public phones such as to guarantee that anyone, no matter where they live need not walk more than a certain distance, for example, 5 kilometers to reach a telephone.<sup>16</sup> Universal access may also include providing such services as internet, e- learning, telemedicine, bureaus and many others. Simply put, it is telecommunication within a walking distance. This was first provided in Timbuktu, Mali in 1997 through public

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<sup>15</sup> Andrew Dymond, *supra* note 3.

<sup>16</sup> Pauline Wangui, *supra* note 5.

access points that are composed of telecottages and traditional cyber cafés that were located in low income and underserved areas.<sup>17</sup>

Universal access is a precursor to universal service, which is the objective of making services available individually, to every household. This is typically the policy objective of high-income countries, with more advanced markets. It is more practical for developing countries to aim at universal access in the near-to-medium term while regarding universal service as the long-term objective. Universal access policy seeks to establish targets of providing basic access to communications, that is, voice telephony within a reasonable distance. Basic access to telephony has been defined as consisting of at least one public access telephone or payphone if the population is less than 5,000 people and beyond this, in larger areas such as one public access telephone per 5,000 people. Taking into account the typical geographical size of rural areas and population density, this has effectively established a minimum geographical target of having a public telephone within approximately say, 5 km of every person in the country.<sup>18</sup> Many other countries have also set Internet access targets as may be elaborated in chapter four dealing with case studies.

Telecommunication policy<sup>19</sup> is always a balance between economic growth and social justice.<sup>19</sup> Universal service is generally concerned with the latter, which underlines the ability to pay and equity in its objective of provision of telecommunication lines and access to services available on that line to every applicant upon request at affordable and/or equitable prices.<sup>20</sup> Universal service is used in this project to connote a telephone at the premise or a household while universal access means a telephone within a reasonable distance. It is the obligation placed on universal service providers to ensure that standard telephone services, payphones and prescribed carriage services are reasonably accessible to all people on an equitable basis wherever they reside or carry on business. The terms

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<sup>17</sup> *ibid.*

<sup>18</sup> Andrew Dymond, *supra* note 3.

<sup>19</sup> Sean O Siochru (1996) *Telecommunication and Universal Service: International Experience in the Context of South African Policy Reform*, IDRC, Ottawa, page 1.

<sup>20</sup> *ibid.*



Universal service and Universal access are generally referred to as universal service obligation.<sup>21</sup>

## **1.6 Objectives of universal access**

Universal service concerns itself not simply with provision of affordable services but also with the support for effective use. The main objectives of UA are classified into four;

First, uniform connection fees imply a sometimes significant cross-subsidy for rural users, thus making it much easier for them to connect to the network. Second, to the extent that rural areas need more maintenance, uniform rental tariffs also subsidizes rural users and have them stay connected. Third, higher rental for business users than for domestic users subsidizes the latter, making it easier for them to stay on the network although networks are dimensioned to deal with business peak traffic, justifying a higher rental for business use. And last, the fact that the overall usage of a telephone line is not taken into account in the rental fee,<sup>22</sup> it discriminates in favour of low income users.<sup>23</sup>

## **1.7 Maitland report on universal access**

The Plenipotentiary Conference of the International Telecommunication Union (Nairobi, 1982) adopted a resolution that led to the establishment in May 1983 of the renowned Independent Commission for World-Wide Telecommunications Development chaired by Sir Donald Maitland.

Twenty years ago the Maitland Commission envisioned universal access to telephone services by the year 2000. The Commission thought that if only we could all communicate then at last, we will be free.<sup>24</sup> In December 1984, the Independent Commission for World Wide Telecommunication Development released the Maitland Report officially entitled "The Missing Link" which highlighted the growing inequalities in Telecommunication resources between richer and poorer nations.<sup>25</sup> The Indonesian Minister of Communications, Mr. Agum Gumelar at the occasion of ITU Plenipotentiary Conference held in Marrakech,

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<sup>21</sup> *ibid.*

<sup>22</sup> Mat x 2000, "The woshipy technology and universal access."

<sup>23</sup> *ibid.*

<sup>24</sup> [www.itu.int/plenipotetiary/speeches](http://www.itu.int/plenipotetiary/speeches), Marakech, Morrocca, October 2002/Speeches.

<sup>25</sup> [www.itu.int/plenipotetiary/Speeches](http://www.itu.int/plenipotetiary/Speeches) Marakech 2002.

Morocco in 2002, in which I had the opportunity to serve as its Vice Chairman, stated that “if we mention the twenty first century, we are reminded of the historical moment when in 1984 the Maitland Commission pointed out that in the next century every mankind should be able to have an easy access to a telephone.” The Minister then posed the question whether we had really reached the stage that the Maitland Commission had targeted.<sup>26</sup>

The chicken and egg question is whether telecommunications development follows economic development, or whether economic development follows telecommunications development. This has long plagued those who would promote telecommunication as a vital, even essential, and a pre-requisite for socio-economic development. Modern telecommunication is obviously an infrastructural necessity for forging the link between information and socio-economic development.<sup>27</sup> Gerald Kenny, quoting the Maitland Commission report of 1984 stated that the link that was regarded as missing in the report referred to modern telecommunications in many countries of the world. What was the connection that could not be made because of this missing link?<sup>28</sup> It was the connection between these countries and development, both economic and social. In the words of the Maitland Commission, “the ITU recognised the fundamental importance of telecommunications infrastructure for the economic and social development of all countries.”<sup>29</sup>

The Maitland report set the targets that by the early part of the 21<sup>st</sup> century the whole of humankind should be within easy reach of a telephone and the services that go with it. Easy access in rural areas was defined as one telephone set within one or two hours walking distance.<sup>30</sup> The Valetta Action Plan (VAP) formulated at the second ITU World Telecommunication Development Conference (WTDC) in March 1998 sought to promote universal access to basic telecommunication, broadcasting and Internet as tools for development in the rural and remote areas. The ITU focus group 7 has spent time researching technological developments that have the potential to support

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<sup>26</sup> *ibid.*

<sup>27</sup> *ibid.*

<sup>28</sup> Gerald I. Kenny (1994) “The Missing Link Information.”

<sup>29</sup> *ibid.*

<sup>30</sup> *ibid.*



telecommunication applications, which are commercially viable and substantial through other transparent financing mechanisms in rural and remote areas of developing countries.

### **1.8 What are the characteristics of rural areas?**

Rural and remote areas exhibit one or more of the following eight characteristics, first, rural and remote areas exhibit scarcity or absence of public facilities such as reliable electricity supply, water, access to roads and regular transport. Second, they have scarce technical personnel. Third, they have the difficult topographical conditions such as lakes, rivers, hills, mountains, deserts, which render the construction of telecommunications networks very costly. Fourth, they exhibit severe climatic conditions that make critical demands on the equipment. Fifth, they are attended by low per capita income. Sixth, they have under-developed social infrastructure, such as health, education and others. Seventh, they have low population density. Last, they have very high calling rates of telephone service due to the fact that large numbers of people rely on a single telephone line.<sup>31</sup>

These characteristics make it difficult to provide public telecommunications services of acceptable quality by traditional means at affordable prices, while also achieving commercial viability for the service provider. There are many reasons for lack of cheap universal telecoms services in developing countries. They include high tariffs which are a function of distance and time, high input costs for acquiring technology by developing countries, overpriced licences and licence conditions that increase costs to end users.

The thesis of this project is based on at least three assumption that have been made in the past that warrant being challenged, namely, telecommunications channels are neutral conduits, second, that access to telecommunications is always of positive value and third, that communication linkages and information carried through them are beneficial to all concerned. Shields and Samarajiva argue the political economy question of telecommunication by asserting that communication channels, being carriers not only of information but also of power are crucial factors in the establishment, maintenance and change of these power relations. They further argue that in as much as the Roman roads and

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<sup>31</sup>. [www.itu.int](http://www.itu.int) (2000) ITU Focus 7 Group, Geneva. *New Technologies for Rural Application*.

England's control of sea-lanes were basic to the maintenance of empires in earlier times, telecommunication is basic to the exercise of transactional and state power today.<sup>32</sup>

According to the World Bank the widespread access to telecommunications services at affordable prices has one way or another, been a deliberate or implicit objective of Government policy in most countries.<sup>33</sup> This is particularly trite during monopoly operator period since the monopoly operator has been able to cross-subsidize the provision of services in high cost areas especially rural and isolated communities as well as to low-income households. This model, according to World Bank, had limited success.<sup>34</sup> In high-income countries and, to a lesser extent, in centrally planned economies, the objective of a telephone in most households was broadly met but at the cost of distorted tariffs, onerous service obligations, and efficiency losses. In developing countries monopolies proved unable to meet demand in profitable cities, let alone extend services to urban fringes and rural areas.<sup>35</sup>

As monopolies are replaced by increasingly open and competitive markets, the approach to universal access is also fast changing. Market demand is met more promptly, prices decline and new services are introduced.<sup>36</sup> Universal service obligation give way to business opportunities for incumbents and new entrants alike; in that subsidies, where needed, are more explicit, transparent, cost based and increasingly determined and allocated through the market itself.<sup>37</sup> This World Bank model assumes that markets in developing countries are perfect. However, it is a well known fact that there are a lot of distortions in the marketplace leading to misallocation of resources. For example, in some post monopoly economies there is always a tendency by the developing countries to license only two players in the marketplace who may not have the necessary incentive to compete and at times they even collude to stifle competition since the anti-trust institutions in these countries are, more often than not, underdeveloped to cope with the challenges posed by street-wise Trans-national Corporations who have operated in well regulated markets.

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<sup>32</sup> Max X, *supra* note 22.

<sup>33</sup> [www.worldbank.org](http://www.worldbank.org) (1997) "Universal Access in rural Chile."

<sup>34</sup> *ibid.*

<sup>35</sup> *ibid.*

<sup>36</sup> [www.worldbank.org](http://www.worldbank.org) (1997) "universal Access in rural Chile."

<sup>37</sup> *Ibid.*

Competitive, private led markets, especially in the cellular mobile market have shown that they can go along way towards making telecommunication services available throughout the population but gaps still remain. Therefore, what private corporations are prepared to do on commercial terms alone typically does not quite suffice to achieve what the Government seeks for economic, social, regional, cultural or other development reasons. Rural and remote localities as well as low-income urban households and the disabled tend to lag especially in the poorer countries.<sup>38</sup>

### **1.9 Universal access initiative in Kenya**

The Kenya Government's Telecom sector policy set out a market structure that is aimed at liberalising the telecommunication market and at the same time outlines a programme of action towards the privatisation of the incumbent operator, Telkom Kenya Ltd.<sup>39</sup> According to the Sector policy the overall objective for the sector is to optimise its contribution to the development of the Kenyan economy as a whole by ensuring the availability of efficient, reliable and affordable communication services throughout the country.<sup>40</sup> In the area of telecommunications service for instance, it is intended;

First, to improve penetration in the rural areas from the present 0.16 telephone lines to 5 lines per 100 people by the year 2015.<sup>41</sup> This translates to the installation of 1.5 million fixed telephone lines in rural areas. Second, improve telephone service penetration in the urban areas from the present 4 lines to 20 per 100 people by the year 2015. This translates to the installation of 2.4 million lines in the urban areas.<sup>42</sup>

The Government in its Telecom Sector Policy of 1999 has estimated that it would cost about US\$ 5.85 billion in investment over a period of 15 years. It means that an average of US\$ 390 million would be required to be invested with about US\$ 150 million of this amount required annually to roll out fixed lines in the rural areas.<sup>43</sup>

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<sup>38</sup> *Ibid.*

<sup>39</sup> *Telecommunication and Postal Policy Statement*, January 1997.

<sup>40</sup> *ibid*, page 1.

<sup>41</sup> *ibid*, page 1.

<sup>42</sup> *ibid*, page 2.

<sup>43</sup> *Ibid.*



As a consequence of the Government's inability to meet the targets in its Telecommunication Sector Policy, it is evident that a clearly thought out mechanisms and/or a legal framework to implement the Governments' Policy on universal access in the rural as well as urban areas is lagging. It is therefore, imperative to define this mechanism and the legal framework within which this objective may be achieved to ensure that the gap between the rural and urban areas is bridged to bring about economic growth and development of the rural as well as remote areas of Kenya.

The Kenya Government telecommunication sector policy of 1997, states that the Government will continue to emphasis the provision of basic telecommunication services to all un-served and underserved areas at affordable rates.<sup>44</sup> All the telecommunication licensed Operators were expected to contribute towards this goal. It further stated that appropriate regulations and licensing procedures will be put in place to ensure compliance. However, where the provisions of such services are considered to be uneconomical, the Government would undertake to avail appropriate subventions.<sup>45</sup>

It is worth noting that the Government has not promulgated any concrete legislation to establish a universal service regime for the telecommunication sub sector except the conditions of the license stipulated in TKL license, which are at best feeble. However a comprehensive regime is currently being developed pursuant to collaborative arrangements between CCK and the international Development Research Centre (IDRC) of Canada, through a memorandum of grant signed in August 2003; in it CCK and IDRC committed US\$ 65,000 and US\$ 155,000 respectively.<sup>46</sup>

The general objective of this study is to conduct research and consultations leading to the definition of universal access and to articulate strategies, mechanisms and plans for universal access for Kenya's info-communications sector. This project was my initiative at CCK while serving as the Director General and it was intended to develop legislation and programmes to support an appropriate UA regime in the wake of liberalisation of the

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<sup>44</sup> *Ibid.*

<sup>45</sup> Telecommunications and Postal Sector Policy Statement, January 1997, page 6.

<sup>46</sup> Timothy N. Waema (2004) "Universal Access to Communication Services: Development of Strategic Plan and Implementation policy Guideline," at [www.cck.go.ke](http://www.cck.go.ke).

telecommunications sub sector. I was then the project leader in CCK and would like to progress the work I had commenced with the aim of contributing both to the on-going work and academic discourse in this nascent area.

### **1.10 Scope of the project**

In this project, the central question for study will be how to provide universal access and who is expected to provide such access to the underserved or unserved urban areas such as Kibera Slums in Kenya that is home to a poor population of over 600,000 and the rural or remote areas of Kenya that is estimated to hold 80% of the population.<sup>47</sup> These areas are considered to be uneconomical and unprofitable by the private licensed operators and the incumbent when it is fully or partially privatised.

This project will draw its materials mainly from secondary sources, that is, the Internet and from my personal experience while serving as the Corporation Secretary of KP&TC from 1995 to 1999 and also as the first Director General of CCK between 1999 and 2003. This is mainly because I participated in the formulation of the liberalisation legislation and also participated in granting licenses to various telecommunication operators. This is a fairly new field that first appeared significant in Africa in the late 1990s. Therefore the materials in this area have mainly been published by scholars from the industrialised and developed economies in the perspective of developed economies. There are also various studies undertaken by World Bank appointed consultants from the perspective of a developed economy.

### **1.11 Literature review**

I have had occasion to review the work of Andrew Dymond and Sonja Oestman, Rural Telecommunications Development in a liberalising environment.<sup>48</sup> The writers have examined and identified one of the universal service mechanisms for mobilising investment into challenging rural areas as universal access fund. This study has restricted itself to only one mechanism yet there are more than five known mechanisms of mobilising funds into remote and rural areas. It has also restricted itself to only rural areas yet there are other areas

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<sup>47</sup> Ministry of Planning Economic Survey, 2002.

equally challenging and underserved or unserved in the urban areas which more or less have the same features as those of the rural and remote areas. This project will go beyond the work of these writers by examining the other areas left out in this study that include market based reforms, cross subsidies, mandatory service obligation (popularly referred to as roll-out) and access deficit charges.

The other material I have also reviewed is the work of James Hodge on Universal Service<sup>49</sup> through rollout targets and license conditions: lessons from Telecommunications in South Africa. This study has concentrated on two main mechanisms of universal service namely, roll out and license conditions as a way of prioritising the development of telecommunication services in the post apartheid South Africa. This was to ensure that the extension of basic infrastructure services was extended to the vast majority of citizens that were not serviced under the apartheid regime. Again this writer is dealing with a unique African situation in which a whole community was discriminated against wherever they resided in the country, whether in the rural or urban areas. The South African universal access strategy of choice was unique and can hardly be replicated in any other African country without a major departure from this experience. The writer examines how rollout targets and license conditions for universal service have performed in the telecommunication sector where private operators exist. It further examined the failure of the incumbent, Telkom South Africa Ltd. license and drew some lessons for policy makers.

This project will also examine the rollout targets and license conditions of Telkom Kenya Ltd and what lessons could be drawn for policy makers. I will further examine the most apt universal access mechanism that could be adopted by Kenya in a liberalising environment to speed up the development of telecommunication infrastructure and networks in a more equitable manner to achieve social justice.

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<sup>48</sup> Andrew Dymond & Sonja Oestman (2002), *supra* note 3.

<sup>49</sup> James Hodge (2000) "Universal Service through rollout targets and license conditions: lessons from Telecommunications in South Africa." School of Economics, University of Cape Town.



## **1.12 Chapter breakdown**

This project will be structured into the following Chapters:

### **Chapter 1 – Concepts and development of universal access: Kenya telecom in historical context**

This chapter is the proposal and will also serve as an introduction to this project that will trace the development of the concept of universal access (obligation) as firstly used by the Maitland Commission in 1985.

### **Chapter 2 - Objectives and economics of universal access**

This chapter will list the main objectives of universal access programmes and will describe the economics of universal access.

### **Chapter 3- Implementing universal access: How to fund it**

This Chapter will address the question of how to fund universal access. This Chapter will also review the main approaches used in different countries.

### **Chapter 4 –Case studies: comparative analysis**

This Chapter will be devoted to case studies of universal access policies and programmes in at least three different countries. The case studies will be used throughout this project to illustrate various approaches and issues involved in universal access.

### **Chapter 5-Universal access in Kenya**

This Chapter will address the main issues involved in an effective universal access programmes in Kenya. This Chapter will also examine how Kenya is approaching universal access as a policy objective and how it is being implemented. This Chapter will further review the recent initiative by CCK and IDRC and the policy lessons that can be drawn from this project, which is in its final stage.

A well thought-out universal service policy and legislation could contribute to bridging the digital divide in light of the recent initiative by the United Nations General Assembly under the auspices of the World Summit on Information Society Conference held in Geneva in December 2003. The second leg of this conference will be held in Tunis, Tunisia in November 2005.

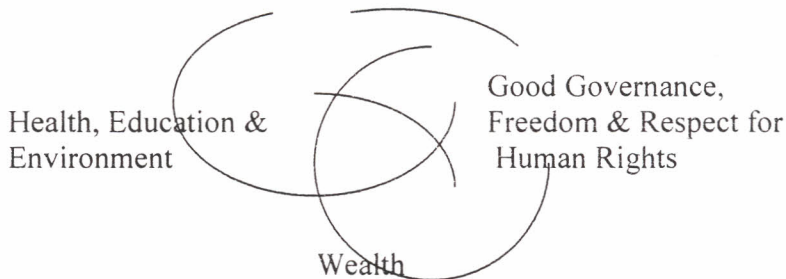
## CHAPTER 2

### ECONOMICS OF UNIVERSAL ACCESS

The International Telecommunication Union (ITU) has recognised the fundamental importance of telecommunications for economic growth. However, this recognition was not universal until 1985 when ITU set up the Maitland Commission that prepared a report on the world development of telecommunications entitled "the missing Link. And neither can it be claimed that this recognition is even acknowledged today to be universal.

The traditional way of attempting to convince those who do not recognise the crucial connection has been to demonstrate the existence of a link between telecommunications development and the past Gross Domestic Product (GDP) performance in various countries of the world.<sup>50</sup> It has been argued that there is a more convincing way of demonstrating the crucial role of telecommunications in fostering socio-economic development than by looking at the past through the microscope of GDP performance but rather by looking to the future through the microscope of information and knowledge.<sup>51</sup>

The main components of sustainable socio-economic development may be shown linked in a circle as follows:



Circle for essential components for sustainable socio-economic development.

<sup>50</sup> Gerald I. Kenny (1994) *supra* Canadian International Development Agency  
"The missing link information," [www.acda-cida.gc.ca](http://www.acda-cida.gc.ca)

<sup>51</sup> *Ibid.*



These three major components are arranged in a circle so as not to introduce the error of assigning priority. As in the case of a three-legged stool each leg is required or sustainability crumbles.<sup>52</sup> As it can be evinced in the circle there is a causal link between telecommunications development and each of the essential components for sustainable socio-economic development.<sup>53</sup> Liberalisation of telecommunication can also be used indirectly to achieve objectives of universal access to services. Private investment and competition in the telecommunication sector usually leads to increased supply of infrastructure and services.<sup>54</sup> However, strong and innovative approaches to sector reform can also ensure that marginalized groups and regions are not ignored without automatically deterring investors. For example, in Hungary the government licensed new entrants on condition that they meet targets of 15.5% growth in fixed lines connections annually and fulfil 90% of customer demand for new lines within six months of being licensed.<sup>55</sup>

The most important determinant of telecommunication universal access is economic development. As it has been stated above there is a strong relationship between the national telephone penetration rate and a national Gross Domestic Product (GDP). The strong relationship between teledensity and GDP per capita provides explanations for major differences in teledensity in different countries.<sup>56</sup> It is therefore not surprising that countries such as USA, Canada, Japan, France United Kingdom and Germany rank high in teledensity levels compared to most sub-Saharan African countries as particularly shown in the Table 1 as reported by ITU.<sup>57</sup>

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<sup>52</sup> *Ibid.*

<sup>53</sup> *Ibid.*

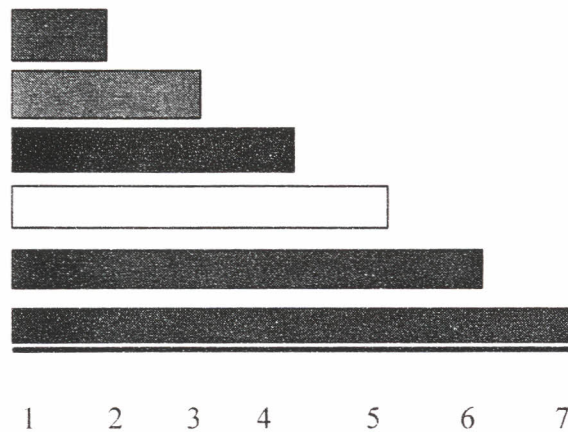
<sup>54</sup> "DTI International communication," September 2003 (Rev. July 2004).

<sup>55</sup> ITU (2002) *World Telco, Development – Reinventing Telecom* @www.itu.int

<sup>56</sup> Hank Intven and McCarthy Tetrault (2000) Infodev, World Bank, Washington *Telecommunication Handbook Regulation, Module 6, Universal Service.*

<sup>57</sup> ITU Statistics (1999) "Urban to rural telephony," [www.itu.int](http://www.itu.int).

2.1 Table 1- Relations of urban to rural Telephone Density by Region<sup>58</sup>



Source: ITU, 1998

- High-income economies
- Eastern Europe & Central Asia
- Latin America & Caribbean
- Sub-Saharan Africa
- Middle East North Africa
- East Asia & Pacific
- South Asia

In general the maximum amount of revenue available to fund telecommunication networks and services depends on per capita income levels within a country. Table 1 illustrates that there are many variations in the relationship between GDP per capita and teledensity.<sup>59</sup> For example the distribution of income within a country will determine the number of households that can actually afford to have access to telecommunications services. The

<sup>58</sup> *Supra* note 56.

<sup>59</sup> Note: the variation is the number of main lines per 100 people in the largest cities divided by the number per 100 people outside the largest cities. See World Bank (1998).

Table also makes it clear that penetration of public telephone lines and mobile telephones varies considerably across the range of countries shown.

In some of the least developed countries aid assistance from foreign governments and multilateral institutions such as World Bank has provided supplementary resources to expand teledensity levels. Cross subsidies from international telephone accounting rates, and other external resources have also increased teledensity levels in these countries.<sup>60</sup> However, such sources of external revenues, particularly the high international tariffs are declining due to call back and the aggressive negotiating positions adopted by the more endowed Multi-national Corporation within the Total Accounting Rates (TAR). The other reason advanced with the advent of the notion of free market is the perception that scarce public development funds should be devoted to other deserving purposes since private capital whether domestic or foreign is generally available to fund telecommunications network development.<sup>61</sup>

It has been argued by Hank Intven and others that some countries with a relatively low GDP per capita, less than 1% is spent on telecommunications. In other countries with similar GDP per capita, as much as 4% to 5% of GDP is spent on telecommunications. These differences and the general trend in telecommunications spending are illustrated by ITU selected statistics shown in Table 2 below.

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<sup>60</sup> Handbook on Telecommunication Regulation, *supra* note 56.

<sup>61</sup> *Ibid.*



2.2 Table 2 – Teledensity in selected countries

Country	GDP per capita ( in 1997 USD)	Teledensity (Telephone lines per 100 people, 98	Public teledensity (public phones per 1000 people 1998)	Mobile cellular phones (per 100 people 1998)
Angola	1,684	1.0	0.0	0.1
Argentina	8,214	20.0	2.7	7.9
Bangladesh	262	0.3	0.0	0.1
Cameroon	617	0.5	0.0	0.1
Colombia	2,424	17.3	1.4	5.0
Czech Rep.	5,052	36.4	3.6	9.4
Egypt	1,195	6.0	0.1	0.1
Germany	25,625	56.7	1.9	17.0
Haiti	447	1.0	-	-
India	451	2.0	0.4	0.1
Indonesia	1,068	3.0	1.1	0.5
Japan	33,231	50.3	6.2	37.4
Mexico	4,216	10.4	3.3	3.5
Morocco	1,218	5.4	1.1	0.4
Nepal	220	0.9	0.0	-
Kenya	-			
Peru	2,676	6.7	2.0	3.0
Russia	3,030	20.0	1.3	1.0
South Africa	2,979	11.5	3.5	5.6
Thailand	2,478	8.4	2.0	3.3
Ukraine	974	19.1	1.1	0.3
USA	30,173	66.1	6.5	25.6

Source: ITU (1999)

The international experience provides a good rule of thumb for testing the effectiveness of universal access policy.<sup>62</sup> There are differences in national telecommunications expenditure. However, on average, around the globe, people spend about 2% to 3% on telecommunications. This relation generally holds true for whole countries, regions, cities and on average to households.<sup>63</sup>

<sup>62</sup>Hank Intven/McCarthy tetrault other "Handbook on Telecommunication Regulation," *supra* note 56.

<sup>63</sup> *Ibid.*

Where it would cost less than about 2.5% of local income to provide telecommunications services, but no service is available in the area, there is often a sector policy problem. In many cases one or more of the following problems exists.<sup>64</sup>

- Poor telecommunications sector governance.
- No priority is given to telecommunication development.
- No reliance on private sector funding to expand networks.
- No competition in relevant telecommunication market or
- No effective universal access policy.

Therefore it can be gainsaid that in many countries the lack of supply of telecom services and not lack of demand is the principal reason for low teledensity. Consumers generally are willing to spend a reasonable percentage of their income on telecommunications if the service is provided to them. A review of international experience makes it clear that the actions of governments and regulators determine the level of universal access that is achieved in a specific country. While national incomes place constraint on the upper levels of universal access, it is clear that some countries have been far more successful than others in providing their citizens with access to telecommunications. The case studies for example of countries such as Chile, Peru and Uganda demonstrate that good universal access policies can significantly expand service without large government expenditures, even in remote areas with low income levels.

It is evidently clear that low teledensity levels in many developing countries have two distinct causes, namely, undersupply of telecommunications and low demand due to low incomes.<sup>65</sup> Examples of a few countries that have universal access policy are shown in Table 3 below:

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<sup>64</sup> *Ibid.*

<sup>65</sup> *Ibid.*

**2.3 Table 3: Universal access policy in selected developing and transitional economies - Summary of universal access definitions and obligations**

<b>COUNTRY</b>	<b>UNIVERSAL ACCESS POLICY</b>	<b>OPERATOR OBLIGATIONS</b>
<b>Bhutan</b>	A telephone booth in every village	No obligations
<b>Comoros</b>	A telephone in every locality	No obligations
<b>Costa Rica</b>	Within 1 km of both public and private access	No obligations
<b>Cuba</b>	Access to all villages and communities of more than 500 inhabitants	License conditions stipulate that by the end of 8 year programme all villages of 500 inhabitants have access to a telephone.
<b>Ethiopia</b>	A telephone booth in every town	Obligations under preparations
<b>Guinea</b>	A telephone booth for every locality & a telephone exchange for every administration location.	Service and interconnection expected – no obligations.
<b>Iran</b>	Telephone facilities to all villages of more than 100 people	Expansion of service quality, interconnection and services to elderly as part of license conditions.
<b>Kenya</b>	A telephone within a walking distance	Obligations contained in the licences.
<b>Lesotho</b>	A public telephone within 10 km of any community.	Voluntary objective
<b>Mozambique</b>	A public telephone within a distance of less than 5 km. At least one public telephone in each of the 144 district centres.	Expansion, quality and interconnection services contracted with the government.
<b>Pakistan</b>	A telephone in every village	No obligation
<b>Togo</b>	A telephone within 5 km radius by 2010; a telephone in every administrative and economic centre of significance.	Contract with the state to determine the objectives for development and plurality of service.
<b>Zambia</b>	Telephone booths in public places (schools, clinics etc) countrywide.	No obligations.

**Note:** Source adopted from ITU, Geneva, “*universal access definitions*”, 1998.



## **2.4 Objectives of universal access policies**

Governments and Regulators pursue universal access policies for different reasons. In many countries there is strong political support for extending UA to un-served and remote areas of the country. The following are some of the major objectives for implementing universal access policy:

First, universal access is intended to permit full participation in the 21<sup>st</sup> century society. Access to telecommunications is increasingly being viewed by policy makers as a basic right of all citizens, essential to full membership in the community. The objective of ensuring access is gaining momentum due to the increased reliance on the Internet and related news media by all sectors of the society. It is widely recognised today that telecommunications services are necessary for more than personal and business communications. Today telecommunications delivers all types of information, goods and services to the public, including essential services such as e- government, e-medicine, e-education and a wide range of e-commerce services. Those without access to telecommunications services risk becoming increasingly marginalized members of 21<sup>st</sup> century society.

Second, universal access is to promote national political, economic and cultural cohesion. These nation-building considerations call for widespread availability of telecommunications throughout a country's territory. Creating a single market and even a single nation state requires effective telecommunications.

Third, universal access is intended to promote economic development. Although the relationship between telecommunication development and economic growth is considered a complex web, an increasing amount of research suggests that telecommunications expansion leads to economic growth. With the increasing ubiquity of the Internet and e-commerce, countries or regions without adequate telecommunications infrastructure will not be able to reap the benefits of the new economy.

Fourth, universal access is intended to encourage more balanced distribution of population. Telecommunications can encourage development outside congested metropolitan areas.

This objective is popularly referred to as 'telecommuting' in the industrialised countries where it is often cited as a means of easing traffic congestion and pollution in urban areas.

Lastly, universal access is intended to eliminate the disparity between rural and urban areas. This objective is particularly apt in low-income countries.

This Chapter has reviewed the rationale for imposing universal access obligation as being both social and economic. The social policy goal is to provide individuals with access to communications facilities so as to avoid a gulf emerging between information rich and information poor groups.<sup>66</sup> The economic rationale, on the other hand, relates to the presence of externalities not taken into account by individuals in their private decision making.<sup>67</sup> The presence of these externalities and the social and political considerations mentioned above thus create a case for imposing universal access obligations and sharing mechanisms as long as it can be proven that costs outweigh benefits. Once the network is well developed and completed, however, the goal of universal access shifts to being primarily a social one.

It is now appropriate at this juncture to consider the various options of financing universal access and how it could be achieved without hurting the interests of the telecommunication operators.

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<sup>66</sup> Ian Walden and John Angel (2001) *Telecommunications Law*, Blackstone press London (first edition) Pg. 37

<sup>67</sup> *Ibid.*



# CHAPTER 3

## IMPLEMENTING UNIVERSAL ACCESS: HOW TO FUND IT

### 3.0 Background

This chapter will consider at least five main mechanisms in use around the globe today that have been dedicated towards implementing universal access policies. These are the mechanisms for mobilizing investment into challenging rural and remote areas. These funds offer subsidies to operators desiring to serve designated areas or communities selected by the Government or Regulator. The funds are initially focused on creating and supporting telephone service licensees to provide payphones in challenging areas, but now some also offer subsidies for Internet access and advanced ICT projects. Since the first fund was established in the mid 1990 approximately 20,000 communities have received telephone services for the first time through fund mechanisms in five countries with many more thousands to follow in a dozen or so countries that are now beginning to implement such mechanisms.<sup>68</sup>

A liberalising telecommunications market needs universal access policies and mechanisms to ensure that telecommunications and information services reach all segments of society, including the urban poor and rural communities. The five strategies and mechanisms that are utilised in achieving this social goal are discussed below and these mechanisms are not necessarily mutually exclusive, neither are they exhaustive. But these mechanisms constitute the main regulatory tools to promote Universal Access in most countries. There are many variations in the five mechanisms and the specific examples of the application of these mechanisms are included in Chapter 4 which will focus on the case studies. In considering the different approaches, the strengths and weaknesses will be reviewed. Further in considering these mechanisms other relevant matters will be considered such as compliance with international trade rules. For example, the World Trade Organisation (WTO) Regulations on basic telecommunications deal with universal access and state that any member has the right to define the kind of universal access and service it wishes to maintain.

They further state that such an obligation will not be considered as anti-competitive *per se*, provided they are administered in a transparent, non-discriminatory and in a competitively neutral manner, and are not more burdensome than necessary for the kind of universal access and service defined by the Member.<sup>69</sup> However, if a country that has committed to the regulatory rules in the WTO Agreement on basic telecommunications maintains a universal access and service mechanism that infringes the Agreement, it will be open to a trade complaint to the WTO from other signatory countries.<sup>70</sup>

The other consideration that is always considered within the universal access mechanism is the question of economic efficiency. Some universal service mechanisms are more efficient than others.<sup>71</sup> The degree of economic efficiency will depend, among other things, on the size of subsidy. Among the least efficient mechanisms are implicit cross-subsidies between services of an incumbent that are neither quantified nor targeted. Such cross-subsidies are maintained in many countries, particularly those that retain state owned incumbents.<sup>72</sup> It is generally assumed in those countries that high international and long distance rates are being used to subsidize low local access rates and to promote universal access objectives.

A further consideration revolves around the question of political issues. These are undoubtedly important to any Regulator that is appointed by, or accountable to, the government or Parliament. Public relations considerations are often cited as reasons not to introduce market based reforms such as tariff rebalancing, elimination of cross-subsidies, in some countries privatisation. Political considerations can also be used to argue against increased taxes or levies on telecommunications revenues to finance a universal access fund. In many cases, hindsight proves that the political risks of introducing telecommunications sector reforms are exaggerated. For example, in the case of Kenya, when I was the Company Secretary of KP&TC, when competition was first proposed in the mid 1990<sup>s</sup> there were outrageous predictions of decreased teledensity due to KP&TC's inability to cope with

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<sup>68</sup> Andrew Dymond and Sonja Oestman (2002) Intelcon Research & Consultancy Ltd, Vancouver *Rural Telecommunication Development in a Liberalizing Environment*.

<sup>69</sup> WTO Regulations on Trade Related Aspects of Intellectual Property Rights.

<sup>70</sup> Hank Intven & McCarthy Tetrault (2001) Infodev, World Bank, Washington "Telecommunication Regulation Handbook," module 6.

<sup>71</sup> *Ibid.*

<sup>72</sup> *Ibid.*

competition and also network “drop off”. However, looking back, it is evidently clear that access to telecommunications services has actually increased in the cellular mobile sub sector that stood at over 4 million subscribers as at July 2004. While in the traditional fixed line service according to the permanent Secretary in the Ministry of Information and communication, where competition does not exist, the subscriber base has constantly remained below 300,000 for the last five years, as at July 2004, due to lack of competition. While in Tanzania in the fixed line where privatisation is still held back by political considerations the story is the same as that of Kenya. In retrospect most telecommunications privatisations in the last decade are now seen as successful initiatives to expand network infrastructure while maintaining reasonable rate levels. Some political opposition to sectoral reform is always based on the misplaced notion of security and ignorance or blatant self-interest by political class or rent seekers. Regulations can often play an essential role in analysing and publishing the real costs and benefits of different universal access options for politicians and the general public.

### **3.1 Universal access mechanisms**

Universal access mechanisms may be categorised as follows;

#### ***3.1.1 Market based reforms***

This is especially linked to privatisation, Competition and cost based pricing. In many countries, particularly developing and transitional economies, outdated sector policies are a principal cause of universal access problems.<sup>73</sup> Many countries have low-income levels, and undoubtedly have many poor people who could benefit from domestic or international programmes to promote universal access.<sup>74</sup> However, in many cases, these countries also have large unserved populations that are willing and able to pay for personal or community telecommunications access. These include businesses that could increase economic activity if they had the telecommunications services to do so. The growing global experience indicates that the introduction of market based reforms can significantly increase the supply of telecommunication services. These reforms include privatisation, competition and cost-based pricing.

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<sup>73</sup> Handbook on telecommunication Regulations, *supra* note 55.



### ***3.1.2 Privatisation***

There is a growing amount of data to demonstrate that privatisation increases the supply of telecommunications services. For example, in Kenya the privatisation of Safaricom Kenya Ltd, the incumbent cellular mobile Operator, in October 1999 led to the rapid increase in the number of subscribers as well as network expansion rising from a meagre 20,000 subscribers in July 1999 to 1,932,026 million subscribers in September 2004.<sup>75</sup> Privatisation has significantly increased network coverage from Nairobi and Mombassa for Global System Mobile (GSM) subscribers in 1999 to over 100 major towns across the country. This has also led to a marked increase in access to telecommunication services in remote and under-served areas such as Lokichogio and Mandera in Northern Kenya.

Privatisation of the cellular mobile sub sector as shown above has promoted universal access for a number of reasons. Firstly, network expansion targets are often included in licenses or contracts that form part of the privatisation process. For example, Safaricom Kenya Ltd and former Kencell Communications Ltd (now Celtel Kenya Ltd) CCK during my tenure prescribed roll-out targets and were made conditions of their licenses that included coverage and the number of subscriber. For example, Kencell Communication Ltd license provided for a roll out of 582,000 lines in five years commencing from October 1999. This target was, however, surpassed in the third year when they had connected over 600,000 subscribers.

Investors in the privatised operators have demonstrated their willingness to meet or exceed roll-out targets not just simply to comply with legal obligations in their licenses but as a profit maximising strategy. There are many reasons why privatisation promotes universal access but four will be mentioned that include the following; first, is the availability of private capital to fund expansion. Second, is the existence of commercial incentives to supply services to meet demand. Third, is the improvement of management of the incumbent. For example, Safaricom Kenya Ltd improved its management when Vodafone international of United Kingdom acquired 40 per centum of equity in Safaricom Kenya Ltd with Vodafone international becoming the strategic partner. In the shareholder's Agreement,

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<sup>74</sup> *Ibid.*

that I participated in negotiating it at KP&TC, Vodafone International was handed over the management of Safaricom Kenya Ltd. Fourth, is reduced political and bureaucratic constraints on extending service as opposed to the incumbent that suffers from political patronage and rent seeking as in the case of Telkom Kenya Ltd and previously the former KP&TC.

### **3.1.3 Competition**

Competition generally has positive universal access effects and these include increased teledensity, public payphone penetration and reduced waiting list. Competition has also resulted in significantly increased cellular mobile service as in the case of Kenya, which is becoming a substitute for fixed line service as in many other African countries. The relationship between competition and teledensity has been demonstrated in studies of both developing and industrialised country markets. Competition has contributed significant revenues to government.<sup>76</sup>

### **3.1.4 Cost based pricing**

This refers to rate rebalancing for individual telecommunications services so as to relate to the cost of providing that service.<sup>77</sup> In most countries this means increasing local subscription and usage rates and decreasing international long distance and Internet access charges. When rate rebalancing was first proposed and introduced in most “rate rebalancing” countries, there were predictions that this will lead to higher prices for local access rates eventually leading to lower teledensity levels. However, over the years and based on my experience in the sector, the evidence indicates that such concerns were unfounded and rather exaggerated. Penetration levels have actually increased in countries that have liberalised the telecommunication sector and simultaneously underwent rate rebalancing.

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<sup>75</sup> Safaricom Kenya Ltd six months un-audited accounts to 30<sup>th</sup> September 2004, *The Standard* (Nairobi) 26<sup>th</sup> December 2004. The Subscriber base grew by 403,354 an increase of 26% from March 2004.

<sup>76</sup> Safaricom Ltd contributed revenues to Government and paid a total of Kshs. 4.7 billion in duties, taxes and license fee. The total taxes and duties and fees paid to government since the launch of the company in 2000 exceeds Kshs. 25.4 billion. *supra* note 76.

<sup>77</sup> This is the alignment of prices to relate more closely with the cost of providing that service.

In most Organisation for Economic Cooperation and Development (OECD) countries evidence indicates that rate rebalancing resulted in lower overall prices of telecom services for most consumers.<sup>78</sup> Other reforms such as privatisation and introduction of competition also stimulated price decreases in these countries. This has also taken place in developing countries such as the recent introduction of competition by CCK in the Internet backbone in Kenya that has seen the drastic reduction of internet charges.<sup>79</sup> For example a 64 Kilo bits per second bandwidth has been reduced by TKL from US\$ 1,687.50 to 937.05 as a result of the licensing of Kenya Data Network Ltd. Therefore a decrease in the price of usage will reflect in increase in demand for access services. In other words, demand for access service is influenced at least as much by the level of usage rates as by the access charge.

### 3.2 Mandatory service obligations

Perhaps the most commonly used mechanism for promoting universal access is the mandatory service obligations. In some countries this obligation is referred to as “the duty to serve” all customers willing to pay the prescribed rates.<sup>80</sup> Geographic limits are prescribed for areas where service is mandatory. For instance, such areas include urban areas but not remote-rural areas where no telecommunications infrastructure exists. In most cases new services must be installed within a prescribed time after an application for service is received. Compliance is monitored through quality of service indicators.

The operator with a general obligation to serve all customers is usually referred to as the universal service provider. In most cases it is the incumbent operator as in the case of Telkom Kenya Ltd that was designated as the universal access provider in its license of July 1999.

In some cases the regulators and Governments have imposed mandatory service obligations on newly licensed or newly privatised operators. This may include the requirement to install

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<sup>78</sup>Hank Intven and McCarthy Tétrault, *supra* note 55.

<sup>79</sup> Telkom Kenya Ltd recently announced 69% reduction of access fees to its Jambonet internet backbone after CCK licensed three Internet backbone providers in Dec 2004. Daily Nation (Nairobi) Business Week, 1<sup>st</sup> February 2005, P. 8.

<sup>80</sup> Hank Intven and McCarthy Tétrault, *supra* note 55.



specific number of lines within a certain period; this is popularly referred to as coverage and roll-out obligations.<sup>81</sup>

This mechanism is the most commonly used in least developed and developing countries to expand telecommunications networks. It is used in the case of most privatisation and new license grants.<sup>82</sup> A major benefit of implementing such mandatory service obligations is that the funding is generally provided by the private sector.<sup>83</sup> However, there are disadvantages of imposing excessively high roll-out targets. If privatised operators are subjected to uneconomic service obligations they will have to finance such obligations through monopoly profits, cross-subsidies or future considerations.<sup>84</sup> In other cases, operators may simply fail to meet their roll-out obligations. Table 4 below presents a sample of recent license obligations in developing countries and transitional economies.

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<sup>81</sup> CCK in 2000 granted a license to the predecessor of Celtel Kenya ( M/S Kencell Communications) to connect at least 582,000 lines in five years.

<sup>82</sup> The Regulator in Kenya, CCK, used coverage obligations in the license of Safaricom Kenya Ltd as opposed to roll-out and coverage in the license of Celtel Kenya Ltd.

<sup>83</sup> Hank Intven and Anor (2001) Infodev, World Bank, Washington "Handbook on Telecommunications Regulations."

<sup>84</sup> As a result of the imposition of coverage targets in the Safaricom license, they sought and obtained a guarantee from the Government to block the licensing of a third mobile operator for at least 3 years.

**Table 4 Selected Licence network expansion obligations**

<b>Country</b>	<b>Company</b>	<b>Obligations</b>
<b>1. Ghana</b>	Ghana Telcom	225,000 new telephone lines in 5 years, starting in 1998
<b>2. Mexico</b>	Telemex	Starting in 1990, average annual line growth of 12 Per annum to 1994. Public payphone density 2 per 1,000 inhabitants by 1994 and 3 per 1,000 by 1998.
<b>3. Panama</b>	Cable & Wireless	From 1997 increase teledensity by 25% by 2002. Install 600 rural payphones within 2 years
<b>4. Peru</b>	CPT & Entel	Starting in 1994 add 978,000 telephone lines by 1998. Install 19,000 payphones by 1998.
<b>5. Venezuela</b>	CANTV	Increase phone Lines by 355,000 per annum from 1992-2002.
<b>6. South Africa</b>	Telkom South Africa	Starting in 1997 install 2.69 million new lines by 2002. Install 120,000 payphones by 2002
<b>7. Philippines</b>	9 International licenses and 5 Cellular licenses issued	Install 258,000 lines in urban areas from 1999-2004 and 15,000 lines in rural areas by 2004 and 10,000 payphones within 5 years from 1999-2002
<b>8. Kenya</b>	Telkom Kenya	Install at least 310,000 lines from 1999 to 2004 and extend coverage to most parts of the country.
	Kencell Communications	Install at least 582,000 mobile lines from 2000 to 2005 and extend coverage to most parts of the country.

### 3.3 Cross subsidies

For decades, most countries internal subsidy by the incumbent operator during the monopoly period was the main mechanism used to promote universal access in the telecommunication sector. This involves cross-subsidy by utilising surplus revenues earned from profitable services to cover losses from providing non-profitable services such as in the remote rural areas. This in-turn ensures that low access rates are maintained particularly in high cost areas. According to Theodore Vail, the driving force behind the early success of American Telephone & Telegraph (AT&T) in the USA at the turn of the last century, promoted universal services through cross-subsidy.<sup>85</sup> This was a means of expanding the reach of the telephone. While the public interest was undoubtedly of primary concern, this policy was also very valuable to AT&T which soon became one of the largest business corporations in the world.<sup>86</sup>

Similar policies were adopted by both the state-owned and privately owned operators during the monopoly era of telephony which lasted up to the last quarter of the 20<sup>th</sup> century when the former British Prime Minister Margaret Thatcher's Government advocated for a free market economy. This was the period the British Telecom (BT) was privatised and saw the liberalisation of the sector in the mid 1980 with the introduction of competition through the licensing of Mercury International as the second national operator.<sup>87</sup>

There were several types of internal cross-subsidies that were commonly used by incumbents. These will be mentioned briefly here below as:

#### 3.3.1 Inter-service cross-subsidy

This involves connection and access services that are usually priced below cost and long distance and international calling are priced above cost. In this instance, the subsidy flows from long-distance and international calling to access and local calling.<sup>88</sup>

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<sup>85</sup> Hank Intven and McCarthy Tetrault, *supra* note 84.

<sup>86</sup> *Ibid.*

<sup>87</sup> Mercury was shielded from the significant market player, British Telecom (BT), with the Government preventing BT from reducing its tariffs below a certain threshold to stimulate competition. However, it allowed Mercury to charge rates below BT tariffs.

<sup>88</sup> Hank Intven and McCarthy Tetrault, *supra* note 84.



### 3.3.2 Intra-service cross-subsidy

This entails geographic tariff averaging where access prices in rural or other high cost areas are set at the same level as in urban and other lower-cost areas. Another instance involves the pricing of business access services which were often set much higher than residential access services.<sup>89</sup> A number of countries maintain more complex targeted cross-subsidy regimes. One example is Colombia where residential households in low-income strata pay lower access rates than households in high-income strata.<sup>90</sup> While internal cross-subsidy has been the most commonly used mechanism to promote universal access, it is being phased out in almost all the countries of the world due to the introduction of liberalization driven by neo-liberal doctrine.

This mechanism of cross-subsidy suffers from a number of weaknesses that make it undesirable and probably unsustainable in the long run. These weaknesses include competitive un-sustainability, that is, cross-subsidies are increasingly unsustainable in a competitive environment. Second, is the issue of international accounting rate reform. This rates are being significantly reduced in the near to mid term, hence reducing or eliminating a major source of funding cross-subsidy in many countries particularly those in the developing countries and transitional economies. Third, is the inefficiency of untargeted subsidies, that is, all existing access users generally receive the subsidy whether they can afford to pay the full economic price or not. Fourth, is that subsidies promote inefficient consumption by depressing demand for higher cost services that provide subsidies and entry is foreclosed in subsidised markets.

Fifth, is the Anti-competitive use of subsidies, that is, subsidies from profitable services are intended to support universal access. However, in many cases the cross-subsidy regimes are not quantified or carefully monitored by regulators. As a result the incumbent may engage in anti-competitive subsidisation as well. Last, in most cases, only existing users receive the subsidy. While areas, those without telephone services, in rural areas or on waiting lists, do not benefit from the subsidy.<sup>91</sup>

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<sup>89</sup> Hank Intven and McCarthy Tetrault, *supra* note 84.

<sup>90</sup> *Ibid.*

### 3.4 Universal access fund

Universal Access funds, sometimes referred to as universal Service Fund (USO funds) or Rural Communication Development Fund in Uganda are generally seen as the best option of promoting universal access objectives. This view is shared in an increasing number of countries including industrialised, transitional or developing economies.

Universal Access Fund (UAF) collects revenues from various sources and disburses them in a fairly targeted manner to achieve specific universal access objectives. Depending on the country, the source of revenues may include government budgets, charges on interconnecting services, levies on subscribers such as on access lines, levies on all telecommunications operators, as a percentage of their cross revenue.<sup>92</sup> This may also include a percentage of radio communication license fees collected by the Regulator and at times may involve contribution to the fund by external aid agencies such as the World Bank.

Universal Access Funds are generally used to finance specific and targeted high cost areas and/or low-income subscribers. The most efficient funds provide relatively small subsidies as incentives to private sector telecommunication operators to serve targeted service areas.<sup>93</sup> These are usually areas in which the provision of such services would be uneconomical to the licensed operator.<sup>94</sup> Appropriate examples of universal access funds are included in the following Chapter dealing with case studies that include Uganda, Peru and Chile. The box below shows some of the features of universal access fund;

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<sup>91</sup> Hank Intven and McCarthy Tétrault, *supra* note 84.

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

<sup>93</sup> *Ibid.*

<sup>94</sup> These are regions or areas where costs cannot be covered by available subscriber revenues either the subscribers are few or sparsely located.

## BOX I

### FEATURES OF A GOOD UNIVERSAL ACCESS FUND

- Independent administration, that is, not related to telecommunications operators.
- Transparent to telecommunications operators.
- Transparent financing.
- Market neutral, that is, does not favour incumbent operators or new operators.
- Funding targeted to specific beneficiaries such as high cost regions, unserved rural areas, low-income populations, educational and health institutions.
- Subsidies should be relatively small, should only subsidize the uneconomic portion of service; private operators should finance the rest.
- Competitive bidding process for implementation of universal access project i.e. lowest bidder should be awarded subsidy and right to operate.
- And build networks to expand services

### 3.5 Sources of fund revenues and investment control

Sources of funds for universal access can broadly be divided into those that originate from within the telecommunication sector and those that are attracted there from external sources. However, the investment goals of such finance will be determined by a number of different factors and each source imposes certain constraints. Some fund raising mechanisms by nature direct investments to very specific universal access instruments and ends. Others are unconditional, and the proceeds can be invested anywhere, even outside telecommunication sector.<sup>95</sup>



### 3.5.1 Sector internal sources

These include the following three sources; First, is the contributions from telecommunications operators, for instance in proportion to their revenues from specified services. Second, is the subscriber levy imposed on users of telecommunications for example, charges levied on a per access line basis collected by telecommunications operators. Third, are the proceeds collected from telecommunication privatisations, spectrum auctions and/or license or concession payments.

### 3.5.2 External sources

The external sources include the following two; First, is the direct funding from general government revenues for instance, in Chile the Government contributes to the universal Fund from its budget. A development or airtime tax may be imposed on all users as a percentage of the regular bill. For example, in Kenya the Government introduced 9% airtime tax in 2002. There is the problem of ensuring that funds raised in this way will in fact be dedicated to universal service otherwise it will be regarded as another burden on subscribers.<sup>96</sup> To the user this is purely an increase in tariffs and will lead to reduced usage. Second, is the funding received from international donor agencies such as the World Bank and African Development Bank.

International loans from regional banks and the World Bank and bilateral and multilateral aid agencies are often conditional on focusing investment on only the more lucrative sectors and on liberalising the sector. In Uganda the World Bank contributed USD \$ 5 million to the Rural Communications Development Fund targeting the rural-remote areas of Uganda.<sup>97</sup>

As mentioned above the funds collected from telecommunication operators or through them from subscribers, this must comply with the rules of the WTO Agreement on Basic Telecommunications which should be inbuilt into the rules of the Fund. Specifically, it is a requirement that the collection and administration of such funds should be transparent, non-

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<sup>95</sup> Sean O'Siochru (1996) *Telecommunications and universal service: International Experience in the context of South African Reform*, International Development Research Centre, 1996 Ottawa.

<sup>96</sup> The Airtime tax collected in Kenya is not re-invested into the telecom sector to meet UA but considered as extra-revenue raised by the Treasury.

<sup>97</sup> Andrew Dymond and Sonja Oestman *supra* note 3.

discriminatory, and competitively neutral for the kind of universal access as defined by the country's laws or policies.

### **3.6 Criteria for collection mechanism**

Regulators and Governments have established the best way to collect revenues for Universal Access Fund that includes the following four;

First, the goal should be to collect universal access fund revenues in a manner that maximises economic efficiency losses. Second, Universal access funds must be collected in an efficient and transparent manner. The collection mechanisms should be designed so that the calculation of the amount that each operator is required to pay is relatively simple and not subjected to interpretation and controversy. Third, the collection mechanisms must be designed so as to access a relatively stable revenue base. The collection mechanisms that are based on specific service may not be sustainable in the long term. Universal Access funds based on spectrum auctioning may also not be sustainable. Therefore it may be prudent to select a constant measure such as revenues, rather than a technology or services measure such as minutes of long distance traffic. The Fourth criterion is that the collection mechanism should be fair. Many observers have argued that telecommunications universal access objectives are an aspect of government social policy and that they should, therefore, be funded from the government sector. However, as a practical matter, few governments have made funding available for universal access funds.<sup>98</sup>

### **3.7 Summary and conclusion**

The experience of Universal Access Funds confirms the role of subsidies as well as competitive market mechanisms in enlisting the participation of private operators to serve marginal areas. It also shows that rural and remote areas are largely a market with relatively young operators accepting considerable risks. For example, the recent licensing by CCK of Bell Western Telecom Co. Ltd to provide telecommunication services in the Northern Eastern Province of Kenya. This company although it won the Regional Telecommunication

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<sup>98</sup> Hank Intven and McCarthy Tetrault, *supra* note 84.

Operator licence in 2000 was not able to commence service due to the large investment capital outlay.

Therefore, prospective rural-remote area operators face challenging situations as well as capital scarcity. The rapid growth of mobile telecommunications is reducing the geographical extent of the areas that remain beyond the market and yet the traditional method of arriving at the teledensity of a country is still based on the number of fixed lines. It is still incumbent upon a country such as Kenya to develop mechanisms that ensure that the fixed line services are rolled out to all parts of the country.



# CHAPTER 4

## CASE STUDIES OF UNIVERSAL ACCESS

This Chapter outlines relevant experiences in regulation of universal Access that are considered to be relevant to Kenya and for which information is readily available. In some of the countries that will be examined, their sectoral telecommunications policy and regulatory system as a whole will be of interest. Generally the countries that have been selected undertook universal access policies in the early 1990s except the Ugandan experience which has just been published. The case of Uganda is most interesting taking into account the fact that Kenya, Uganda and Tanzania during the era of the defunct East African community operated one single network across their international boundaries as mentioned in Chapter 1. These countries are all in transition to partial or even complete liberalization and have reasonably sized population with significantly developed and undeveloped areas. They have attempted innovative ways to address universal access in their countries.

The following profiles cover the regulatory and structural context of the telecommunications sector mechanisms for universal access. The first country to be examined is Peru, which has an interesting regulatory mechanism and framework for universal access.

### **4.1 Peru**

In the context of liberalization Peru created a fund by the name FITEL, paid for by a tax on the industry and it is aimed at supporting universal access in rural areas. A least subsidy auction was held in 1996 to supply rural services. There has been rapid growth of low cost Internet use in Peru and this is a potential tool for development particularly in the area of e-commerce, telemedicine and agriculture.

Peru's experience with universal access programmes has similarities to that of Chile's. Peru's policy, like Chile, promotes universal access by means of a rural telecommunications fund. However, the Peruvian programme is more recent and includes some notable differences and innovations.

#### 4.1.1. Universal access policy

According to the 1993 population and housing census data, there were more than 70,000 rural populated areas of less than 3,000 people in Peru. Taken together, a household of 30% of the population of Peru are some of the poorest areas that lack basic services such as electricity, water and sewage.<sup>99</sup> The Ministry of Transport and Communication is the policymaking and license awarding authority. The supervisory authority for private investment in telecommunications, OPSITEL, is responsible for regulating the telecommunications sector and works in coordination with the Ministry recommending urban and rural areas to be handled by the Telecommunications Investment Fund (FITEL).<sup>100</sup> Universal Access is financed through FITEL. TELEFONICA, as the telecom monopoly operator, was permitted an exclusivity period through June 1999 to provide local telephony, and national and international long distance services.<sup>101</sup>

The concession contracts concluded with Telefonica established the obligation to expand services in rural areas. In five years following 1994, the company undertook to install at least one public telephone in 1,486 areas with a population of over 500 people.<sup>102</sup> The concession contract also provided that by 1998, TELEFONICA, would install 1,100,000 additional fixed lines to be distributed by region in the north, south and central parts of Peru.<sup>103</sup> On 5<sup>th</sup> August, 1998 the Government issued supreme decree 020-98 MTC, which established policy guidelines for the introduction of competition in the telecommunication market, and supreme decree 021-98 MTC ended the period of limited competition of Telefonica in Peru.<sup>104</sup>

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<sup>99</sup>Sean O Siochru, *supra* note 96.

<sup>101</sup> ITU (2000) "Universal Access in Americas," [www.Citel.oas.org./universal access in citel countries](http://www.Citel.oas.org./universal%20access%20in%20citel%20countries), P. 95.

<sup>100</sup> *Ibid.*

<sup>101</sup> *Ibid.*

<sup>102</sup> *Ibid.*

<sup>103</sup> *Ibid.*

<sup>104</sup> *ibid.*, P. 96.

As a result of the new policy guidelines, there were equally new objectives that were established for the period 1990 – 2003. It included goals for the installation of public phones in 5,000 populated rural areas currently without service, with low speed voice, fax and also data transmission capacity and toll free calls and emergency services.<sup>105</sup> In establishing these goals the objectives that were set were two fold. First, the provision to the rural population of access to reliable, modern means of telecommunication at an average distance of 5 kilometres.

Second, consideration was given to develop and promote improved levels of basic service penetration and high speed Internet access in the provincial capitals.<sup>106</sup>

The Peruvian Government distinguished between the universal service in industrialized countries and the emphasis in developing countries on extending basic access in the first place.<sup>107</sup> Peru clearly fits into the latter situation, particularly in rural areas. Accordingly, the Peruvian Government established a Universal Access Fund with targeted subsidies to finance new public access telephones in rural areas.

#### **4.1.2 Regulation**

To implement its universal access policy, the Government issued “FITEL Regulation” in September 1998.<sup>108</sup> The regulation established administrative and technical terms for FITEL’s operation that included the criteria to select the localities that were expected to receive funding for service expansion. Such localities were described as rural towns with a population of 400 and less than 3,000 inhabitants and towns in high social interest areas.<sup>109</sup>

FITEL was expected to establish a list of projects eligible for subsidy for approval by the Minister. Once the list had been approved, OPSITEL would then prepare tender documents

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<sup>105</sup> *Ibid.*, P. 96.

<sup>106</sup> *Ibid.*

<sup>107</sup> Hank Intven and McCarthy Tetrault, *supra* note 55.

<sup>108</sup> *Ibid.*

<sup>109</sup> *Ibid.*



for public bidding process to select licensed telecommunications operators to implement the projects.<sup>110</sup>

#### **4.1.3 Scope of programmes for universal access handling**

Installation and commissioning of telephones and fax in the first area began in 2000 and the deadline for the completion of each project was targeted for 2001. In addition OPSITEL approved the universal policy guidelines for services provided in the rural areas and in areas considered of priority social concern, regulating issues such as rates, interconnection and expansion plans.<sup>111</sup> The principle of neutrality and non-discrimination was established which provided that if one service provider subject to the policy guidelines received more favourable treatment than another concessionaire providing the same services the terms under which the latter operates would be the same as those of the former.<sup>112</sup>

#### **4.1.4 Financing mechanisms**

The policy adopted in 1999 was geared towards the elimination of cross-subsidization to a rate-rebalancing regime and it was aimed at financing services in rural areas. Therefore, for rural expansion, direct subsidy would be given that would be covered by FITEL resources.<sup>113</sup> The Telecommunications Act provides that carrier service operators in general and providers of public services should allocate one per centum of their total annual billing to the Telecommunications Investment Fund, which should be used exclusively to finance telecommunications services in rural areas and places of priority social concern.<sup>114</sup> In addition, the fund receives its other resources from the application of sanctions deriving from failure to comply with network expansion and service quality requirements.<sup>115</sup>

There has been other interesting development in Peru in the area of Internet in which an Internet company by the name of RCP has grown from 171 local nodes to 1,200 local nodes by October 1995.<sup>116</sup> Only 5% of the users of RCP pay for the internet charges since many

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<sup>110</sup> *Ibid*, p.34.

<sup>111</sup> [www.citel.oas.org/universal](http://www.citel.oas.org/universal) access, *supra* note 101, P. 97.

<sup>112</sup> *Ibid*.

<sup>113</sup> *Ibid*, P.98.

<sup>114</sup> *Ibid*, P.99.

<sup>115</sup> *Ibid*, P.129.

<sup>116</sup> Sean O Siochru, *supra* 96, P.54.

users are academic institutions and Non Governmental Organizations. This service is run on a non-profit basis and it is similar to free nets in Canada but has no Government subsidy.<sup>117</sup> This is viewed as a tool for development and is encouraging small firms to set up web pages to show- case their products. The Government is also using it to disseminate information about elections.<sup>118</sup> This is a clear case of telecommunications conduits not being considered as neutral but are often used to advance the political agenda of the political elite. It is often camouflaged as dissemination of information to the public but more often than not it is a tool to influence the general populace.

## 4.2 Chile

### 4.2.1. Regulation and structure

By 1991, Chile had an extremely liberalized telecommunications sector for all services, including local telephony.<sup>119</sup> The state holds no significant share of any telecommunications operator. There are no Universal Access obligations *per se* in licence issuing, only the requirement to provide service within the area for which the license is granted.<sup>120</sup> The regulatory authority is the Subsecretaria de Telecomunicaciones (SUBTEL).

### 4.2.2. Universal access mechanisms

Liberalization dramatically reduced international and national long distance tariffs which were detrimental to rural telephony services and universal access. The expansion of telephone services in the rural areas came to an abrupt halt as the private operators concentrated their activities in the urban areas that were considered to be fairly profitable. This problem was further complicated by the weakness of the regulator, SUBTEL, whose interconnection and tariff control were considered to be ineffective.<sup>121</sup>

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<sup>117</sup> *Ibid.*

<sup>118</sup> *Ibid.*

<sup>119</sup> *Ibid.*, P. 68.

<sup>120</sup> *Ibid.*

<sup>121</sup> *Ibid.*, P.68.

In 1994, the Telecommunication Act of 1982 was amended to establish the universal access fund named Fondo de Desarrollo de Telecomunicaciones (FDT).<sup>122</sup> All telecommunications operators were eligible to receive funds, with subsidies the installation of public telephones in the marginal low income rural and urban areas. The original goal of the fund was to provide public telephone services to about 6,000 unserved localities. This target was met over the 5 years period between 1995 and 1999.<sup>123</sup>

Once a year, the regulator SUBTEL collected requests from regional and local authorities, neighbourhood associations, telecommunications companies, and the general public. The requests were then grouped into projects, each typically consisting of between 20-50 localities.<sup>124</sup> Projects that were considered desirable (as determined by a detailed cost-benefit analysis) for the general economy, but unlikely to be commercially viable on their own were added to the pool of eligible projects.<sup>125</sup> Subsidies were then distributed through competitive bidding. The bid evaluation emphasized the lowest proposed subsidy for a particular project combined with the commitment to short delivery time.<sup>126</sup>

The Fund, FDT, is administered by the Regulator SUBTEL and is allocated direct funds from the national budget.<sup>127</sup> After the fund achieved Chile's social telephony objectives, the Government redefined the Fund to support telecentre projects. The Fund intended to launch nationwide telecentres programs in 2002 targeting 90 municipal headquarters with over 8,000 rural inhabitants.<sup>128</sup> It is intended that by the year 2006, there will be telecentres in over 341 municipalities.

Some important questions remain unanswered such as how to sustain rural service especially beyond the 10 year obligatory period; secondly how to take care of the small and scattered population still unserved and thirdly what should be done, if any, in low-income urban areas.

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<sup>122</sup> Andrew Dymond and Sonja Oestman (2002) Intelecon Research and Consultancy Ltd, Ottawa "Rural Telecommunications Development in a Liberalizing Environment". P.7.[www.inteconresearch.com/universal access](http://www.inteconresearch.com/universal%20access).

<sup>123</sup> Andrew Dymond Sonja Oestman, *supra* note 123.

<sup>124</sup> *Ibid*.

<sup>125</sup> *Ibid*, P.7.

<sup>126</sup> *Ibid*.

<sup>127</sup> Sean O' Siochru, *supra* note 96. P.68

<sup>128</sup> *Supra* note 123.



Some of the rural operators may lose money despite subsidies and hence may be discontinued at the end of 10 years of obligatory services.<sup>129</sup> In cases where positive cash flows occurred only at the start of the project when subsidies were received there may be no financial incentive for operators to stay put. SUBTEL has retained consultants to examine the question of long-term sustainability.<sup>130</sup>

Financial performances of the operating companies have so far been mixed. The operating profits in 1999 did not quite cover interest and taxes, resulting in small net loss, which was forecast to turn into a small net income in 2000.<sup>131</sup> The shareholders however were worried by this trend since after adjustment for inflation and foreign exchange, they had lost 6% of their equity in 1999 and the outlook for 2000 was uncertain.<sup>132</sup> Arising from the foregoing it may have been more prudent for SUBTEL to work closely with prospective operators to ensure the emergence of viable and sustainable businesses.

### 4.3 Uganda

Uganda was one of the first countries in Africa to develop a policy on Universal Access to information and communication and to implement a Universal Access Fund, the Rural Communications Development Fund (RCDF). Whereas the theoretical foundation, key principles and features of universal access funds are generally considered to be universal, each country faces design choices for its unique characteristics and conditions.

Uganda's universal access policy covers both telephone and Internet services. The country's population is over 80% rural. Several African countries now are in the process of establishing universal access funds but all are in their early stages. In 2004, Uganda completed its first country-wide RCDF tender process that will eventually establish public payphones in the well over 900 sub-countries.

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<sup>129</sup> [www.inforder.org/chile-rural](http://www.inforder.org/chile-rural) "Universal Access for rural Chile", P. 40.

<sup>130</sup> *Ibid.*, P 41.

<sup>131</sup> *Ibid.*

<sup>132</sup> *Ibid.*

### **4.3.1 Universal access policy**

Uganda's universal policy has established the target of providing basic needs to telecommunications (voice telephony and Internet) within each sub-county.<sup>133</sup> Basic access to telephony has been defined as consisting of at least one public telephone or payphone in a population of less than 5,000 people and in larger sub-counties one public telephone per 5,000 people.<sup>134</sup> Taking into account the geographical size of rural sub-counties and population density, Uganda has established a minimum geographic target of installing at least a payphone within a distance of 5 kilometres of every person in the country.<sup>135</sup> Second, universal access policy also seeks to support the establishment of local points of presence in every district. Third, universal access policy further supports the use of special interconnect charges, that is, preferential incoming call terminating rates as a means of enhancing rural communications sustainability and minimizing subsidy requirements in the long term<sup>136</sup>

### **4.3.2 Scope of programmes for universal access handling**

In order to achieve its Universal Access objective, Uganda's regulatory authority, Uganda Communication Commission (UCC), requested the two licensed telecom operators, Uganda Telecom Ltd and MTN Uganda to declare in which sub-counties they would be able to provide telephone services at least pay phones by mid 2002.<sup>137</sup> The requirement to meet a minimum service level at the county level was contained in the operator's license in accordance with the licensees' specific provisions. The operators effectively gave up their right of exclusivity in the sub-counties that were not included in their declarations.<sup>138</sup>

The Regulator, UCC, offered 154 sub-counties that had been left unprotected by the operators for competitive entry and made them eligible for RCDF subsidies for the purpose of achieving the minimum level of service set by its universal access target.

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<sup>133</sup> Andrew Dymond and Sonja Oestman, *supra* note 3. P.4.

<sup>134</sup> *Ibid.*

<sup>135</sup> *Ibid.*

<sup>136</sup> *Ibid.*, P. 33.

<sup>137</sup> *Ibid.*, P. 24.

<sup>138</sup> *Ibid.*

### 4.3.3 Universal access mechanisms

The Rural Communications Development Fund (RCDF) was established by Uganda Communications Act, 1997 to support the development of commercially viable telecommunications infrastructure in rural Uganda. This was geared toward promoting social, economic and regional equity in the deployment of telephone, Internet and postal services.<sup>139</sup> To utilize the resources of the fund efficiently subsidies are awarded through a competitive process and only available to geographical areas and to services that are in definite need of assistance.<sup>140</sup> Specifically, funds are only available to areas where service provision is not feasible or unlikely to be provided by operators within the next 1-2 years without subsidy. The fund is administered by UCC to ensure that the Government targets and objectives of developing the rural areas were met.

### 4.3.4 Sources of funds

The telecom operators as well as the Postal operators are required under the Telecommunications Act to contribute 1% of their billed revenues to the RCDF. The fund now has USD 5.78 million of which local telephone operators, namely MTN Uganda, Uganda Telecom and Celtel Uganda contributed a total of USD 2.02 million.<sup>141</sup> The World Bank has also extended financial assistance to the tune of USD 1 million.<sup>142</sup>

In addition to providing subsidy to make the rural areas attractive to investors and less dependent on subsidy, the UCC has included four other mechanisms. First, access to spectrum is usually considered expensive but UCC has offered spectrum to operators operating in the rural areas at a lower cost. The incentive was limited to the designated areas and in other cases the simple assurance and guarantee that requested spectrum will be allocated expeditiously.<sup>143</sup> Second, the guarantee of additional licenses such as satellite licenses has been extended particularly to those operators seeking to use wireless system in remote areas. The offer of such license is more attractive more so if it offers the opportunity to expand beyond the rural areas or to provide additional services once universal access

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<sup>139</sup> Andrew Dymond and Sonja Oestman, *supra* note 3. P.12.

<sup>140</sup> *Ibid.*

<sup>141</sup> *Ibid.*

<sup>142</sup> *Ibid.*

<sup>143</sup> *Ibid.* P.66.



obligations have been met. Third, the Government has exempted telecom operators from certain taxes for the installation of such equipment in the rural areas<sup>144</sup>

Fourth, Uganda considers fair interconnection agreements as important in a liberalized market since this will determine whether the service will be affordable to the rural population. Consequently, UCC is considering implementing asymmetric interconnection regime to allow higher termination rates for rural areas and lower termination rate for the urban areas.<sup>145</sup> The asymmetric termination is justifiable in that the rural networks cost much more to establish and operate than urban networks, and that urban users would be willing to pay additional tariff rates to cover additional costs to call rural areas.<sup>146</sup>

The challenge to successful tendering of the designated areas is the World Banks timeline in providing its pledged contribution to the RCDF.<sup>147</sup>

The RCDF operating principles has taken into account the WTO regulations on universal access. The fund emphasizes accountability and transparency. The RCDF contains comprehensive tendering procedures that ensure that the process was competitive to achieve the least subsidy offer. The Uganda experience could possibly be replicated in Kenya except that the design needs to be worked on to suit the unique characteristics particularly in the planning and monitoring stages.

#### **4.3.5 Conclusion**

Granted, no society is an island and borrowing from other countries is a fundamental aspect to any meaningful development. However, a wholesale importation of ideas for the sake of importation without any or any major, philosophical inclination for such borrowing is almost always counterproductive and the same should as far as possible be discouraged. Needless to say it is too early in the day to pass a judgment against the study that was recently conducted

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<sup>144</sup> *Ibid.*

<sup>145</sup> *Ibid.*

<sup>146</sup> Andrew Dymond (2004) World Bank paper no. 27, Washington "Asymmetric interconnection for rural areas."

<sup>147</sup> *Ibid.*

by CCK which contains proposals on how to implement an effective universal access mechanism using the Universal Access Fund model.

Preliminary, it is a good starting point compared with that of Uganda and Chile which appear to be a success story in their regions. It is worth noting that the mix of a UAF and interconnection mechanisms to achieve universal access objectives in Uganda has worked well and Kenya could possibly consider including interconnection in its model.

In a nutshell, it is imperative that the Kenyan model of universal access should have a clear framework to provide a basis of rolling out telecommunications services to the rural as well as remote areas for the full realisation of the Kenya Government policy. I suggest as in the case of Uganda that the mechanisms and framework of UA Fund should include the enactment of legislation as well as the setting up of rules of procedure to deal with the bidding process for the provision of services to the identified rural and remote areas that merit intervention by way of universal access funds.

Further as in the case of Peru and Uganda, there is need to incorporate a comprehensive proposal in the CCK Universal Access study a mechanism to attract private sector investment through a least subsidy auction of concessions. In this two countries tenders were issued to operate concessions in form of packages. Each package or zone would comprise a set number of rural areas selected from both those not covered by Telefonica concession in the case of Peru and those not covered by Uganda Telecom concession. The idea was for the operators in both countries to compete for the subsidy from FITEL for Peru and RCDF for Uganda, with the lowest bidding winning.

The other lesson that can be drawn from the above case studies is the issue how to sustain rural service especially beyond the subsidy period when the market is fully liberalised. This is an issue the Government of Chile has retained a consultant to devise long term sustainability strategies to ensure that telecommunication services financed through FDT will survive the concession period when the market is fully liberalised. This is a matter which ought to be investigated further in the CCK universal access strategy study in conjunction with the Kenya Government within the latter's Poverty Reduction Strategic programme.

# CHAPTER 5

## UNIVERSAL ACCESS IN KENYA

### 5.1. Reforms in the telecommunication sector

The Government of Kenya issued its first substantive Telecommunications Sector policy statement in 1997. This was aimed at liberalising the telecommunication sector in recognition of the pivotal role that telecommunications plays in the promotion and development of all other sectors of the economy, as well as in lifting the standards of living of Kenyans. It was recognised by the Kenya Government from the outset that telecommunications had the potential to attract the much needed investment and improve the existing situation of economic under performance, a negative international public image and falling investor confidence. The state of telecommunications sector as at 1997 could not be said to remotely support the Kenya Government objective of economic growth since the monopoly operator, KP&TC, had stagnated in its roll out programmes due to huge debt repayment.

### 5.2. The policy and regulatory framework

In January, 1997 the Government of Kenya issued the first telecommunications sector policy statement that formed the basis of reform in the telecommunication sector. The purpose and importance of the policy statement according to the Minister of Transport and Communications was to institute measures to revitalise and transform the economy.<sup>148</sup> The Minister further stated that the policy statement was intended to map out the objectives, strategies and features that would facilitate the orderly expansion and modernisation of the telecommunications sector in the period between 1996 and 2015.<sup>149</sup> The telecommunications policy statement of 1997 has since been reviewed twice in a span of four years namely 1999 and 2001.

The Kenya Government enacted the Kenya Communications Act (KCA), in December 1998 that formed the legal basis for reform. The purpose of KCA is captured by

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<sup>148</sup> Kenya Government Postal and Telecommunications Sector Policy Statement, January, 1997, at page iii.

<sup>149</sup> *Ibid.*



Section 23 that briefly states that the legislation will contribute to the development of the Kenyan economy as a whole by ensuring availability of efficient, reliable and affordable communications services throughout Kenya.<sup>150</sup> This particular section of the KCA is a restatement of the Government Policy Statement on universal obligation that states that the Government will continue to emphasise the provision of basic telecommunications services to all unserved and underserved areas of Kenya.<sup>151</sup> However, where the provision of such services was deemed to be uneconomical the Government is expected to avail appropriate subventions.<sup>152</sup>

The KCA established the Communications Commission of Kenya (CCK) and its key roles and functions are licensing, price regulation, frequency management, type approval of equipment and establishment of interconnection principles. Subsidiary regulations were promulgated by the Minister in 2001, that is, Kenya Communications Regulations (KCR), 2001(Kenya Gazette supplement No.21) that provided guidelines on such issues as interconnection, pricing, dispute resolutions among others.

The CCK was expected to be an independent Regulatory Institution structurally to be managed by ten (10) Commissioners, five (5) to be appointed by the Minister. The Minister also appoints the Director General and the Chairman is appointed by the President and the board is further composed of at least four (4) Permanent Secretaries that are responsible for Communication, Information, Security and Finance. Critics point to the role of the Minister in appointing the Commissioners, Director General and presence of the four Permanent Secretaries as a potential source of compromise to the independence of CCK. This is further buttressed by the recent action of the Minister of Information and Communication, Mr. Raphael Tuju in March, 2005 when he dissolved the CCK Board of Directors. He also sent the Director General on compulsory leave on the basis of a court ruling that declared that the

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<sup>150</sup> Kenya Communications Act, 1998. The overall objective of the Act was to provide for the establishment of the Regulatory Authority, Communications Commission of Kenya, to provide for the transfer of functions, powers, assets and liabilities of the former Kenya Posts & Telecommunications Corporations to CCK, Telkom Kenya Ltd, and Postal Corporation of Kenya as per the preamble of the Act.

<sup>151</sup> The Government Policy Statement of 1997 further stated that all players were expected to contribute towards the goal of universal access and that appropriate regulations and licensing procedures would be put in place to ensure compliance.

<sup>152</sup> Telecommunications and Postal Sector Policy Statement, 1997, page 6.

Minister's action in cancelling the license of Econet International were *ultra vires* KCA.<sup>153</sup> The industry players are currently up in arms against the Minister accusing him of acting in excess of his powers and in breach of the law.<sup>154</sup>

### 5.3 Kenya's demographic factors

CCK has just completed its study, Universal Access Strategic Plan and Implementation Guidelines, to determine an appropriate universal access strategy for Kenya that could leverage investment for rural-development. In this study, I have been able to pick the following issues that in my opinion will have a bearing on any failure or success of Universal Access Strategy in Kenya. This includes the following;<sup>155</sup>

First, 80% of Kenya's population of about 30 million live in rural areas. Agriculture is the main occupation for the rural people. It employs about 75% of the country's labour force and producing 90% of rural incomes for only 20% of GDP and 9% of public sector earnings. Second, household incomes are highest in the urban areas and in particular in Nairobi. Most urban incomes are from non- agricultural sources. This, therefore, means that income from agricultural sources, upon which the majority of rural population depend, are low. Third, 56% of Kenya's population are below 20 years of age which reflect a young population. Fourth, poverty levels have been rising and the Human poverty index was 35% in 2001 and the highest population of the poor are among subsistence farmers standing at 47% and food crops production at 46%. This means that Kenyans spend most of their earnings on consumables, mainly food. Fifth, only 5% of total fixed telephone lines are in the rural areas and only 1% of rural households have a telephone while 19% have mobile phones. 14% of the people have never used a telephone in their lives and of all people surveyed only 9% knew what Internet was all about. Sixth, according to the said study 80% of Telkom Kenya Ltd's revenue is generated from two main cities namely, Mombasa and Nairobi. Seventh, the rural electricity penetration is only 4% of the rural population of Kenya. Last, only 14% of Kenya's road network is fully developed and under tarmac which falls mainly in the

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<sup>153</sup> *The standard (Nairobi)*, 14<sup>th</sup> March, 2005, P.5. The Kenya Communications Act, in the First Schedule, clause 2(b) prescribes seven grounds that a member of the Board may be removed. Nowhere in the Act does it refer to the Minister taking wholesale action against the entire board unless the seven grounds are proved.

<sup>154</sup> *The Standard*, 14<sup>th</sup> March, 2005, P. 5.

<sup>155</sup> Timothy Waema (2004) Universal Access to Communication, *supra* note 46, P. 20 & 21.



urban areas. The remote and rural areas of Kenya are not adequately serviced by access roads thereby impeding the infrastructural rollout of telecommunications services into the rural areas.

#### **5.4 Kenya's universal access strategic plan and implementation guidelines**

The KCA of 1998 and the Government's telecommunications universal access policy guidelines broadly call for Government subventions to support UA and expansion of communication services to all parts of the country, including the rural areas. The policy guidelines contain broad targets on telecommunications development and CCK has an obligation to implement these guidelines.<sup>156</sup> The existing mechanisms for extending communication services to rural areas have not worked well. For example, during my tenure as the Director General of CCK in 2000 the CCK penalised Telkom Kenya Ltd for failing to connect 8,000 fixed telephone lines for the financial year June 1999 to June 2000 in which they were expected to connect 25,000 lines but connected only 17,000 lines. Second, the special licensing programme we launched in 2000 for the rural areas, namely, Rural Telecommunication Operators (RTOs) license, was aimed at delivering telecommunications services to the rural areas. This attempt to license the RTOs to compete with Telkom Kenya Ltd and focus resources into rural areas failed to take-off due to the high initial licence fees of USD 27 million that was charged by CCK for the eight designated telecommunications regions.

Moreover, competition between operators especially in the mobile sub-sector and among the Internet Service Providers (ISPs) has tended, as expected, to marginalize the less immediately lucrative rural areas. Thus the development of a well integrated UA strategy and operational guidelines for its implementation are critical to the expansion of telecommunication into the rural areas of Kenya. It is on the backdrop of this concern that during my tenure at CCK I launched the Universal Access Study in 2002. I was the project leader and this project was intended to focus special attention on rural telecommunications development and on the effective implementation of a chosen mechanism(s) of UA that leverages investment in telecommunications for rural development and growth. It was important that the study devised strategies, plans and funding mechanisms that are



responsive to diversity, reflecting the views and realities of different groups, for example, men and women. This project was completed by CCK in December 2004 and identified the following key impediments in the provision of reasonable access to telecommunication services in the rural areas:<sup>157</sup>

First, there are regulatory limitations, especially for example on the licensing of VSAT operators and highly disaggregated market structures (not unified and thereby require an applicant to apply for each individual licence).<sup>158</sup> Second, there are inadequate financial resources to invest since most of the rural areas are not regarded as commercially viable by those who are keen on cherry picking. Third, the TKL Internet infrastructure penetration is limited for example points of presences (POPs) are mainly found in major urban areas making Internet rural dial-ups expensive. Fourth, the high frequency fees and limited frequency spectrum for operators seeking to operate in the rural areas. For example, CCK failed to give concessions to the RTO project in terms of lower frequency fees. Fifth, there is limited capacity for rural people to afford services and high levels of illiteracy in turn limiting effective demand. And finally, there is no information and communication technology (ICT) policy framework in place.

## 5.5 Universal access mechanisms

The study recommends a central fund to be established with diversified sources of income including the Government, development partners and levies from operators and service providers.<sup>159</sup> The study proposes that telecommunications operators contribute at least 1% of their gross revenue as in Uganda, Peru and Colombia.<sup>160</sup> The CCK is expected to contribute at least 1% of its gross revenue for the year 2005/2006 and seed capital of Kshs. 20 million annually.<sup>161</sup> The fund to be established is to be known as the UA/Communication Development fund (UA/CDF)<sup>162</sup>

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<sup>156</sup> The Kenya Government, *Telecommunications and Postal Sector Policy Statement*, 2001.

<sup>157</sup> Timothy Waema, *supra* note 46, P. 89.

<sup>158</sup> This was, however, addressed by the new licensing framework released by CCK in September 2004. [www.cck.go.ke](http://www.cck.go.ke). This is popularly referred to as unified licensing that encourages free growth of new applications and services leveraging on technological developments.

<sup>159</sup> Timothy Waema, *supra* note 46, p. 119.

<sup>160</sup> *ibid.*

<sup>161</sup> *ibid.*

<sup>162</sup> *ibid.*

The target of the UA/CDF is to have adequate funds to meet the financial requirement of the UA strategies. It is expected that the UA/CDF will be run as an independent unit with a separate Board of Directors representing key stakeholders in the telecommunications sector. The intention of the UA/CDF is to ensure that telecommunications services are provided as follows:<sup>163</sup>

First, it is recommended that one public telephone facility is installed in every sub-location. This will reduce the walking distance to the nearest public access point to within 5 kilometres. Second, Internet services demand is low and it proposes one Internet POPs per district. Third, the study proposes that at least one telecentre be established in every division in Kenya that will offer telephone services, Internet and other array of telecommunications services including postal services. Fourth, the study also recommends the reduction of costs of telecommunications services in rural areas through interconnection and tariff regulations by especially operators with significant market power (SMP). One of the ways of reducing tariffs is through reduction of the licence fees and frequency spectrum fees for rural telecommunications operators.

The study and the results of the study closely mirror the study of the Uganda Communications Commission (UCC) which only restricts its study to two main UA mechanisms, namely, Universal Access fund and affordable interconnection charges to the end user. The CCK study appears to have been short in its overall performance and in particular the consultants appear not to have had sufficient experience on a functional universal access strategy. In any event, the strategies proposed to meet UA are minimal and will not achieve the intended goal of expanding the telecommunications services into the rural areas. Further on examining the geo-socio-economic challenges set out in the report one is not convinced that the proposed recommendations would overcome these difficulties. The study should also have included roll-out target being extended in the licence of the incumbent Telkom Kenya Ltd that is considered as having SMP.

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<sup>163</sup> *ibid*, P. 107.

The recommendations and targets in the report pose serious challenges for the supply of telecommunications services to the rural population and areas for which universal access must serve. When one examines the sector performance in Kenya, as in many other countries, one major challenge is the absence of a national development agenda planted into the telecommunication sector policy formulation. Kenya's traditional development agenda is top down from a holistic national Policy that drives the sector policy, in turn driving regulatory policies and then one has strategy working its way into operators business plans, actions and targets.<sup>164</sup> It is important, however, that any universal access strategy responds to the needs of the very people it is meant to serve.<sup>165</sup> A very strong multi-stakeholder engagement is needed in order to have involvement and commitment by all concerned.<sup>166</sup> The ITU rightly noted in 1998 that UA is now not so much an engineering or supply-side problem but rather a regulatory and policy challenge.<sup>167</sup> Development which does not benefit the majority of the people is hard to justify and may be worse than no development at all.

The report failed to address the questions on airtime tax that the Kenyan Government has imposed on mobile operators. Ordinarily this tax is referred to as telecommunications tax that is intended to support UA instead of it being treated as one of the revenue streams in the Government Budget and therefore thrown into the basket of the Consolidated Fund. This tax as stated in the Kenya Government Telecommunications Policy Statement should be utilised as subventions from the Government to the proposed UA/CDF.

The report also fails to identify and recommend the most apt and ideal vehicle for financing the expansion of services to specific high cost areas or population. For example, there are two ways to determine the subsidy required for a network expansion project and they are generally complementary. The first is to estimate the cost of the subsidy using a financial model.<sup>168</sup> The second approach is to let the market determine the final amount of the required subsidy through a competitive process.<sup>169</sup> None of these two mechanisms were

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<sup>164</sup> Mike Nxele(2004) ITU Region, Nairobi "Challenges of implementing Universal Access in Africa."

<sup>165</sup> *ibid.*

<sup>166</sup> *ibid.*

<sup>167</sup> *ibid.*

<sup>168</sup> Hank Intven and McCarthy Tetrault, *supra* note 55, P.33.

<sup>169</sup> *ibid.*



identified. This study could have been useful by identifying safeguards and guidelines that would act against bid rigging on the competitive bidding process.

## **5.6 Conclusion**

Privatisation has significantly increased teledensity and public telephone penetration in various countries. For example, the privatisation of British Telecom (BT) in United Kingdom accelerated telecom expansion and penetration. It is necessary that the Kenya Government reconsiders its priorities in the liberalization of the telecommunication sector to include a commitment towards the privatisation of Telkom Kenya Ltd. Telkom Kenya Ltd is an impediment to telephone penetration and in the implementation of any successful universal access strategy. Privatisation promotes universal access for a number of reasons. First, network expansion targets are often impeded in contracts or licenses that form part of the privatisation process. Privatised operators, as in the case of Safaricom Kenya Ltd and Celtel Kenya Ltd, have surpassed mandatory network expansions targets. For example, the roll-out target for Celtel Kenya Ltd set out in its licence in 2000 as 582,000 lines in five years was surpassed in under three years of its operation. Investors in privatised operators have demonstrated their willingness to meet or exceed roll-out targets and not simply to comply with legal obligations. To them this is a profit maximising strategy.

There are other reasons why privatisation promotes universal access, which include availability of private capital to fund network expansion, improved management, reduced political and bureaucratic constraints on extending services and zero tolerance to rent seeking. The tolerance of rent seekers by the ruling elite is often the common reason why state corporations such as Telkom Kenya ltd are not privatised.

The CCK's recent study on universal access in Kenya will remain an exercise in theory for all practical purposes unless and until the Kenya Government privatises Telkom Kenya Ltd and allows for full liberalisation of the fixed telephony sub-sector. The study presupposes that the Kenya Government will free the telecommunication sector to allow the inflow of private local and international capital to expedite the roll-out of the telecommunications network into remote and rural areas. There is evidence that competition has a good effect on universal access as can be seen in the cellular mobile sub-sector in Kenya that has witnessed

penetration and expansion of coverage to least developed areas of Kenya such as Lokichogio and Mandera in northern Kenya. Perhaps the marriage of commerce (competition and privatisation) and telecommunication will be more effective at making universal access in Kenya a reality than telecommunications service monopolies, roll-out obligations, universal access funds and cross subsidies ever were in the past.

## **5.7 RECOMMENDATIONS**

The policy and regulatory in general in Kenya will need to cope with the pressures coming from a number of directions, that seek to impose a variety of often antagonistic demands. Perhaps though, this project may offer some useful ideas and information that may be of some use in the process of defining a universal access strategy that will meet the development goals and objectives of the Kenya Government sector policy as well as the CCK's universal access strategy. However, it is not the intention of this project to reproduce the recommendations contained in the Universal Access Study report of CCK, the Draft Information and Communication Technology Policy of 2005 or the Kenya Information and Communication Technology Bill of 2005 but it will seek to suggest additional recommendations that in my view will augment and are pertinent to the successful implementation of any universal access strategy in Kenya.

First, arising from the recommendation of the focus Group 7 of ITU mentioned hereinabove, it may have been useful for the CCK universal access study to consider the appropriate technologies for rural areas. The final report of Focus Group 7 entitled "New Technologies for Rural Applications" was released in February 2001. The report highlights emerging technologies suitable for use in rural and remote areas, and their applications for distance education, telemedicine, small business development, emergency support, disaster relief and environmental monitoring. It concludes that wireless access technologies, combined with packet-based Internet protocol (IP) networks, can be used in the rural and remote areas of developing countries because of their cost effectiveness, fast roll-out time and capability for affordable and sustainable multimedia services.

Second, there is need to promote the development of low-cost information appliances for rural use. One of the key issues for Kenya Government and CCK is the promotion of

telecommunication development for rural and remote applications on a large scale and how to mobilize the necessary financial resources. In that regard therefore, it is necessary to establish collaboration with micro-finance organizations to help develop communication-based rural businesses and applications in Kenya. To reduce the cost of implementation, pilot projects will most likely need to be conducted within a shared-facility, such as a university extension centre, a hospital, a post office, or a telecentre in a rural community.

Third, as regards the excise duty on mobile airtime collected by the Kenya Government from the mobile operators, namely, Safaricom Kenya Ltd and Celtel Kenya Ltd there is need to rationalise the use of this tax for the development and expansion of telecommunications networks and services in the rural and remote areas of Kenya. Kenya Government revenue from the nine (9%) per centum tax levied on mobile phone air time has risen substantially since the levy was first introduced by the Finance Minister in the Budget of 2002. The then Finance Minister Mr. Chris Obure had stated that the Government intended to raise Kshs. 850 million. Out of this, 300 million was to be used to create a revolving fund for micro-finance institutions seeking to support small entrepreneurs, another Kshs 200 million was to finance rural electrification programmes while 300 million would buy ARVs for HIV/Aids patients and the remaining balance of Kshs. 50 million would boost a bursary fund for Aids orphans and children with disabilities.<sup>170</sup> The money has barely been mentioned in subsequent years and there is no indication that the funds were ever used for the designated purposes. It is estimated that the mobile phone collections from July 2004 to April 2005 is Kshs. 246.4 million according to the Ministry of Finance Public Relations Officer.<sup>171</sup> This translates to about Kshs. 3 billion annually. From the above statistics it is clear that the funds collected have not been utilised to any projects connected with telecommunications expansion in anyway. In my view the CCK Study ought to have recommended this tax to be applied towards rural and remote areas to promote telecommunication expansion. This tax collected from the mobile operators should be channeled through the proposed Universal Access Fund to be established by CCK.

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<sup>170</sup> "Airtime windfall" *The Sunday Standard*, 31 July 2005 Page 2

<sup>171</sup> *ibid.*



Fourth, the Draft National Information and Communication Technology Policy of July 2005 expect the private sector to play an important role in meeting universal access targets through increased investments.<sup>172</sup> The Government of Kenya should spell out clearly the incentives it seeks to offer to the private sector investors to be attracted to invest in the rural and un-served areas of Kenya. These incentives should include waiver of initial license fees for those operators proposing to invest in rural areas and also for the Government to provide subvention to these operators, which must be included in the national budget. The policy should further grant waivers of frequency fees for operators proposing to utilise wireless technology to provide telecommunication solution for rural connectivity. This should not be left to the prerogative of CCK since the current, Kenya Communication Act,1998, does not give the Commission any power to grant any waivers on the fees payable under the Act.

Last, the Kenya Information and Communication Bill 2005 should include provisions for the establishment of a Universal Access Fund as proposed in the draft ICT policy.<sup>173</sup> Although the draft policy now integrates information and broadcasting as additional segments to be regulated by CCK there is need to provide for universal access provisions for all these segments by introducing part X as Universal Access in the draft legislation.

In my view these recommendations if included to the CCK/IDRC universal access study recommendations and the proposed legislation and draft Policy statement, these will enhance the successful implementation of the universal access strategy in focusing resources to the rural areas for the effective implementation of universal access in Kenya in providing telecommunications connectivity to the rural and un-served areas.

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<sup>172</sup> The National information and Communication Technology (ICT) Policy (draft), July 2005.

<sup>173</sup> The Kenya Information and Communication Technology Bill, 2005.

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