

African telecoms: Private sector to the rescue?

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Africa has lagged other developing country regions in economic growth during the 1990s. However, according to the International Monetary Fund, Africa will record growth of 4.7 per cent in 1998, just after Asia.¹ In the wake of the Asian financial crisis, Africa may even take over as the fastest growing region in the world. A new breed of "African Tiger" may be emerging with Angola, Uganda and Botswana forecast to be among the ten fastest growing economies in the world in 1998.² This transformation is also evident in the African telecommunication market. The last few years has seen new private companies entering this promising sector, putting the continent on par with developments that have taken place in other regions.³ For example:

- There were five privatizations of African telecommunication operators in 1996 and 1997, compared to just one between 1990 and 1995;
- Fifteen new, private mobile cellular companies have started-up operations since 1995;
- Dozens of Internet service providers have sprung up in the last two years.

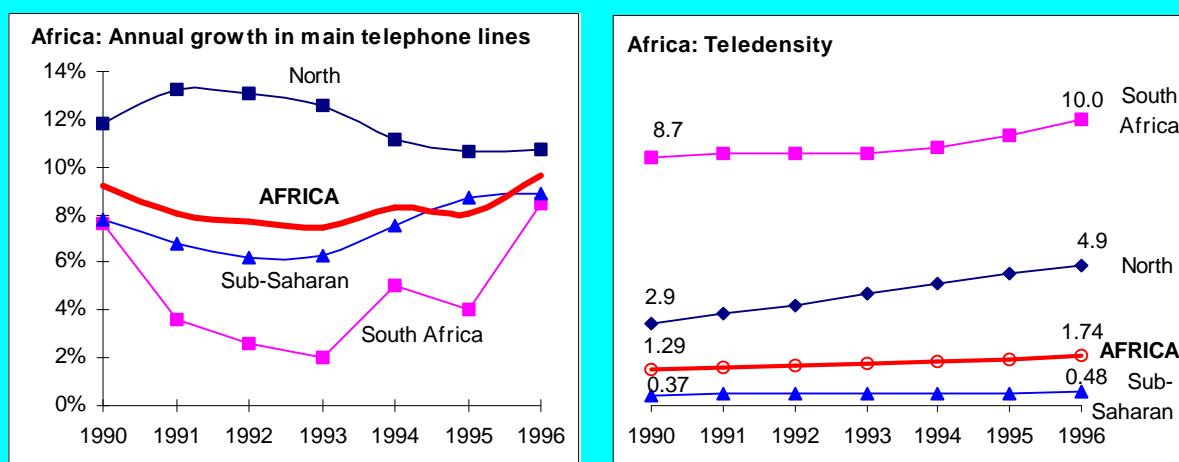
These developments reflect a growing continent-wide belief that a more liberal telecommunication sector will attract private investment and accelerate the construction of badly need infrastructure and services. This thinking is already evident in steps that have been taken in a number of countries to separate postal and telecommunication services and grant telecommunication operators greater autonomy. This paper looks at the involvement of private capital in three key telecommunication market segments: fixed-line, wireless and the Internet.

Fixed-lines

Africa's highest annual growth rate in main telephone lines of the decade was registered during 1996 (Figure 1). Growth in Sub-Saharan and South Africa rose while it declined in Northern Africa. As a result, all three sub-regions are converging towards a rate of about 10 per cent a year.

The big news is the privatization of the national fixed-line operators in the Côte d'Ivoire, Guinea, Ghana, Senegal and South Africa. These sales are characterized by the involvement of large strategic investors (France Telecom, Telekom Malaysia, SBC of the United States).

Figure 1: Trends in African main telephone lines



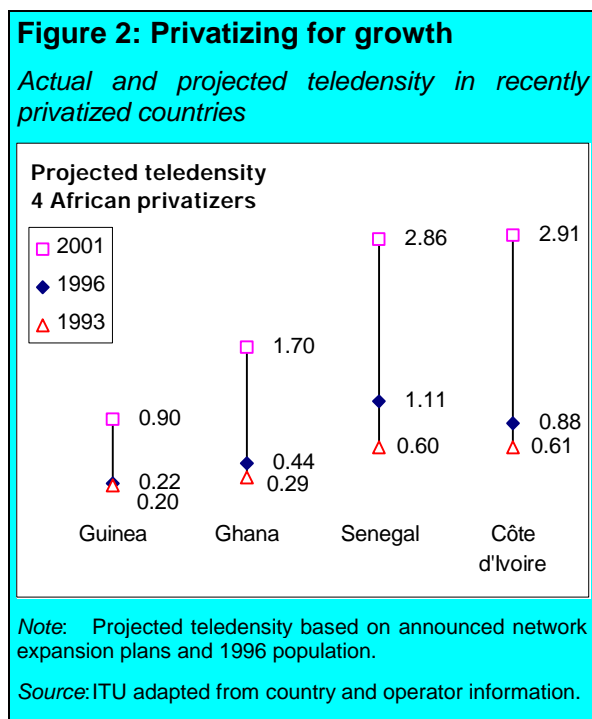
Source: ITU World Telecommunication Indicators Database.

¹ International Monetary Fund. *World Economic Outlook*. December 1997.

² "Emerging Tigers". Emerging-Market Indicators. *The Economist*. 17 January 1998.

³ "There is therefore substantial potential for private sector projects in these sectors. The most promising short- and medium-term prospects will be in telecommunications." See International Finance Corporation (IFC). *Building the Private Sector in Africa*. Available from the IFC website: <http://www.ifc.org/abn/library.htm>.

One common feature of the sales are network expansion targets the newly privatized operators must meet. The South African privatization is in a class of its own, both in terms of the money it generated, over US\$ 1 billion, as well as the fact that South Africa has a considerably higher teledensity than other African countries. As a result, the newly privatized Telkom only has to install lines at an annual average growth rate of around 10 per cent through March 2002. For the other



countries, the network development plans call for growth rates of over 20 per cent a year. If they accomplish that, they will all raise their teledensity to over one telephone line per 100 inhabitants (Senegal is an exception as it already had a teledensity of over one at the end of 1996) (Figure 2).

Another development is the introduction of new entrants in the fixed-line market. In Ghana and Uganda, so-called "Second Network Operator" (SNO) licenses have been issued. In Ghana, the SNO license was awarded in 1996 to ACG Telesystems, a consortium led by Western Wireless of the United States. ACG must install 50'000 new lines within 3 years. This goes with an already existing license issued in 1994 to Capitol Telecom, a wholly Ghanaian-owned company, to provide service in the rural southern part of country. Despite a number of technical, financial and regulatory difficulties, Capital Telecom began service in February 1997, and in the first phase, around 10'000 lines will be provided. In Uganda,

the government has awarded a second network operator—the MTN Uganda consortium—a full service license including cellular. MTN Uganda's shareholders consist of the South African cellular operator Mobile Telephone Networks (MTN) (50%), the Swedish telecommunication operator Telia (30%), Investco, a Ugandan company (10%) and Tristar, a Rwandan registered company (10%). In Tanzania, Zanzibar Telecommunications (Zantel) was licensed in 1995 as a basic service provider on the island of Zanzibar.

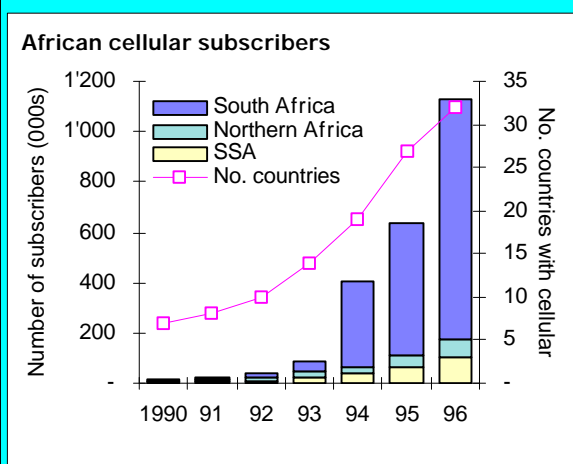
The majority of fixed-line operators in the region remain state-run and only three countries have allowed second operators. Nonetheless, the fact that privatization has taken place in some of the region's largest economies makes it likely that other countries will follow. Another point is that the privatizations cut across regional and linguistic categories: operators have now been privatized in Western, Eastern and Southern Africa and in English, French and Portuguese speaking countries. Privatization is notably absent from the Maghreb countries. However there have been on and off plans to privatize the operators in Morocco and Tunisia and both countries allow private provision of pay telephones.

For the most part, the sales of national telecommunication operators have been to strategic foreign investors. This is partly due to undeveloped local stock markets as well as the need for managerial and technical expertise and access to financing. Privatization may be more readily accepted in the region if the public is allowed to have shares. The South African government intends to sell 10 per cent of its shares in Telkom to workers and disadvantaged citizens. In Senegal, the government will divest of 33 per cent of its holdings in Sonatel by selling 10 per cent to employees, 18 per cent to the public and 5 per cent to an African telecommunication operator.

Wireless

The African mobile cellular market is blossoming. A few years ago, there were more countries on the continent without cellular systems than with. Today, there are only a handful of African countries without mobile cellular service (Figure 3). Furthermore, the odds are that when cellular service is introduced, it is usually by a private company.

Figure 3. Cellular in Africa



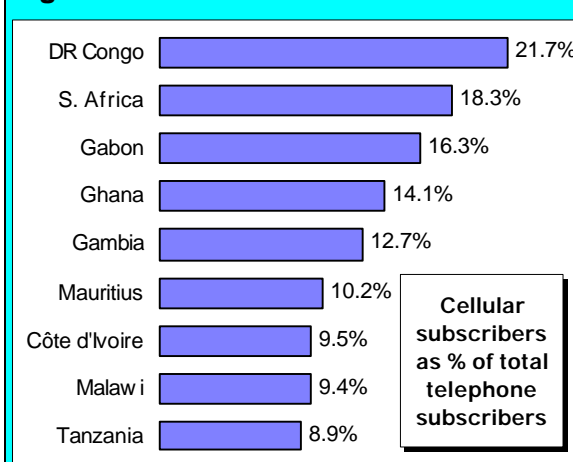
Source: ITU.

Strategic investors are very involved in the provision of privately-operated cellular networks. Early investors were cellular-oriented companies that primarily concentrate on emerging regions. Telecel International, a US-based company that focuses on Africa, has a majority stake in operators in Burundi, Central African Republic, Democratic Republic of Congo (former Zaire), Guinea, Madagascar and Zambia. Another early investor was the Luxembourg-based Millicom which is a partner to cellular operators in Ghana, Mauritius and Tanzania. Vodacom, which operates the largest cellular network in the United Kingdom and traditionally directs its overseas investments to developed Anglophone countries, partly owns cellular companies in South Africa and Uganda.

Larger, full service telecommunication companies are now getting into the picture. Telkom Malaysia is a part-owner in the cellular network in Malawi while Sweden's Telia is involved in Namibia. France Télécom is the majority owner of Société Ivoirienne de Mobiles in the Côte d'Ivoire, part of owner of the Senegalese analogue and digital networks and recently won a license in Botswana. Another development is the involvement of South Africa's large cellular operators in nearby countries. Vodacom South Africa owns part of Vodacom Lesotho while MTN is part of the consortium that was awarded a full service license in Uganda.

There is room for additional private investment in the cellular sector. First there are the remaining countries that still do not have cellular networks. Second, most of the countries that have cellular networks have thus far licensed only one operator. Allowing additional market entrants will help to boost growth as shown by countries which have licensed more than one operator. For example, the Côte d'Ivoire and Ghana, each with three cellular operators, have relatively high growth rates, as do South Africa and Tanzania, which have licensed two.

Figure 4: Cellular substitution

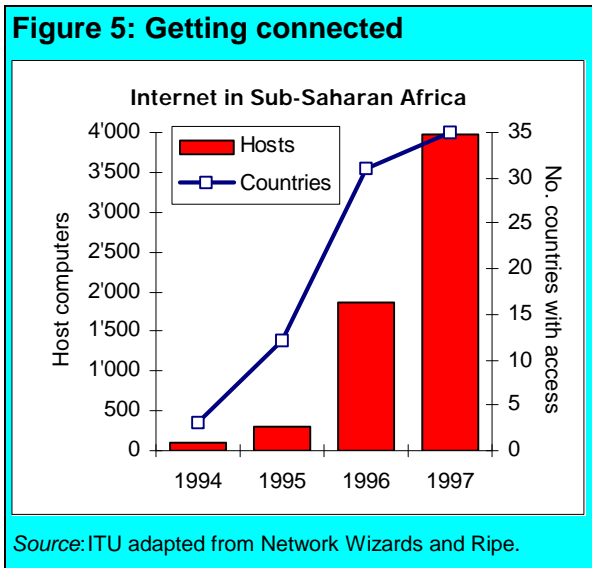


Source: ITU.

Mobile cellular, though relatively expensive, can help to boost access. This is the case in a number of African countries where the substitution rate is high and which are typically characterized by relatively low levels of fixed-line density combined with competitive mobile cellular markets (Figure 4). Mobile cellular also enhances access where the fixed-line network has been extensively damaged or ignored due to civil unrest such as in the Democratic Republic of Congo. Cellular solutions can also be used to increase accessibility in rural and other disadvantaged areas. In the case of South Africa, for instance, the granting of mobile licenses was linked to the provision of cellular payphones in unserved areas. Wireless Local Loop (WLL) is another way where cellular technology can be used to extend access. WLL is cheaper than mobile cellular and can be installed more quickly than fixed-lines. A growing number of countries in the region are installing WLL systems including Benin, Ghana, Nigeria and South Africa.

Internet

Africa's most dynamic telecommunication market is the Internet. Arabic-speaking African countries and South Africa were early Internet adopters. Outside of South Africa—which had the 14th highest Internet penetration in the world in 1996—overall connectivity in the rest of the region is modest by international standards. But it is growing rapidly and the majority of African countries are now linked to the Internet (Figure 5). Early efforts to connect Africa to the Internet were usually



initiated by international organizations, official bilateral assistance and non-governmental organizations. Several of the region's telecommunication operators such as Senegal's Sonatel or Zambia's Zamtel have now overcome their early hesitation about the Internet and have become Internet Service Providers (ISPs). The relatively low cost of entry, growing demand for connectivity and liberalization of value-added telecommunication markets are driving forces for an increasing number of private ISPs.

One sign is the interest global Internet players have in the African Internet market. For example, Prodigy, the world's third largest Internet Service Provider, is a shareholder in Africa Online which provides Internet access in five African countries (Kenya, Côte d'Ivoire, Ghana, Tanzania and

Zimbabwe). Africa Online was founded by a group of Kenyans who studied in the United States and wanted to transfer their information technology skills back home.

Another example of this reverse brain drain is Ghana's "Mr. Internet", Dr. Nii Quaynor. After obtaining a doctorate in computer science in the United States, he spent 14 years working for a US computer company. Dr. Quaynor was lured back to Ghana in 1988 to upgrade the national oil company's computer network. He then established Network Computer Systems (NCS) and has been instrumental in getting Ghana connected to the Internet. In 1997, NCS introduced a high-speed satellite connection making Ghana the continent's second largest Internet hub.

The growing number of local companies providing Internet access is in many cases a result of grass-roots initiative. As Ghana's Dr. Quaynor remarks: *"I did not receive money from the World Bank, I did not take a loan from anybody. It was purely private sector initiative from Ghanaian resources...All Africa should learn from our model and how we transformed our society."*⁴ Liberalizing the Internet market will allow this to happen. It will also tend to drive down prices, making access more affordable. Perhaps most importantly, liberalizing the Internet market, will not only improve the region's information technology skills but will also lead to more information about Africa, as locally designed web pages blossom. The pay-off can be big: one Zimbabwean company generated Z\$ 150 million (US\$ 10 million) by marketing its wares on the Internet.⁵

Two main factors will influence the development of Internet in the region. In most circumstances, a telephone line is needed in order to connect to the Internet. Therefore the chronic shortage of telephone lines in the region must be overcome. Second, Internet access and usage prices and the cost of a computer will remain unaffordable for most Africans. While individual access is relatively expensive, community facilities such as "Internet cafes", lower costs through shared access and provide a venue for training. The first cyber cafe in francophone Africa, Metissacana, was opened in Dakar, Senegal in July 1996. It provides 14 computers with 24 hour a day Internet access. The ITU's Telecommunication Development Bureau (BDT) has a project to install Multipurpose Community Telecentres providing shared Internet access in Benin, Mali, Mozambique, Tanzania and Uganda.

⁴ See Mike Afrani. "Ghana's Mr. Internet". Available on the NCS web site at <http://www.ghana.com>.

⁵ See Tonderai Chanakira, "Trade Information Centre Helps Nurture Export Culture." *The ZimTrader Quarterly*. October 1997. Available on the National Trade Development Organization Zimbabwe (ZimTrade) website: www.zimtrade.co.zw.

Conclusion

The last few years have seen a notable increase in private sector involvement in the African telecommunication sector. They include large multinationals interested in purchasing national telecommunication operators, regional investors interested in the cellular market and local

Table 1: Going private?

Top 10 African telecommunication operators, ranked by 1996 revenue

PTO (Country)	Telecom revenue (US\$ m)	Main telephone lines (000s)	Employees (000s)
1 Telkom (South Africa)	3'802	4'259	58
2 ARENTO (Egypt)	773	3'025	58
3 NITEL (Nigeria)†	771	405	14
4 ONPT (Morocco)	696	1'251	15
5 KPTC (Kenya)	298	261	12
6 Tunisie Telecom (Tunisia)	296	585	6
7 MPT (Algeria)	207	1'278	19
8 CI-TELCOM (Côte d'Ivoire)	150	130	3
9 PTC (Zimbabwe)	137	175	5
10 SONATEL (Senegal)	121	95	2
Top 10	7'216	11'464	187

Note: Privatized operators are shaded. † = 1995.

Source: ITU PTO database.

companies starting up Internet operations. This injection of private capital will help to upgrade and extend the region's telecommunication infrastructure and get the continent more solidly plugged into the international information economy.

Telecommunication role models for Africa have included countries such as Botswana, Gambia, Cape Verde, Mauritius, which have experienced the highest growth in main lines this decade. However, these economies are relatively small and there has been a tendency to doubt whether their success could be transplanted to larger African countries. Now that three of the region's ten largest operators are partly private (see Table 1), a more credible role

model may emerge if they fulfill their telecommunication network expansion targets.

The real challenge will be to extend reasonable access to all of the continent's inhabitants. The privatization of national operators will add to the number of telephone lines, providing service for those on waiting lists that can afford it. The establishment of new cellular operators will also supplement accessibility but the service will remain expensive for most people. These developments need to be reinforced by other policies to extend access at the community level. This includes programmes to extend public telephones such as in Senegal where entrepreneurs are allowed to operate "Telecentres privés (TCPs)". There were over 5'000 of these TCPs by the end of 1996, accounting for over 5 per cent of all telephone lines in the country. Another example is South Africa, where the cellular operators have been mandated to install almost 30'000 community public telephones. These smaller-scale initiatives, involving local private business people, will be just as important as the more visible privatizations in alleviating telecommunication access shortages and truly making the telecommunication recovery underway sustainable and beneficial to the majority of the region's inhabitants.

Table 2: Basic telecommunication indicators for Africa

	Population Total (000s) 1996	GNP per capita US\$ 1995	Main telephone lines		Cellular subscribers	
			Total 1996	Per 100 people 1996	Total 1996	Per 100 people 1996
Algeria	28'566	1'600	1'278'142	4.47	12'000	0.04
Egypt ‡	60'603	790	3'024'947	4.99	7'369	0.01
Libya	5'593	...	<i>318'000</i>	5.69	-	-
Morocco	27'623	1'110	1'251'000	4.53	42'942	0.16
Tunisia	9'092	1'820	585'238	6.44	5'539	0.06
North	131'477	1'120	6'457'327	4.91	67'850	0.05
South Africa †	42'393	3'160	4'258'639	10.05	953'000	2.25
Angola	11'185	410	52'440	0.47	3'298	0.03
Benin	5'594	370	32'679	0.58	2'683	0.05
Botswana †	1'490	3'020	72'189	4.84	-	-
Burkina Faso	10'780	230	34'055	0.32	169	0.00
Burundi	6'088	160	15'181	0.25	525	0.01
Cameroon	13'560	650	70'558	0.52	2'200	0.02
Cape Verde	396	960	25'232	6.37	-	-
Central African Rep.	3'344	340	8'950	0.27	471	0.01
Chad	6'515	180	6'004	0.09	-	-
Comoros	632	470	4'980	0.79	-	-
Congo	2'668	680	<i>21'410</i>	0.80	<i>1'000</i>	0.04
Cote d'Ivoire	14'781	660	129'808	0.88	13'549	0.09
Djibouti	617	...	8'151	1.32	110	0.02
DR Congo	46'812	120	<i>36'000</i>	0.08	<i>10'000</i>	0.02
Equatorial Guinea	410	380	3'668	0.89	61	0.01
Eritrea	3'280	...	18'919	0.58	-	-
Ethiopia	58'506	100	148'739	0.25	-	-
Gabon	1'106	3'490	35'000	3.16	6'800	0.61
Gambia †	1'141	320	21'319	1.87	3'096	0.27
Ghana	17'832	390	77'886	0.44	12'766	0.07
Guinea	7'518	550	16'206	0.22	950	0.01
Guinea-Bissau	1'091	250	7'926	0.73	-	-
Kenya ‡	31'806	280	261'406	0.82	2'804	0.01
Lesotho †	2'078	770	<i>21'380</i>	1.03	1'262	0.06
Liberia	2'820	...	<i>4'000</i>	0.14	-	-
Madagascar	15'353	230	39'406	0.26	2'200	0.01
Malawi	10'114	170	35'471	0.35	3'700	0.04
Mali	11'134	250	21'294	0.19	1'187	0.01
Mauritania	2'351	460	10'204	0.43	-	-
Mauritius	1'134	3'380	183'861	16.21	20'843	1.84
Mayotte	110	...	6'618	6.02	-	-
Mozambique	17'796	80	61'175	0.34	-	-
Namibia §	1'575	2'000	85'549	5.43	6'644	0.42
Niger	9'465	220	15'353	0.16	-	-
Nigeria	115'020	260	<i>405'073</i>	0.35	<i>10'000</i>	0.01
Reunion	664	...	225'851	34.01	<i>14'000</i>	2.11
Rwanda	5'397	180	<i>15'000</i>	0.28	-	-
Sao Tome & Principe	135	350	<i>2'503</i>	1.85	-	-
Senegal	8'572	600	95'070	1.11	1'412	0.02
Seychelles †	76	6'620	15'200	20.00	1'149	1.51
Sierra Leone	4'297	180	17'189	0.40	-	-
Somalia	9'822	...	<i>15'000</i>	0.15	-	-
Sudan	27'291	...	99'000	0.36	2'200	0.01
Swaziland †	938	1'170	20'509	2.19	-	-
Tanzania	30'799	120	92'760	0.30	9'038	0.03
Togo	4'201	310	24'050	0.57	-	-
Uganda ‡	19'848	240	47'927	0.24	4'000	0.02
Zambia †	8'275	400	77'935	0.94	2'721	0.03
Zimbabwe ‡	11'908	540	174'985	1.47	-	-
Sub-Saharan	568'325	290	2'921'069	0.51	140'838	0.03
AFRICA	742'195	620	13'637'035	1.84	1'161'688	0.16

Note: Figures in italics are estimates or refer to earlier years. † = year beginning 1 April. ‡ = year ending 30 June. § = year ending 30 September.

Source: ITU except population (UN) and GNP (World Bank).