

Economic inclusion in the 21st century: grounds for universal household broadband services

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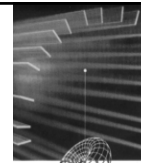
Rapid economic development requires social & digital inclusion

- What relevance for Mozambique?
- Population of 18 million, Maputo 1,2 million
- Coastal country, small industrial and services sectors,
- Large untapped resource-base (energy) for global trade
- Large informal sector – untapped resource base of human potential
- Possible integration into global economy through Portugal, South Africa, India, China
- Future ‘network economy’ – Mobile voice (telephony) + Internet to facilitate economic interaction and financial transactions
- Most applications (banking, tourism, small and micro-business) now require broadband network infrastructure



Rapid economic development requires social & digital inclusion

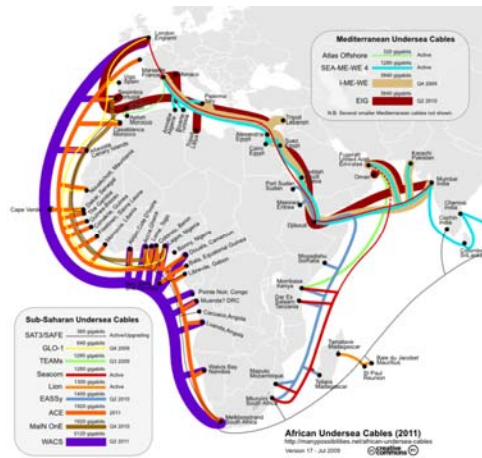
- Mobile and Internet (ICT) usage relevant to medium and large companies to pursue **economic linkages with global markets**
- Mobile and Internet (ICT) usage relevant to current working generation – improve **communication and economic linkages between main cities/towns** – Tete, Nampula, Beira, Maputo, other
- Mobile and Internet (ICT) usage relevant to next generation – ICT usage by micro-enterprises, informal sector and households as a way of **developing the next generation of the workforce** – trade, tourism, banking & finance, education – all can gain value from broadband Internet connectivity and usage



ICT applications – open educational resources through digital libraries: eIFL.net (Kuchma, 2009)

The screenshot displays the eIFL.net website interface. At the top, there is a navigation bar with links for Home, News and Events, What we do, Member Countries, About, Contact, and Support us. The main content area features a large banner image of a group of people in a rural setting, with the text 'Enabling access to knowledge through libraries in developing and transition countries.' Below the banner, there are sections for 'eIFL Spotlight', 'Member countries', 'Latest news from eIFL', and 'December Events'. The 'Latest news from eIFL' section includes articles such as 'September - October newsletter issue available online', 'Our September - October 2009 newsletter', and '2009 eIFL and Annual Report'. The 'December Events' section lists various conferences and workshops, including '2009 eIFL International Bibliography of Children's Digital Books and eResources', '2009 eIFL Open Access in Malawi', and '2009 eIFL Open Access in Mozambique'. On the right side, there is a 'New What Members Say About eIFL' section and a 'Programs and Services' section.

Figure 1: Emerging undersea cable system for Africa



Source: Song, S, 2009 <http://manypossibilities.net/african-undersea-cables/>

The introduction of the Seacom and EASSy cables in 2009 took available international bandwidth capacity from 80Gbps in 2008 to 5.4 Tbps in 2010 . Both cables have landing points in Maputo.

Economic growth in the 21st century: South Africa: the case for universal household broadband services

Households are the spaces where a large proportion of SMMEs in BSM 4 – 6 categories operate their business from; where the current workforce resides and where young people who are keen to access learning live. For these communities, broadband Internet services can bring business, learning and living opportunities into the electronic household of the future. Hence, logical evolution for South Africa in the next decade 2010 – 2020 is universal household broadband service.

Table 1: RSA: Comparative ICT development index and price basket values

Country & IDI ranking	ICT development index (IDI) 2007	ICT price basket value 2008	GNI per capita (USD) 2008
50 Russia	3.83	1.8	7560
60 Brazil	3.48	7.7	5910
73 China	3.11	4.4	2360
80 Georgia	2.91	12.0	2120
81 Libya	2.84	-	-
82 Ecuador	2.75	6.5	3080
83 Tunisia	2.73	2.9	3200
84 Fiji	2.73	5.2	3800
85 Albania	2.73	7.1	3290
86 Azerbaijan	2.71	16.0	2550
87 South Africa	2.70	4.2	5760
88 Mongolia	2.67	-	-
89 Syria	2.66	14.0	1760
109 Botswana	2.10	3.8	5840
118 India	1.59	4.7	950

Source: ITU (2009) Measuring the information society

South Africa's price basket value is high compared to Russia and Tunisia and is similar to China, yet it lags in ICT development behind these countries. Its level of ICT development also lags behind countries with a much lower gross national income per capita. High prices exclude large numbers of households and SMMEs from the benefits of ICT usage.

Table 2: Gauteng: Percentage of households with a mobile phone by municipality, Census 2001 and CS 2007

Municipalities	2001		2007		2001	2007
	No. of households with mobile phone	Total no. of households	No. of households with mobile phone	Total no. of households	% of households with mobile phone	% of households with mobile phone
Sedibeng DM	78 157	225 744	175 834	241 223	34.6	72.9
Emfuleni LM	63 971	187 044	143 139	196 480	34.2	72.9
Midvaal LM	8 280	19 653	18 049	24 265	42.1	74.4
Lesedi LM	5 906	19 048	14 706	20 479	31.0	71.8
Metsweding DM	15 807	45 092	38 222	46 502	35.1	82.2
Nokeng tsa Taemane LM	5 715	14 356	12 196	14 838	39.8	82.2
Kungwini LM	10 092	30 736	26 025	31 665	32.8	82.2
West Rand DM	59 707	151 339	137 528	186 850	39.5	73.6
Mogale City LM	35 074	83 553	71 462	94 288	42.0	75.8
Randfontein LM	14 990	36 141	30 234	40 459	41.5	74.7
Westonaria LM	8 988	29 980	34 766	50 675	30.0	68.6
West Rand DM	655	1 665	1 065	1 429	39.3	74.5
Ekurhuleni MM	313 555	744 479	675 350	849 349	42.1	79.5
City of Johannesburg MM	466 313	1 006 742	950 768	1 165 014	46.3	81.6
City of Tshwane MM	288 867	561 772	571 920	686 640	51.4	83.3
Gauteng	1 222 406	2 735 168	2 549 681	3 175 579	44.7	80.3
South Africa	3 615 241	11 205 705	9 090 231	12 500 609	32.3	72.7

Source: Adapted from StatsSA (2007) Community Survey 2007: Basic results Gauteng

In the first decade of the 21st century, a very high proportion of the South African population has gained access to mobile voice communications, though usage of mobile services is low due to high mobile call prices.

Table 3: Gauteng: Percentage of households with access to the Internet by municipality

Municipalities	2007		2007
	No. of households having access to Internet facilities	Total no. of households	% of households having access to Internet facilities
Sedibeng DM	13 212	241 223	5,5
Emfuleni LM	8 586	196 480	4,4
Midvaal LM	2 306	24 265	9,5
Lesedi LM	2 320	20 479	11,3
Metsweding DM	3 120	46 502	6,7
Nokeng tsa Taemane LM	930	14 838	6,3
Kungwini LM	2 190	31 665	6,9
West Rand DM	13 468	186 850	7,2
Mogale City LM	9 797	94 288	10,4
Randfontein LM	2 111	40 459	5,2
Westonaria LM	1 444	50 675	2,8
West Rand DM	116	1 429	8,1
Ekurhuleni MM	89 170	849 349	10,5
City of Johannesburg MM	165 989	1 165 014	14,2
City of Tshwane MM	88 048	686 640	12,8
Gauteng	373 007	3 179 579	11,7
South Africa	900 612	12 500 609	7,2

Source: Adapted from StatsSA (2007) Community Survey 2007: Basic results Gauteng, Table GP 15

:In the first decade of the 21st century, a very low proportion of the South African population has gained access to the Internet, with an increase of less than 2% in household Internet access between 2007 and 2010.

Table 4: Gauteng province: SME ICT and Internet access 2010

SME ICT and Internet access	Frequency (843)	Percent
Business ICT network		
Intranet within your business	65	7,7
Local area network (LAN)	57	6,8
Extranet between your business and other organisations	13	1,5
Wide area network (WAN)	11	1,3
None	697	82,7
Business Internet access		
Yes	156	18,5
No	687	81,5
Business Internet connectivity		
Missing data	3	0,4
Not applicable	687	81,5
Analogue modem (dial-up via standard phone line)	29	3,4
ISDN (Integrated Services Digital Network)	24	2,8
DSL (ADSL, SDSL, VDSL, etc)	51	6,0
Wireless connection	32	3,8
Broadband	16	1,9
Leased line	1	0,1
Business email address		
Yes	151	17,9
No	692	82,1
Business website		
Not applicable	156	18,5
Yes	5	0,6
No	682	80,9
Business ICT applications		
Missing data	1	0,1
Customer Relationship Management (CRM) to organise data	160	19,0
Supply Chain Management (SCM)	63	7,5
Enterprise Resource Planning (ERP)	16	1,9
None of the above	603	71,5

Source: Adapted from Abrahams, L & Burke, M (2010)

Table 5: Gauteng: Households and eSociety: Internet usage 2010

Internet usage by activity	Percentage
Communication, information search and on-line services	
Sending and receiving emails	88.5
Finding information about goods and services	71.3
Using services related to travel and accommodation	42.5
Downloading software (other than games software)	48.3
Reading or downloading news/newspapers/magazines	62.1
Looking for a job or sending a job application	60.9
Seeking health related information	37.9
Banking, selling goods and services	
Internet banking	29.9
Selling goods and services	17.2
Buying goods and services	12.6
Paying online using credit card	13.8
Education and training	
Looking for information about education, training or course offers	59.8
Doing an online course (in any subject)	26.4
Consulting the internet with the purpose of learning	39.1

:SMMEs are showing early stage usage with limited use of the Internet and ICT applications. Those households who are connected are showing diverse use of the Internet for living and learning.

Households, a powerful force for the economy: producers, not merely consumers

“In addition to traditional small-scale artisanal services which have historically operated from households (plumbers, electricians, caregivers), over the past three decades, there has been a slow but certain movement towards home-based production: tele-working to reduce the costs of doing business, small consulting services, women working from home, small household enterprises operating tourism and other ventures.

In the services-based economy, the household can utilize ICT to recreate itself as a site of production, utilizing access to the communications infrastructure network as the means to insert itself into local and global markets.

The household can connect itself to markets in order to source inputs, to sell goods and services and to conduct banking and financial transactions. It can thus become a node of economic activity.

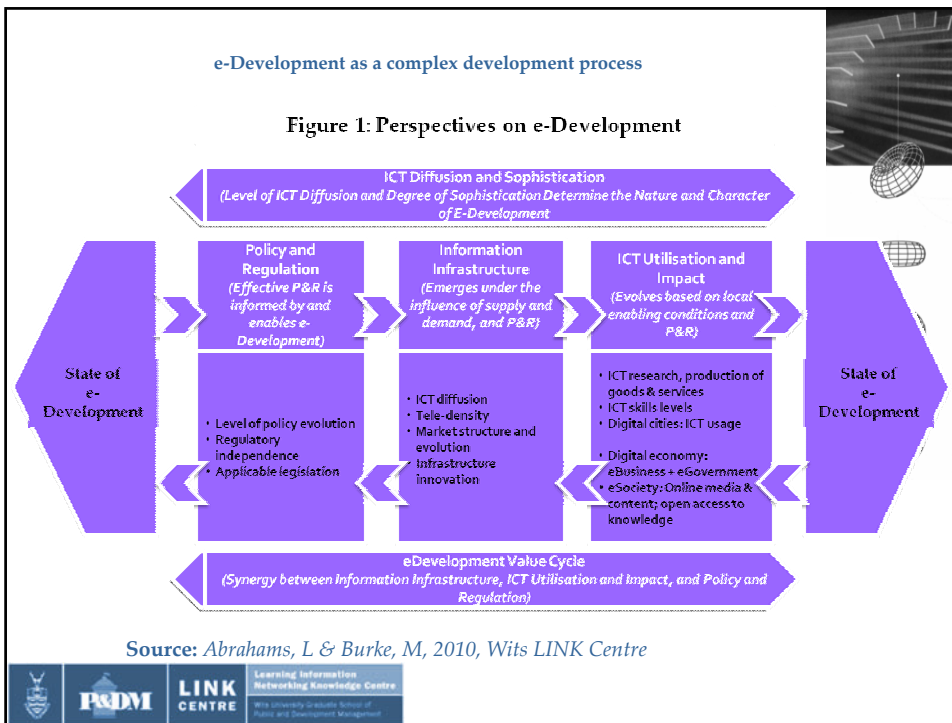
But does it? Does the household have the relevant knowledge and capacities to engage in the new form of modular value creation? How does social (digital) inclusion correlate to economic participation, mobility, civic engagement and e-democracy?”

From: *Abrahams, L., Burke, M., Hero, W., & Elliot, L (forthcoming)*

INFRASTRUCTURE, INFRASTRUCTURE, INFRASTRUCTURE
Infrastructure of the 21st century is broadband networks

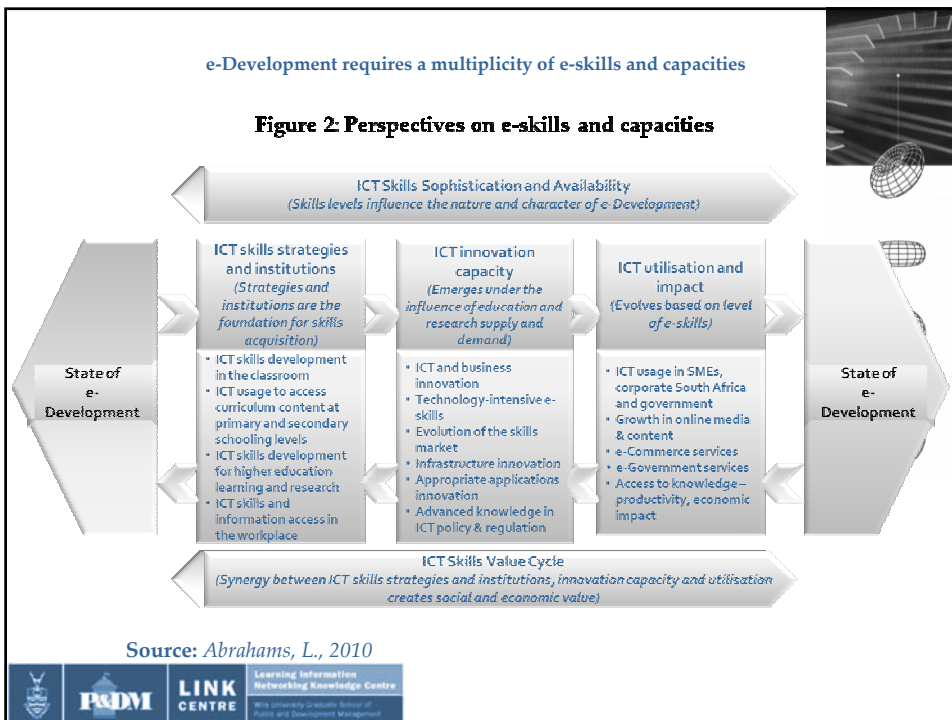
e-Development as a complex development process

Figure 1: Perspectives on e-Development



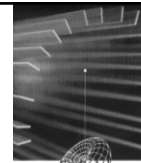
e-Development requires a multiplicity of e-skills and capacities

Figure 2: Perspectives on e-skills and capacities



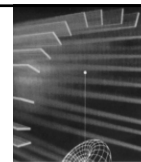
Questions for Mozambican policy-makers/ regulator in this new era

- What is the broadband business case for Mozambique?
- What types of transformation in existing strategic thinking, approaches and institutions is required to make business sense and foster economic development through ICT usage?
- How are key institutions positioning themselves to take advantage of the ICT opportunities for social and economic development – ports of entry, financial system, government and public services (health, education), small enterprises, informal sector, households?
- What is needed to push innovation and skills development for greater ICT access and usage?
- What is the value created by ICT policy and regulation in the new era?



Shaping the future - roles of key institutions (Mozambique/ South Africa)

- Firms & SMMEs – using broadband Internet and ICT applications to **improve business and revenue/income** position
- Universities and educational institutions – **access to knowledge** from any source in local language
- Households – broadband ICT access and usage for current economic activity and **creating the future skilled workforce**
- Operators (fixed and mobile) – **infrastructure investment, quality of service**
- Government – policy (big picture – next 20 years) and leadership in **stimulating network extension**
- Regulators – forward-looking, forward-thinking, **thinking ahead of the curve of existing technologies**, policies and markets



Obrigado

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