KIWANJA.NET
MINDFUL SOCIAL CHANGE

MOBILE DATABASE · ARTICLE

MOBILE COMMS AFRICA

Author / organisation	Stanford Journal of African Studies (SAUTI)
Year recorded	2008
Region	Africa
Category	Economic
Archive page	kiwanja.net/mobile-database/mobile-comms-africa/

This document is part of the kiwanja.net Mobile Database, an archive of more than 700 articles, reports and projects on mobile technology for development, collected between 2003 and 2010. It is reproduced here for reference; the original author's rights are retained.

Explore more. Browse the full archive at kiwanja.net/mobile-database.
Looking for support with your own social change work? See kiwanja.net/work-with-me.
Ken Banks offers coaching, mentoring and strategy support.

Mobile Telecommunications In Africa:

Past, Present and Future of A Continent-Wide Technological Phenomenon

BY EUGENE CARL ADOGLA

1. Cell Phones in Africa: Here, There, Everywhere

It would definitely not be an exaggeration to claim that cellular telephony represents high technology's most successful foray in to the African continent. The numbers clearly bear out this assertion: as at the end of August 2005, a mere 18 years after the first cell phones arrived in Africa, the number of mobile handsets in active use by subscribers stood at 76.8 million (representing a conservative estimation). The annualized aggregate growth rate in handset numbers was pegged at a healthy 58%, a figure that clearly propelled the African cellular market to outperform all others worldwide. Cumulative growth between 1998 and 2005 stood at an astonishing 5,000%, a technology-related growth rate that has, perhaps not been experienced anywhere in recent history. Future growth is expected to continue to match, if not exceed, this figure.

Mere numbers however fail to tell the full story. The full import of the mobile telecommunications revolution that has engulfed Africa can be fully appreciated only when the social, cultural and economic dynamics that this technology has transformed across the continent - from the arid expanses of the *Kalahari Desert* in *Southern Africa* to the crowded metropolises of *Cairo* and *Lagos* - are taken into account. In Africa, mobile telephony is 'here, there, everywhere' - in effect, the adoption of mobile telephony has transcended the class and economic strata that exist on the continent, granting access to even those who are at the very bottom of each and any social division imaginable. This phenomenon begins to be fully appreciated when one evaluates the various uses to which cell phones are deployed by people of different socio-economic classes in different locales on the continent: stockbrokers, bankers and tech-savvy entrepreneurs and professionals in *Johannesburg*, *South Africa*, whip up state-of-the *Blackberry* mobile email devices to keep in touch with corporate communications; *Coca Cola's* beverage distributors across *Zambia* transact business and keep track of assets and liabilities via SMS (short messaging service); fishermen along the *West African* coast use old GSM phones to coordinate their fishing efforts by directing each other to spots where the largest schools of fish are to be found; youths all across the continent deploy their cell phones to keep in touch with friends, download and play music and video clips where 3G (third generation) data services are available; Farmers in *Uganda* access the latest commodity prices by sending a put text message to a central server which then furnishes them with the desired information through SMS; the poorest Africans are able communicate with their loved ones by purchasing airtime from street and neighborhood vendors. The range of cellular telephony's versatility in Africa seems endless.

These impacts are not limited to urban areas by any stretch. Legislative provisions that are sewn up into cellular licenses across the continent have called for the provision of communication services in the mostly underserved rural regions of each country. These provisions have done rural access to telecommunications a world of good. A report commissioned by British firm *Vodafone PLC*, the world's largest mobile telecommunications provider by revenue, into the efforts by its South African subsidiary *(Vodacom)* to meet its rural communications obligations exemplifies the scope of benefits that these efforts create: as at the time the report went to press, *Vodacom* has successfully installed 24,767 community mobile phone terminals in mainly rural regions which had previously had little or no fixed-line telecommunications infrastructure (license requirements had called for the installation of 22,000 community mobile phones). These terminals allowed beneficiaries to originate an estimated 85 million minutes of calling time each month. In *Tanzania*, a country that has a vast majority of her population residing in rural areas, a whopping 97% of people are reported to have access to a cell phone (compared to only 28% for fixed line phones). This picture is replicated all over the continent, resulting in increased access to telecommunications services for the previously underserved rural masses.

The transformative impacts of mobile telecommunications in Africa are not limited to the communications needs of individuals. Economists - and laymen alike - have linked the advent of cellular telecommunication in Africa to appreciable levels of economic growth on the continent. A report, backed by Britain's *Center for Economic Policy Research* with findings extensively reproduced by the *British Broadcasting Corporation (BBC)*, provided hard data to back up the macroeconomic benefits of cellular telecommunications in Africa. More than 85% of small, black-run businesses surveyed in *South Africa* relied solely on mobile phones for their telecommunications needs. 59% of *Egyptian* businessmen

Causality and the Casualty of Truth
Reflections from Africa I
Mobile Telecommunications In Africa
Personal Reflection
The Role of Elections in Post-Conflict Situations
Reflections from Africa II
Punishing Genocide
Mobile Phone Use and Policy in Southern Africa
Energy Issues in Sub-Saharan Africa
Learning of Science and Math among Females

COMMENT ON THIS ARTICLE
name:
email:
comment:
reset submit

surveyed attributed an increase in profits to the use of cell phones despite higher call tariffs (compared to fixed line phones). The study also postulated that a developing country with a teledensity (phones per unit of population) of 10 phones per 100 people between 1996 and 2003 - a situation pertinent to many African countries - had a 0.59% higher Gross Domestic Product (GDP) than an otherwise identical country. By eliminating the inefficiencies of state-run fixed-line telecommunications networks, competitive mobile telecommunications firms in Africa have vastly improved the access to the information that is key to doing effective business and concurrently spurring economic growth.

For the layman, the economic benefits of the mobile telecommunications revolution lie in the new sources of income that have sprouted in its wake. Although the media is besotted with heralding the achievements of the handful of entrepreneurs that have built out such African cellular powerhouses as *Orascom Telecom Holdings (Egypt)*, *Econet Wireless International (Zimbabwe)*, *MTN (South Africa)* and *Celtel (Sudan)*, the real - and perhaps greatest - beneficiaries of African mobile telecommunications are the thousands of street entrepreneurs who make a living by distributing call time vouchers for the cell phone companies. Selling call time represents a translation from unemployment to gainful employment for a vast proportion of these entrepreneurs. By raising these people from the depths of poverty and boosting them up the income ladder, mobile telecommunications has contributed to reducing the poverty rates of several African countries.

Another interesting phenomenon that Africa's mobile telecommunications revolution has wrought is the emergence of homegrown multinational companies that play a significant role in the international telecommunications sector. These companies are the dominant players in the African cellular telecommunications market and are unique in that control and management lies in the hands of Africans (unlike other growth industries as mining and transportation). These multinationals display all the hallmarks of successful companies found elsewhere - profitability, a dedication to customer service and a commitment to further growth. These characteristics have welled up interest in the international investment community. This interest has helped to take the industry to the next level by opening avenues for the infusion of capital that has not only strengthened its position on the continent, but also allowed it to spread its wings and expand out of the continent into foreign markets. Confidence in the strength of the African mobile telecommunications market prompted *MTC*, Kuwait's leading cellular company, to pay $3.4 billion in *March 2005* for *Sudan's* Celtel, a company that had 5 million subscribers and operations in 13 countries. This same confidence enabled *Econet Wireless International* of *Zimbabwe* to raise enough money to lead a $500 million consortium that purchased a third generation (3G) cellular license in New Zealand in 2001, making Econet the first company from an emerging market to purchase a 3G license worldwide. The highest display of investor confidence was, without doubt, displayed in 2005 when *Orascom Telecom of Egypt* assembled funds from the international investment community to execute a $15.25 billion takeover of *Wind*, Italy's third largest mobile telecommunications company with 15 million subscribers. That the international court of high finance was willing to back an African company to make such a huge investment in a European company speaks volumes of the amount of respect that Africa's cellular industry commands.

All the signals that originate from Africa's cellular landscape exude an air of vitality and portend prospects for continued robust growth. But this rosy picture has not been the reality for a very long period in history. Only a few years ago, the only channels of interpersonal telecommunications available anywhere on the continent were the grossly inefficient legacy fixed-line telephone networks run by governments. How has mobile telephony come to supplant these highly inefficient telecommunications channels and become as widespread as it is today?

2. The Makings of a Revolution: The History of Mobile Telecom in Africa

Jean-Francois Chevalier, a French expatriate, launched *Telecel*, the first cellular network in Africa, in 1987 in what was then *Zaire (now the Democratic Republic of Congo)*. *Telecel* was backed by the government of Zairean dictator **Mobutu Sese Seko** and was granted a monopoly over the Zairean mobile telecommunications market. The first cell phones used on his network, like all articles of new technology, were extremely expensive and were targeted at the elite. The cost of handsets at the time, which averaged $3,000, instantly rendered the cell phone a status symbol and confined cellular technology to being a niche market servicing the rich. With annual Average Revenue Per User (ARPU) - in the form of postpaid bills - averaging the princely sum of $800 in 1987 dollars, cellular telecommunications was beyond the reach of the masses in the *Congo*. Network coverage was limited to *Kinshasa*, the capital city of a country with an area equal to that of *Western Europe*.

"The first generation of mobile phone operators [in Africa] were really buccaneers," reminisces **Strive Masiyiwa**, the founder of *Econet Wireless*, about the peculiar socio-economic dynamics of cellular telephony in Africa during that era. Like *Telecel*, the other early cellular operators on the continent usually enjoyed the patronage of the governments-in-power, and were granted monopolistic rights to the mobile telecommunications market in their country of operation. Hell-bent on making as much profit as possible, these early cellular operators deployed networks that replicated the

dynamics of the *Telecel* story: network coverage was generally limited to only the largest cities in any given African country, handsets were prohibitively expensive, tariffs far exceeded the minimum daily wage while service was targeted at only the very rich in society. The prevalence of this scenario prevented the emergence of mobile telecommunications as a solution to the telecommunication needs of the teeming masses of underserved people in the various countries on the continent.

This trend however began to make way for the revolutionary period currently being experienced on the continent in the 1990's. The seeds of the revolution were sown by shifts in government policy towards telecommunications. The revolution was propelled by the emergence of an entrepreneurial class of both large- and small-scale businessmen, and the emergence of prepaid cellular telecommunications via the introduction of the European-backed Global System for Mobiles (GSM) digital standard for cellular telecommunications platforms.

2.1 The Role of Shifts in Government Policy

After decades of government-run, fixed line telecommunications in Africa had failed to provide affordable and reliable telecommunications services to the masses, African governments began to realize the need to restructure the telecommunications landscape to accelerate access to telecommunications services by the citizenry. This realization was powered by the twin desires to build the reliable communications channels needed to spur development and the need to address the low teledensity figures prevalent in Africa (the lowest in the world), by "leapfrogging" the problem-ridden fixed-line telecommunications era if possible. Faced with the huge costs associated with building further copper-cable based fixed-line networks to expand coverage, it became clear that alternative means of providing access to telecommunications had to be sought out and deployed by market forces, if necessary, to boost access rates.

Post-apartheid South Africa pioneered this trend on the continent. In 1993, *South Africa* possessed the best telecommunications network in Africa, but this network consisted of a trifling 4 million telephones serving a population of nearly 40 million people. Only 1% of black South Africans, who made up 77% of South Africa's entire population, owned fixed-line terminals. The new, transitional, *African National Congress (ANC)*-led government of **Nelson Mandela** realized that addressing this sorry situation would require revolutionary action. Acting on a report prepared for South Africa's Department of Posts and Telecommunications by the international consultancy *Coopers and Lybrand (now Pricewaterhouse Coopers) in October 1991* that posited the merits of cellular telecommunications in delivering affordable and reliable telecommunications services over large geographical areas, the government began to evaluate the possibility of deploying cellular telephony as a means of reaching the 90% of South Africans without access to telecommunications. The government however ran into the age-old problem that faced various African governments in their pursuit of development: a lack of funds. *South Africa* was in the midst of post-apartheid economic recession and could therefore ill-afford the economic strain of financing the deployment of a nationwide cellular network. The traditionally socialist ANC realized that it had to turn to market forces to provide the necessary capital needed to make the deployment of cellular telephony a reality.

This much-needed help came in the form of a young cellular company named M-Cell (later renamed *MTN)*. Founded in 1991 under the auspices of *M-Net*, the first African pay-TV company, M-Cell applied for a license from the apartheid government of the era to run a GSM network. It was swiftly rebuffed as the apartheid government did not fancy providing access to telecommunications services to the mostly Black South African majority. M-Cell did not give up however. Between 1991 and 1993, it formed an alliance with *Cable & Wireless* of the *United Kingdom*, which brought technological know-how and capital to the table in exchange for an equity stake in M-Cell. By 1993, M-Cell had built the core set of skill needed to operate a world-class cellular network. During this period, M-Cell continued to lobby the government on the merits of adopting cellular telephony as a solution to South Africa's teledensity problems.

When the government began to search for a private-sector partner to develop nationwide mobile telecommunications infrastructure, M-Cell stood out as the natural choice. After several months of negotiations during which conditions necessary to ensure that access to the network would be made available to even the poorest South Africans (through the installation of community cellular terminals among other obligations), M-Cell was issued one of two licenses. The other license went to a consortium made up of *Telkom*, South Africa's incumbent telecommunications services provider, and *Vodafone* of Britain to ensure competition; this signaled another shift from socialist economic principles to the market economy by the ANC. One year after M-Cell began to roll out its network (January 1994), it had signed on over 100,000 subscribers. *Vodacom* (formed by Telkom and Vodafone), its competitor, also had a signed up over a subscribers during this period. Barely a year after the first mobile phone call was made in South Africa, teledensity increased by more than 5%. Fierce competition between M-Cell and *Vodacom* for subscribers led to a reduction in tariffs, and an increase in subscriber numbers as a result of reduced costs. This translated not only into an increase in access to telecommunications by the masses and employment avenues for the various South Africans but also into a new source of revenues to the South African government through

the payment of license fees stipulated in the licenses granted to M-Cell and *Vodacom*.

Other governments took note. Within a few years, similar reforms were introduced in other countries. Such pioneering countries as *Ghana*, which already possessed mobile telecommunications networks of the old kind, introduced competition (*Ghana* did so in 1993 by issuing a second cellular license). Other nations, like *Nigeria*, that did not possess cellular networks at the time - and were invariably ravaged by the effects of poor teledensity - took a note from the South African model. A shift in policy set the stage for the mobile telecommunications revolution by putting in place an enabling socio-economically informed legal framework across the continent.

2.2 The Role of The Entrepreneurial Class

The emergence of Africa's mobile telecommunications revolution resulted from the hard work - both within each class and between the classes - of the two classes of entrepreneurs that emerged during the revolution's embryonic stages. The first class was made up of a handful of extremely resourceful African-born businessmen who assumed great risk to invest in the construction of the cellular infrastructure that made the revolution possible. The second group embraces the numerous micro-entrepreneurs who emerged in the wake of the first group to build up the distribution networks that extended telecommunications services to phone owners (through the sale of call time vouchers) and even to those who could not afford to purchase their own phones (through the retail of talk time). The synergistic relationship between these two classes played no mean role in delivering Africa's cell phone revolution.

African-born entrepreneurs created a large number of Africa's cellular networks, including some of the largest. Such celebrated African cellular entrepreneurs like the Sudanese-born **Mohammed "Mo" Ibrahim** and Zimbabwe's **Strive Masiyiwa** (who was named a Global Influential in 2002 by *Time Magazine*) built up *Celtel* and *Econet Wireless International* respectively. These two networks are among the largest with operations in 14 and 6 countries respectively.

In building these networks, they, along with their comrades who built up other large networks like South Africa's *MTN* and Egypt's *Orascom Telecom Holdings* assumed the large amounts of risk that governments were neither able nor willing to take on due to capital constraints. These entrepreneurs were however undaunted: they sourced the necessary capital, built up the requisite teams and deployed the full-scale networks that provide a bulk of the telecommunications services enjoyed by Africans today. Along with providing telecommunications services, they provided much-needed direct and indirect employment opportunities for thousands of other Africans.

The indirect employment that these large-scale entrepreneurs provided to the second class of entrepreneurs - the micro-entrepreneurs - went a long way in providing sources of income to these micro-entrepreneurs and their dependants. These micro-entrepreneurs returned the favor by establishing reliable distribution networks that enabled the large cellular companies to effectively distribute call time, helping network operators to reduce operating costs by saving capital that would have been deployed to create complex proprietary distribution networks. The micro-entrepreneurs also aided their larger-scale brethren by creating a larger market for talk time through their retail activities. These activities revolved around the retail of unitized minutes of talk time to paying customers. Micro-entrepreneurs involved in this piecemeal retail of talk time expanded the African cellular market beyond the scope of phone owners by granting access to people from the lowest income brackets who could not afford to purchase their own cell phones. These retail activities, besides expanding the reach of telecommunications services, translated into greater revenues and profits for network operators thereby releasing capital for increased investments in network expansion. These expanded networks in turn created greater employment opportunities for micro-entrepreneurs, creating a positive cycle of capital, income and service. This cycle was of the utmost importance in ensuring that networks survived the travails of youth and accrued the economies of scale necessary for sustained growth.

By teaming together, these two groups of entrepreneurs created the necessary technical and distribution networks that ensured the smooth delivery of telecommunications services to the masses that demanded these services and had been previously unserved or underserved. This played a crucial role in creating the boom in access to telecommunications services that marks the current telecommunications revolution being enjoyed in Africa.

2.3 The Role of Prepaid Cellular Telephony

If one factor can be hailed as the most significant reason responsible for the rise of mobile telecommunications in Africa, then the prepaid Subscriber Identity Module (SIM) chip for Global System for Mobile Telecommunications (GSM) phones deserves that honor. The reason: It brought the cost of cellular telecommunications within the range of an appreciable proportion of the poorest Africans. Prior to the introduction of prepaid SIM cards, all cellular telephony services were rendered on a contractual, postpaid basis. Contracts were available to only those who possessed bank accounts, formal home addresses, credit histories and formal employment. To possess these requisites for a

cellular contract, an African had to possess formal education. The low formal education rates prevalent in Africa meant that few people met this criterion, translating into a limited market for cellular services.

Postpaid services also tended to be very expensive because they required cellular companies to pay for credit rating services, address verification services and financial transaction fees to ensure that prospective clients were trustworthy enough to be granted access to their networks. There was also the looming problem of possible default on bills due to the vagaries in the economic fabric of Africa, which meant that salary payments could be defaulted on without warning, leaving customers with no means to pay for service. These extra costs were factored into phone bills thereby increasing the cost of cellular service. Needless to say, these high bills excluded a bulk of Africans (with low income) from even dreaming of enjoying the benefits of mobile telecommunications.

The invention of the prepaid GSM SIM card in 1996 changed all that. With prepaid GSM SIM cards, people could buy service only when they could afford it. With a small outlay to purchase the SIM card and even smaller, occasional outlays thereafter for purchasing call credits, people could have access to the cellular networks. This also enabled cellular companies to forgo the route of contracts thereby leading to drastic drops in the cost of providing cellular services. These reduced costs translated into reduced tariffs for prepaid call credits, which in turn made prepaid cellular services an even more financially attractive option to the poor. The result? An overwhelming increase in the number of cellular subscribers on the continent. Perhaps it is no surprise that by 2004, 95.61% of all cellular phones in use in Africa were GSM handsets, and that the growth in the number of GSM handsets on the continent between 2003 and 2004 was a dazzling 101.85% (almost twice the global rate of 52.49% in the same period).

A few months after the invention of the prepaid GSM SIM card, the first prepaid cellular services on the continent were rolled out in *South Africa* by *MTN* and *Vodacom*. The results were remarkable: *Vodacom* registered 60,000 new customers within a month; *MTN* saw a 100% increase in subscriber numbers (from 100,000 to 200,000) within twelve months of offering prepaid cellular services. Contrary to expectations that the Average Revenue Per User (ARPU) per month from cellular operations in Africa would dwindle and lag behind those in other markets because the average user in Africa would be poorer than his counterparts elsewhere (thereby making the African market unattractive to investors), monthly ARPU actually rose, reaching $35 per month in 2004, a figure that exceeded Europe's ARPU even though call tariffs are lower in Africa than they are in Europe. The economic law of demand iterates that provide a service at a cost that the masses can afford and they will duly oblige by purchasing the service in large volumes; African cellular operators provided affordable prepaid services to the masses who repaid their efforts by signing up en masse for service. Africa's cellular revolution began in earnest.

3. A Peek into The Future: Opportunities, Possibilities and Challenges

The future of mobile telecommunications has begun to arrive in Africa. Second-generation (2G) GSM networks - and the few archaic 1G AMPS (Advanced Mobile Phone System) networks left - are being supplanted by post-2G networks implementing 2.5G EDGE (Enhanced Data GSM Environment), 3G UMTS/W-CDMA (Universal Mobile Telecommunications System/Wideband-Code Division Multiple Access) and CDMA2000 networks in the more advanced cellular markets including *Ghana* (Africa's first EDGE network in 2004), *Egypt*, *South Africa* and *Mauritius* (First full-scale UMTS/W-CDMA networks in Africa in 2004). These networks have higher transmission and reception bandwidths allowing for provision of enhanced data services including web browsing, email and data transfer.

Markets that have traditionally lagged behind the pioneer nations have taken crucial steps to catch up, bringing access to service to even more Africans. A classic case is *Nigeria* which auctioned three GSM licenses in December. The first Nigerian network started operating in 2001. Prior to the auction of the licenses, teledensity stood at under 0.5% with 500,000 telephones servicing over 100 million people. By 2003, 2.3 million Nigerians had access to cell phones, increasing teledensity five-fold. Today, CDMA2000 1xEV-DO (Code Division Multiple Access 2000 - Evolution-Data Optimized) networks enable the provision of 3G data services including wireless email and web browsing in many major Nigerian population centers. These developments in Africa's largest nation, with a population of over 120 million people, bode well for the development of the continents telecommunications capabilities. Against a backdrop of this anecdote, the importance of mobile telecommunications in promoting catch-up among the various national telecommunications systems in Africa cannot be overestimated.

The development of cellular telecommunications on the continent has brought in its wake a series of technological innovations that are changing the way people live and propelling the continent towards attaining technological parity with the other continents. Expanded internet access across rural and urban areas and the development of cellular payment and commodity information systems are among these innovations that have increased access to information and improved business conditions on the continent, with economic benefits accruing to the collective African economy. Rollout of similar services over wider geographical zones in the future will do more to make the attainment of technological

parity, both within Africa and with other continents, possible.

Even with all these developments, a lot needs to be done if Africa is to be successful in her bid to catch up with the more developed telecommunications markets. Africa is expected to expand its mobile telecommunications system to cover 200 million cellular subscribers by the year 2010. It is also expected to achieve a continent-wide teledensity rate of 10% (keeping in line with population growth) by 2015. To achieve these targets will however require annual average investments to the tune of $11 billion from private investment sources. Even though the investments that were made by the international investment community in the acquisition of Celtel and Orascom's acquisition of Wind Italia represented a quantum leap in investment inflows, the bulk of these investments found its way back into foreign markets. To reverse this trend to ensure that a bulk of the financial investments placed with African cellular telecommunications firms translates into this $11 billion needed to achieve the subscriber and teledensity targets enumerated above, African governments should put incentives - including tax breaks, reduced financial transaction fees and fewer restrictions on profit remittance - in place to make investments in the African telecom system more attractive.

Taking into consideration the continent's strategy of using mobile telecommunications as a tool to catch up with the more advanced telecommunications markets, the success of mobile telecommunications in bridging Africa's communications divide will occur when anyone located in any region on the continent can pick up a cell phone and place a seamless call to another person located elsewhere on the continent. This was not the case on the continent during the era of predominantly fixed-line networks due the differences in the technologies deployed to develop telecommunications infrastructure. These differences were sometimes so pronounced that it was impossible for some networks to interconnect to allow the free flow of communications. The current cellular landscape has however remedied this problem due to the vast proportion of cellular systems that run equipment conforming to the GSM standard (serving 95.61% of all African cellular subscribers). The interconnectivity problem might however rear its head again in the near future as more African cellular operators migrate to 3G networks running on equipment that conform with the incompatible UMTS/W-CDMA and CDMA2000 standards. If no action is done to remedy this problem, Africa could recede into the days of old where transcontinental communications will be next to impossible. To stop this problem from resurfacing down the line, African leaders need to confer with each other and with experts to choose one of the two third-generation (3G) standards as the preferred continental standard. This will reduce the cost of attaining continent-wide connectivity and will also bode well for the continuity of and improve on the nearly seamless communications enjoyed in the pure second generation (2G), GSM-enabled era.

Another possibility that the future of cellular telecommunications holds for Africa is the promise of increased internet access on the continent. In the last to 15 years, internet services on the continent have expanded rapidly. It is now commonplace in most African countries to see internet cafes offering online services at broadband speeds. Africa's combined international bandwidth is expected to reach 6Gbps (Gigabits per second) in 2006 (A benchmark that has been matched). However, with all these improvements, internet penetration on the continent is estimated at 2-3%. The main reason for this low penetration figure is attributed to the reliance of Africa's internet infrastructure on its fixed-line networks. However, the advent of the deployment of internet-ready 3G cellular networks on the continent, coupled with the increasingly widespread acceptance of cell phones as necessities by Africans, presents an opportunity for the continent to move into an era of growth in internet usage. This will call for the provision of 3G cell phones with internet capabilities at affordable prices to enable mass adoption. Steps should therefore be taken by African government to promote research aimed at developing low-cost, internet-capable 3G phones to help boost internet use amongst Africans.

Two final challenges that need to be addressed to make the future of mobile telecommunications in Africa an era of success are the challenges of high tariffs and the lack of domestic ownership in cellular infrastructure. Over 323 million Africans subsist on less than $1 a day. For these people, average cell phone expenditures of $35 a month represent a cost they can ill-afford. These people also demand telecommunications services and the only way to make these services available to them would be to reduce tariffs. To ensure that the collective dream of communications for all Africans is achieved in the future, telecommunications regulatory bodies across the continent need to work with cellular operators to reduce tariffs to affordable levels so that the poorest Africans can have access to the burgeoning channels of communication provided by cellular telecommunications.

Of the major cellular networks across the continent, only *MTN* has a broad-based ownership structure encompassing trade unions representing the ordinary South African workers. Ownership of most other African cellular networks lies in the hands of either expatriate or a handful of Africans. The fruits of Africa's 80 million subscriber cellular market, worth billions of dollars, thus find their way into the hands of a few. It behooves African governments, in the spirit of wealth redistribution, to enact changes that will ensure that more ownership is transferred to ordinary Africans. This will not only ensure that a greater proportion of Africans reap the benefits of the current and future cellular boom, but will go a long way in safeguarding the ownership rights of average Africans of over what

would prove to be one of Africa's most lucrative resources in the years to come.

4. Conclusion

Within 18 years, mobile telecommunications has transformed the telecommunications landscape of Africa beyond the wildest dreams of even the staunchest Afro-optimist, improving economic and socio-cultural conditions along the way. It has come to represent a technological sector in which Africa compares favorably with her peers. With the massive opportunities that abound now and in the future, its impact could extend even further, bringing with it unprecedented transformation and improvement in the quality of life of the ordinary African. Whether this will happen will rest on the ability of governments to initiate, among others, the changes recommended in the section above. Successfully implementing these change-inspiring recommendations will ensure that achieving seamless and affordable telecommunications for all Africans could become a reality.

BACK TO TOP

<< PREVIOUS ARTICLE **NEXT ARTICLE >>**