

Towards Evidence Based ICT Policy: Access & Usage in 17 African Countries

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Research ICT Africa @ The **EDGE** Institute

Telecommunications Infrastructure and
Economic Performance
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Research ICT Africa!

- Network of researchers conducting ICT policy and regulatory research in 20 African countries across the continent in the absence of data and analysis required for evidence based policy

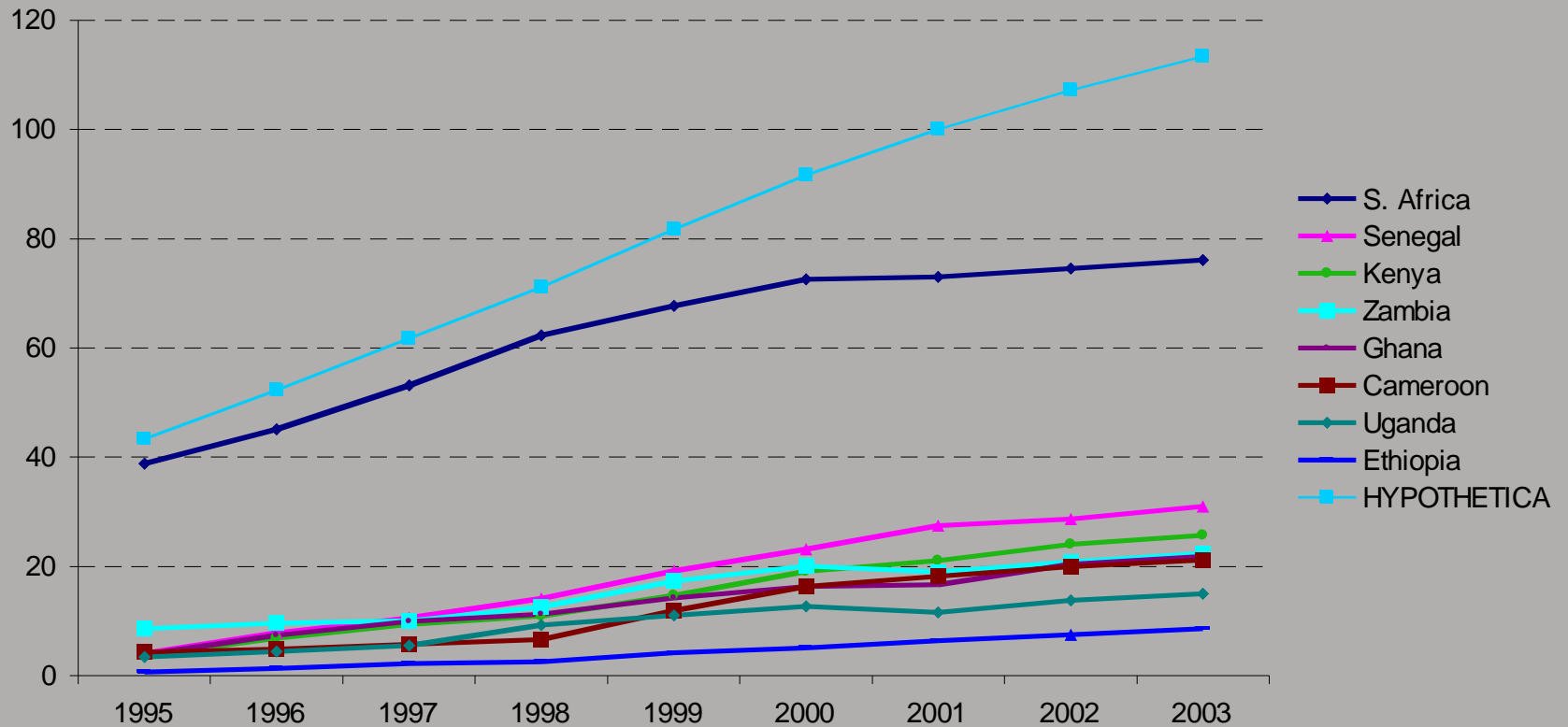


Towards evidence based policy

- Policy research based on series of supply and demand side research undertaken by the network which is triangulated with a telecommunications regulatory environment perception survey.
- Integrate into an index of indicators that will provide decision-makers with an understanding of policy performance and identify points of intervention



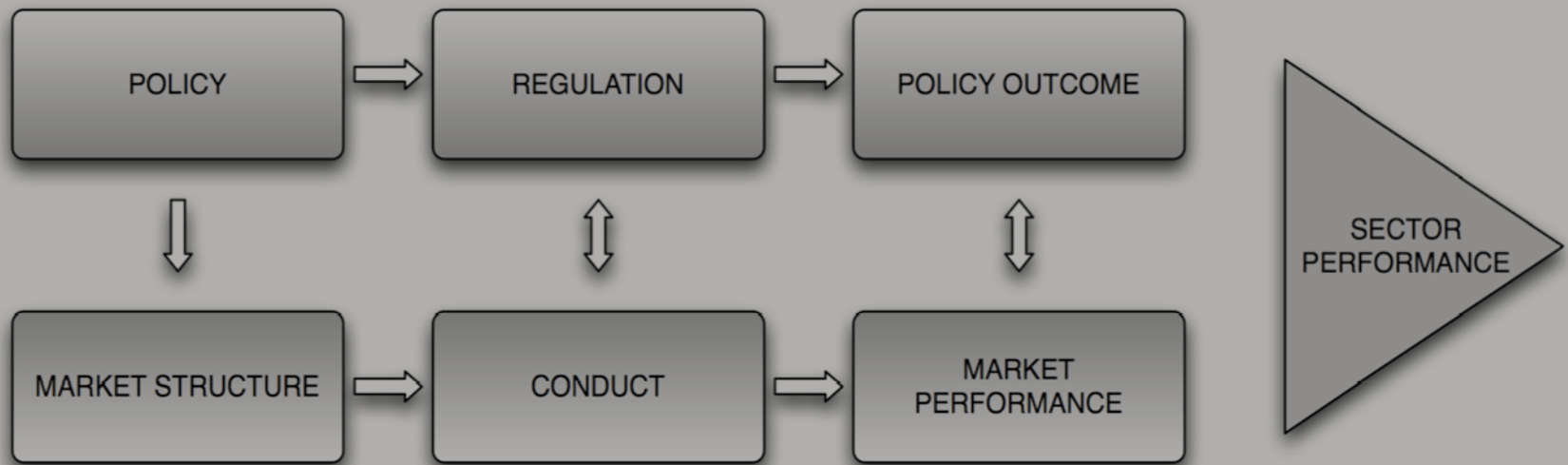
Infostate of Africa



Sciadas, G. (2005). *From the Digital Divide to Digital Opportunities : Measuring infostate for development*. Montreal: NRC Press.



Sector performance as policy outcomes



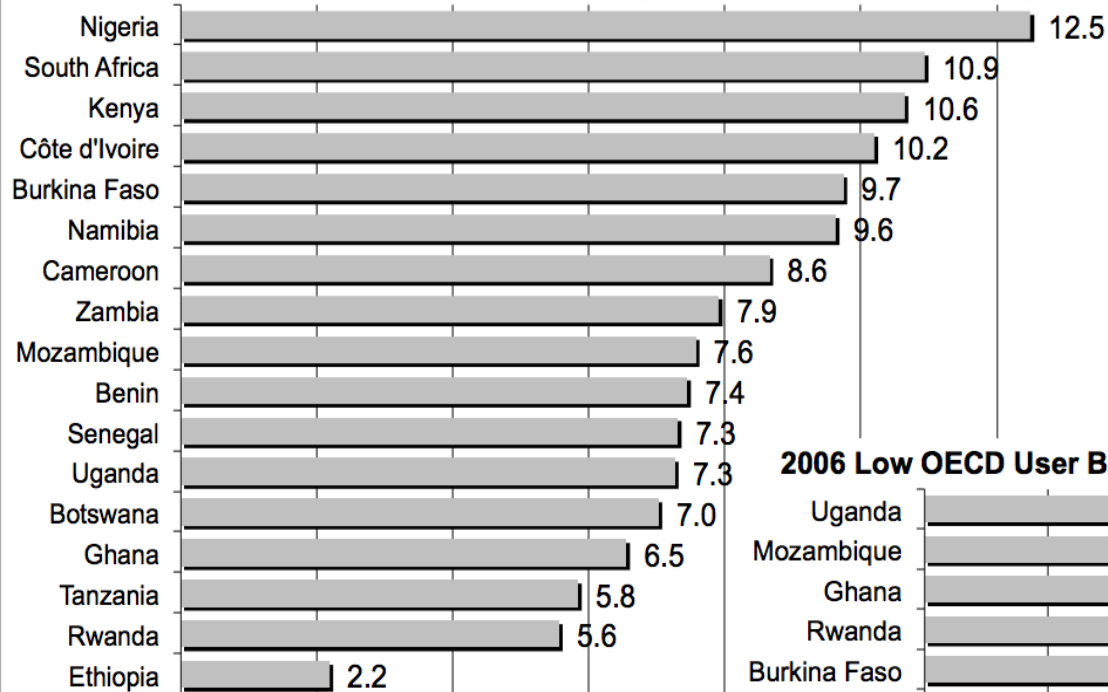
Supply side - policy outcomes

PPP	Cost of a local 1 minute call (peak rate)	Cost of a national 1 minute call (peak rate)	Cost of a 3 minute call to US (peak rate)	Average fixed-line expenditure	Comments
Benin	0.09	0.26	3.16	41.65	Rebalanced
Botswana	0.13	0.34	3.01	19.00	Rebalanced
Burkina Faso	0.46	1.05	11.68	65.35	High cross-subsidisation/high call charges
Cameroon	0.21	0.30	3.84	44.59	Rebalancing
Côte d'Ivoire	0.21	0.21	1.59	32.67	Rebalanced
Ethiopia	0.02	0.86	20.70	40.97	High cross-subsidization
Ghana	0.25	0.25	4.74	75.70	Rebalancing
Kenya	0.21	0.28	4.65	56.57	Rebalancing
Mozambique	0.49	0.49	4.35	87.39	High cost of all calls
Namibia	0.16	0.35	6.28	105.20	Cross-subsidisation
Rwanda	0.39	0.66	16.45		High cross-subsidization
Senegal	0.15	0.61	2.27		Rebalanced
South Africa	0.19	0.29	1.29	111.74	Rebalanced
Tanzania	0.26	0.26	5.25		Rebalancing
Uganda	0.48	0.52	7.69	135.07	Cross subsidisation/high call charges
Zambia	0.07	0.20	6.97		High cross subsidisation.

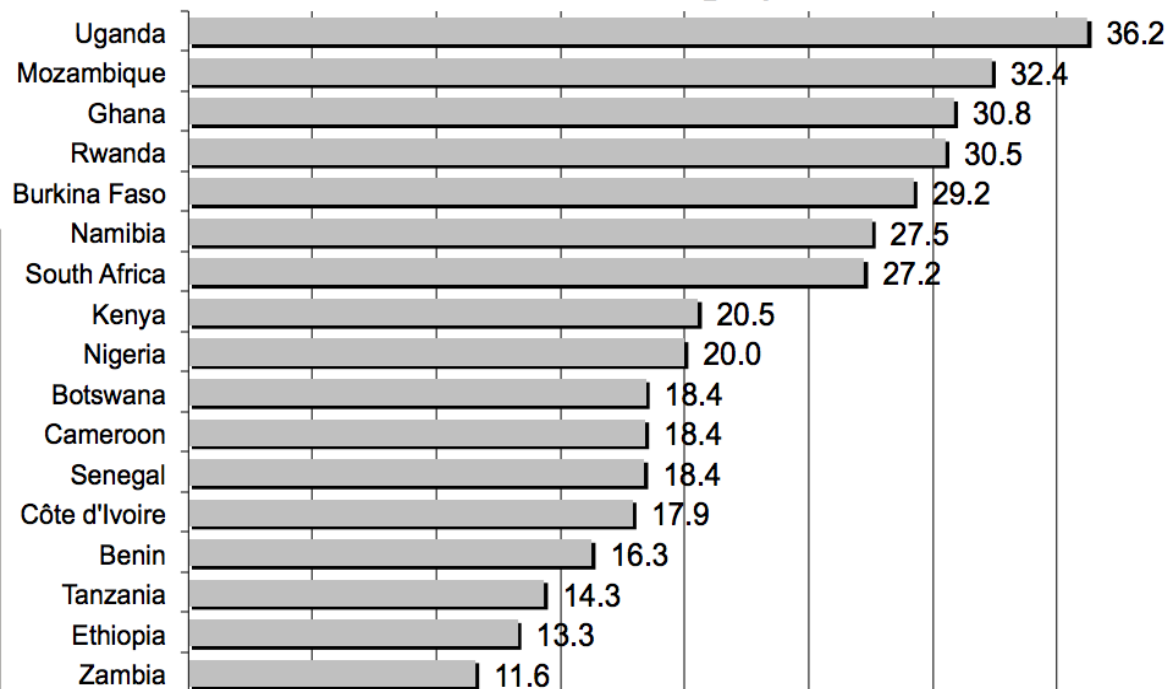


Supply side - mobile pricing

2006 Low OECD User Basket - cost in US\$ using nominal end of 2006 exchange rates

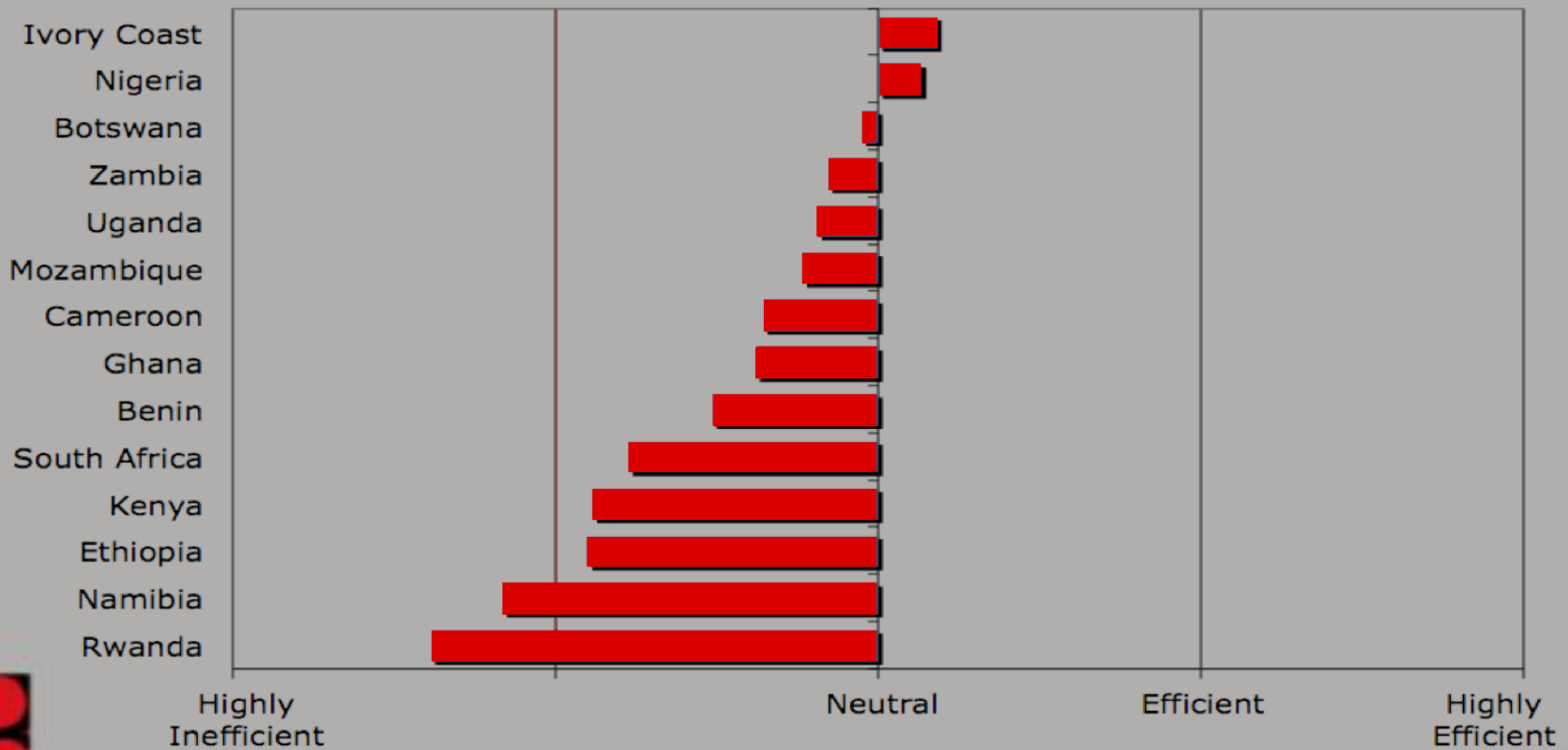


2006 Low OECD User Basket - cost in US\$ using implied PPP conversion rates



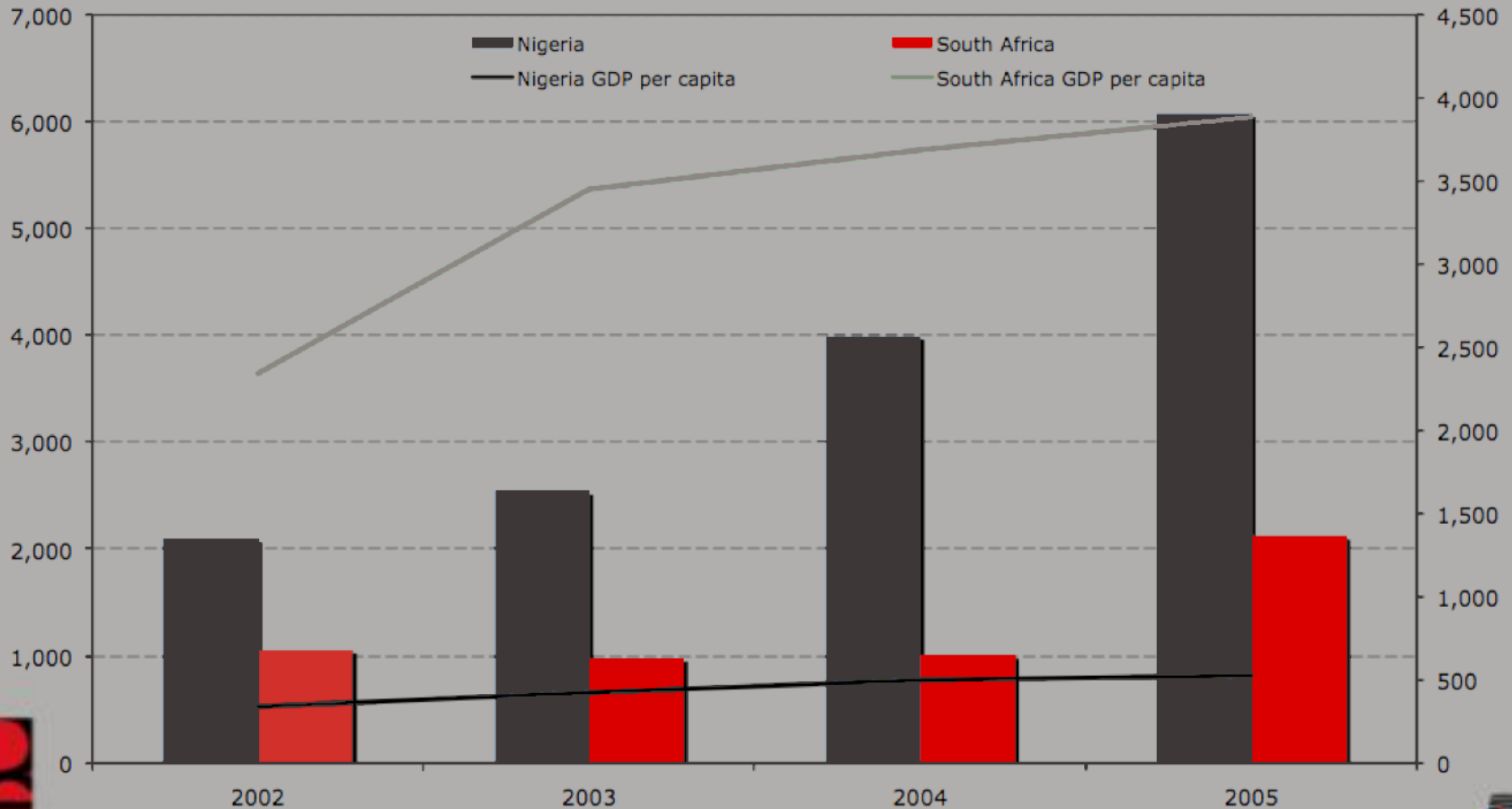
Telecommunication Regulatory Environment

TRE Scores: Average scores across all categories



Investment Nigeria vs SA

Telecom investment & GDP per capita



Demand side survey

- Nationally representative surveys in 17 African countries (Nigeria incomplete)
- Comprehensive data 23,000 households and individuals
- 3 Step Cluster sampling - urban, metropolitan, rural



■ Step 1: Metropolitan / Other Urban / Rural

■ Metropolitan:

- Benin Cotonou / Porto Novo / Parakou
- Botswana Gaborone / Fransistown / Lobatse / Selebi Phikwe
- Burkina Faso Ouagadougou / Bobo-Dioulasso
- Cameroon Duala / Yaounde
- Ethiopia Addis Abeba
- Ghana Accra/ Kumasi
- Ivory Coast Abidjan
- Kenya Nairobi / Mombassa
- Mozambique Maputo
- Namibia Windhoek / Walvisbay / Swakopmund
- Nigeria Lagos / Abuja
- Rwanda Kigali
- Senegal Dakkar
- South Africa Johannesburg / Pretoria /Cape Town / Durban / PE
- Tanzania Dar es Salaam
- Uganda Kampala /Entebbe
- Zambia Lusaka / Livingston / Ndola

■ Step 2: PPS Random Sample of EAs

■ Step 3: Simple Random Sample of Households within Eas

■ Focus groups in five countries



WTP: Exponentially distributed Payment Ladder

WILLINGNESS TO PAY TABLE PAYMENT LADDER **KENYA (SCHILLING)**

Starting at the top of the list and moving down. Ask until the first three values are answered with no.

- If the respondent is almost certain about a monetary value then place a tick (✓) in the space next to the amount.
- If the respondent is not sure about an amount then simply leave it blank.
- If the respondent is almost certain that the amount is too high then place a cross (x) next to the amount.

Enter the highest amount the respondent was willing and able to pay into the PDA

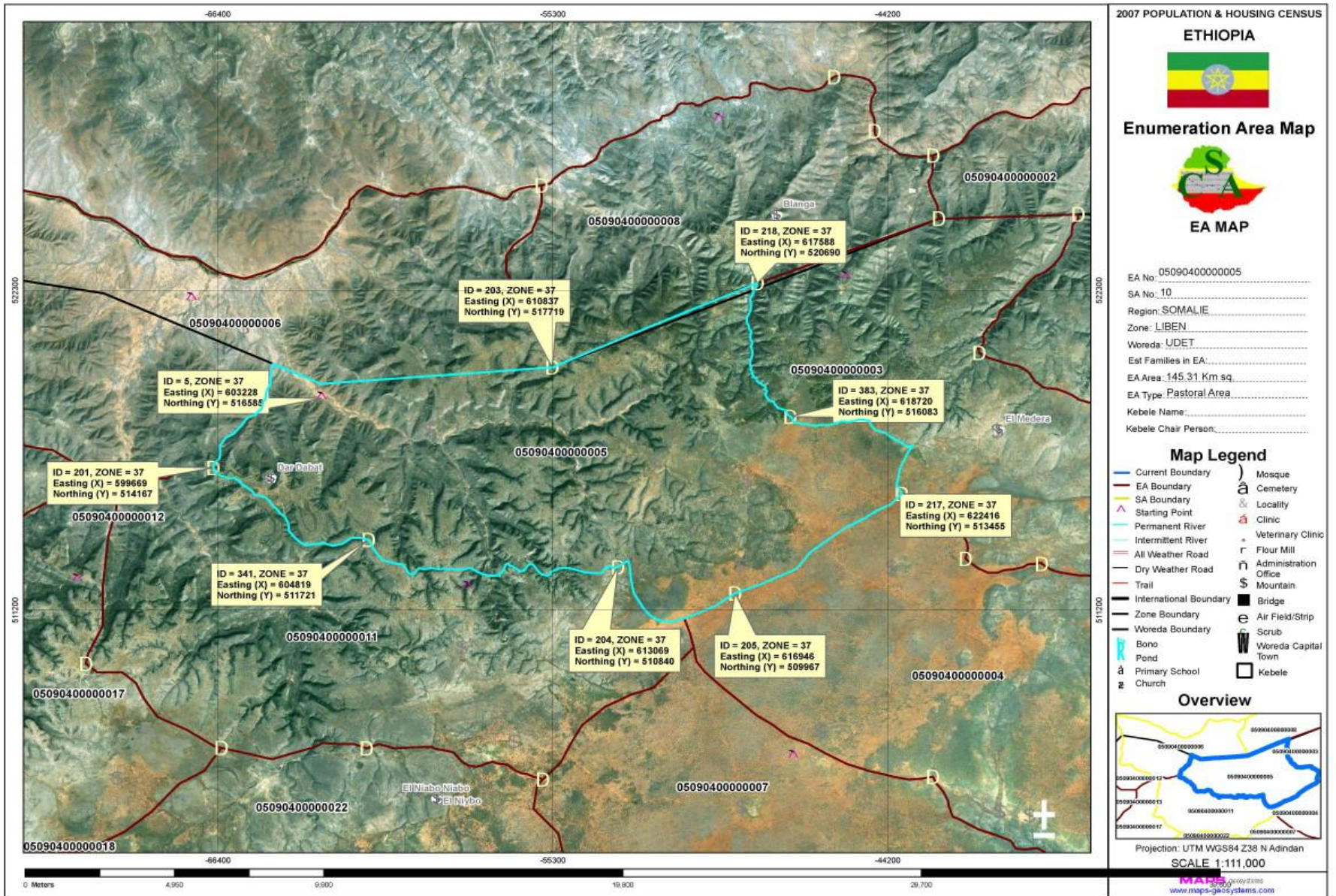
Enter the lowest amount the respondent was NOT willing and able to pay into the PDA

	A	B	C	D	E
Payment Ladder	How much would you be willing and able to spend monthly on a fixed-line phone for calls and any monthly subscription cost?	What would you be willing and able to pay monthly for unlimited (time and MB) broadband Internet access at home?	How much would you be willing and able to spend monthly on a mobile phone for calls and SMS?	What would you be willing /and able to pay for a handset?	What would you be willing /and able to pay for Prepaid SIM Card
0					
70					
347					
434					
542					
678					
847					
1,059					

EA Map example 1



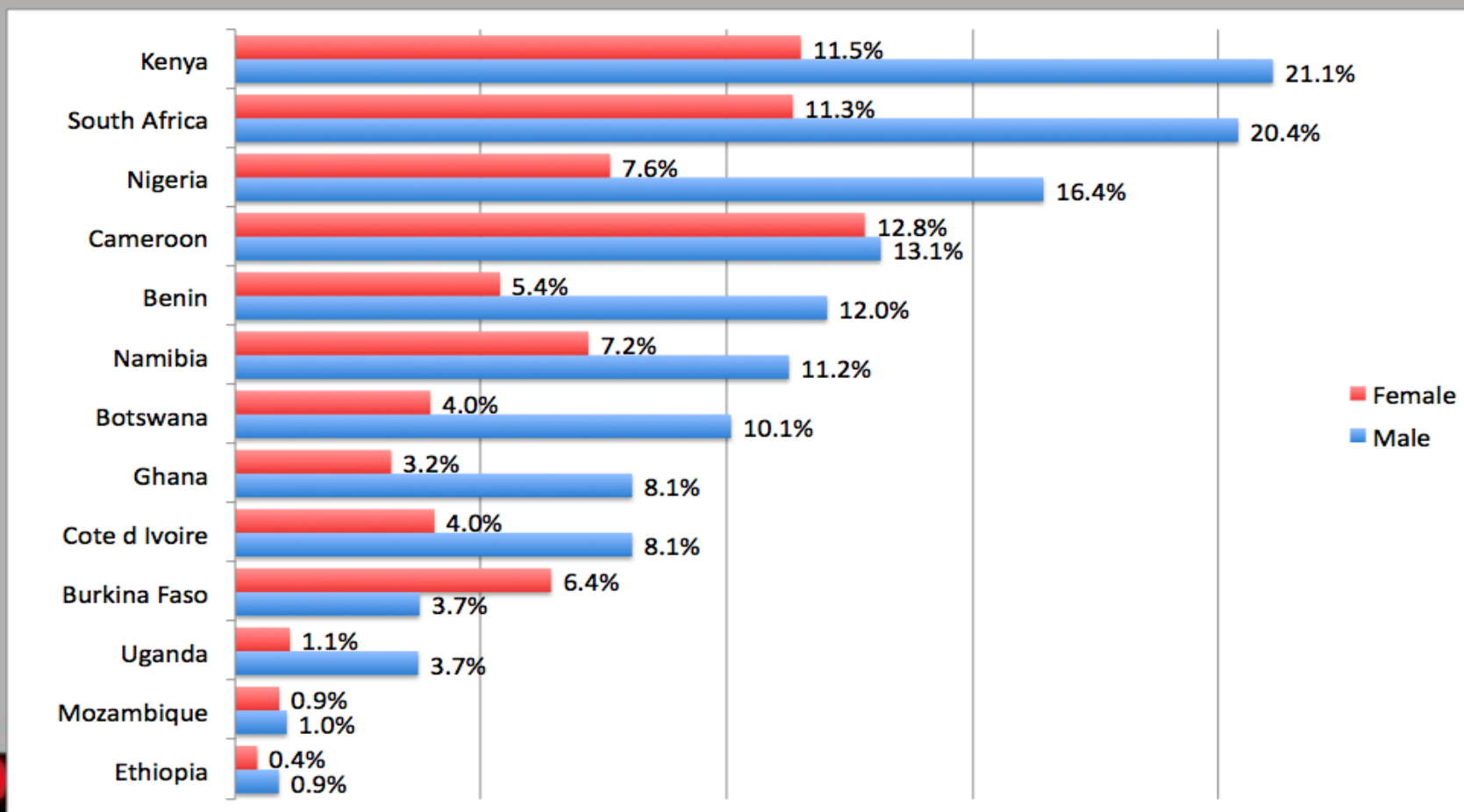
EA Map example 2



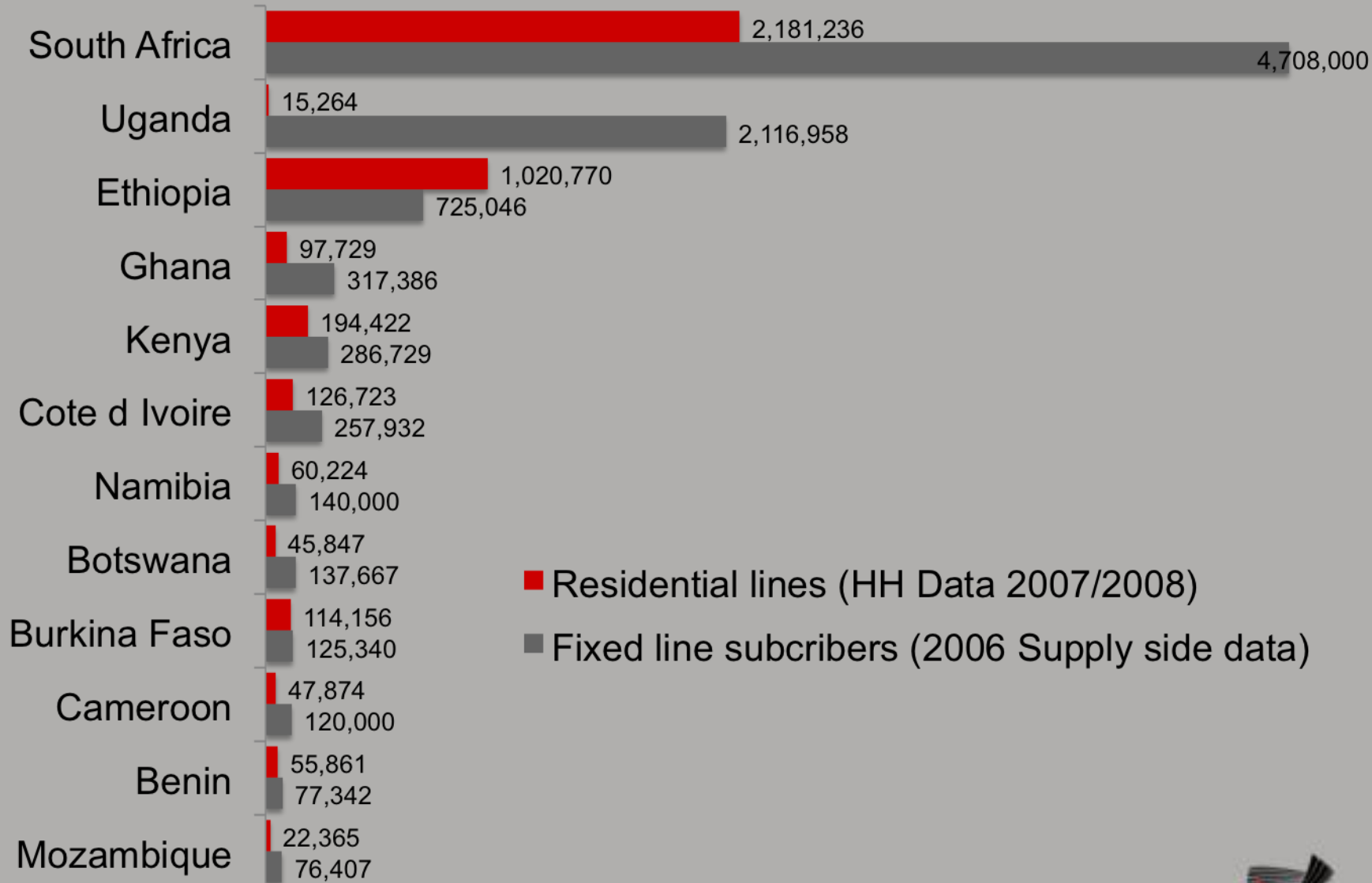
QuickTime™ and a
decompressor
are needed to see this picture.



Gender disaggregations - mobile



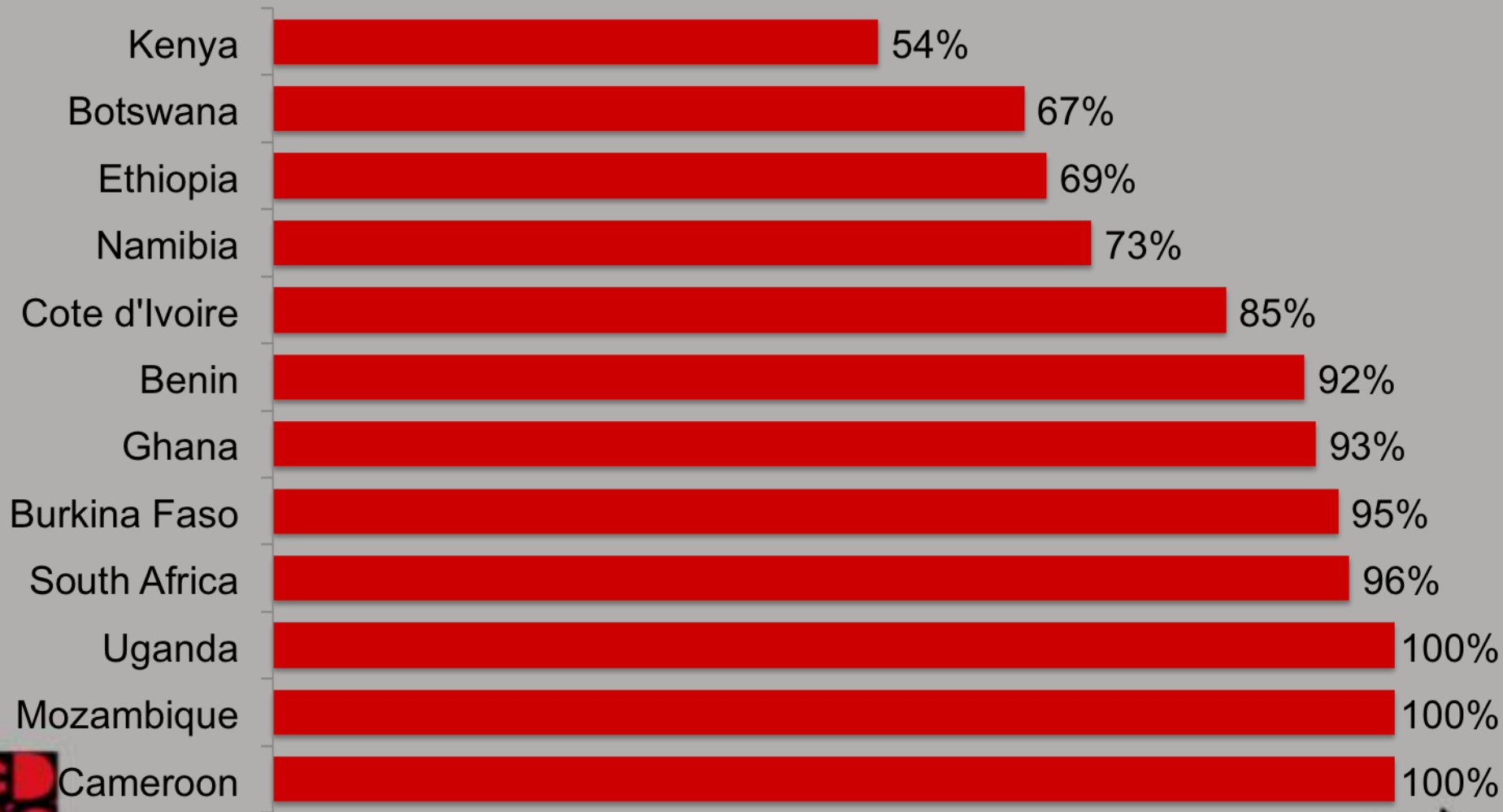
Fixed Lines



- Residential lines (HH Data 2007/2008)
- Fixed line subscribers (2006 Supply side data)

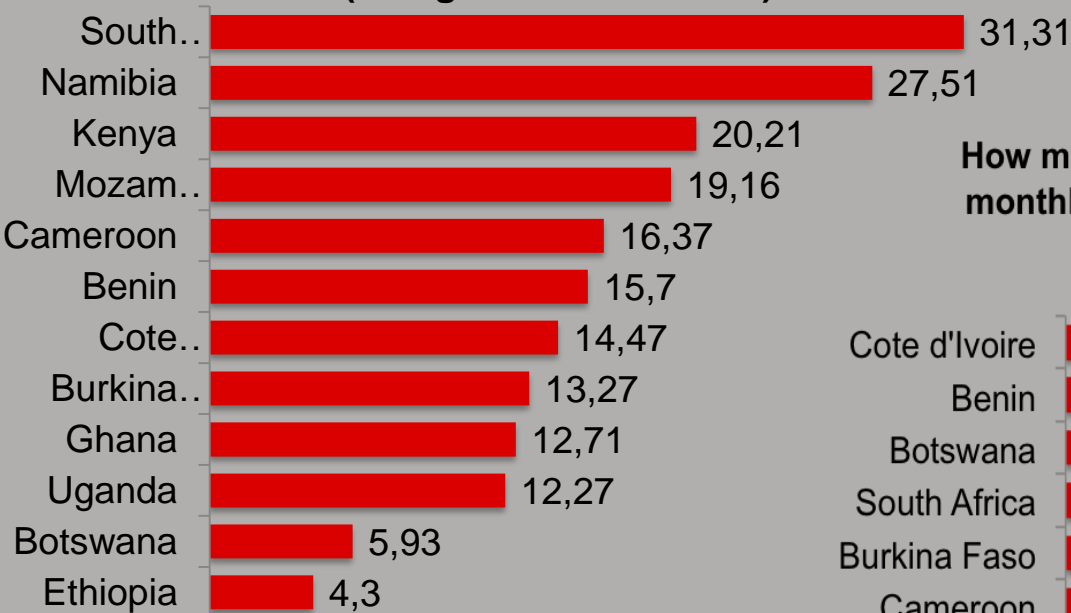


Urban share of residential fixed lines

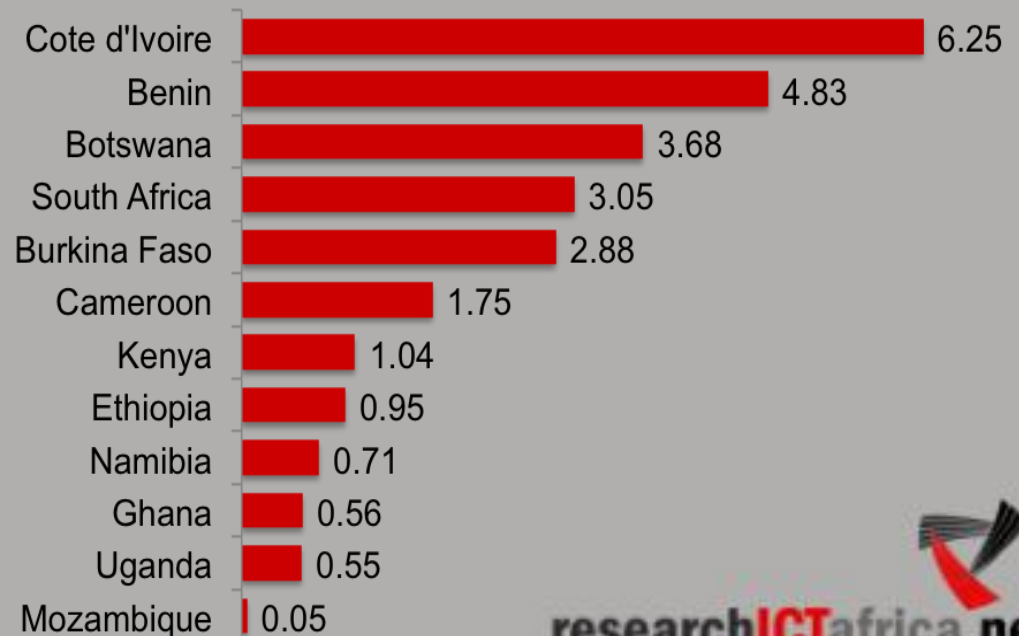


Fixed line expenditure vs willingness to pay

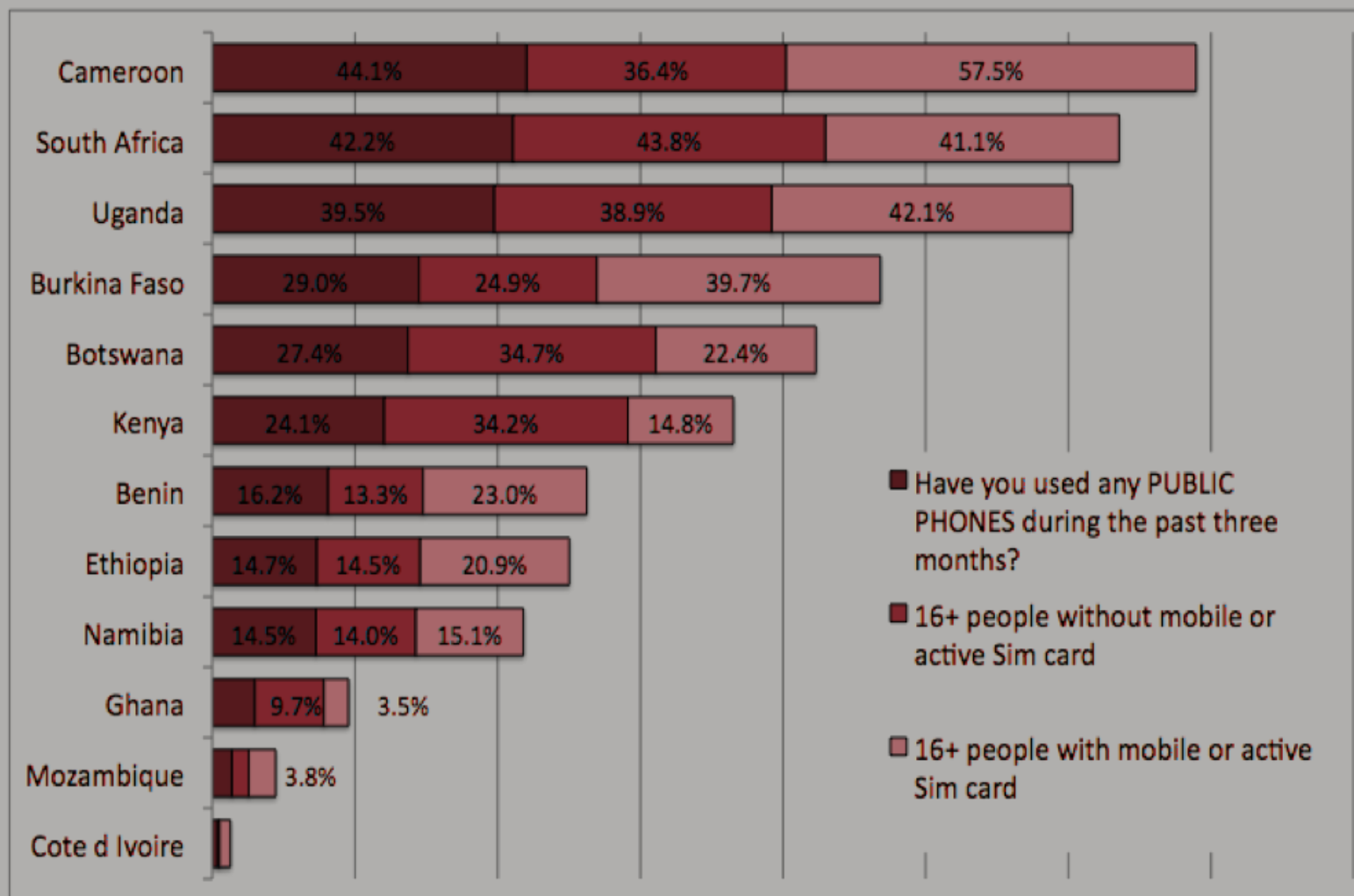
How much did you spend on your fixed line last month (charges and line rental) US\$



How much would you be willing and able to spend monthly on a fixed-line phone for calls and monthly subscription costs? US\$



Continued use of public phones



Willingness and ability to pay

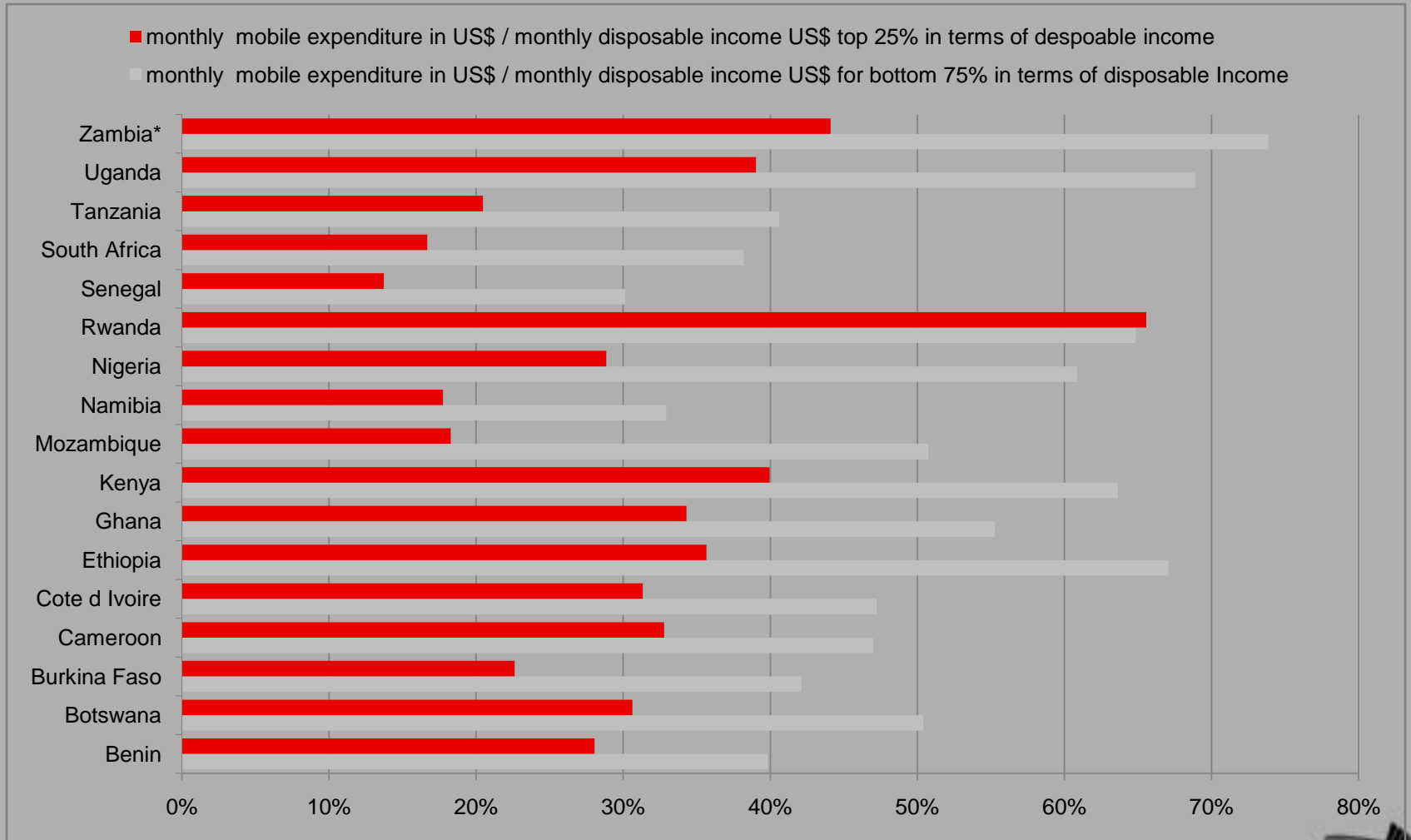
	Average willingness and ability to pay for a mobile handset in US\$	Average expected cost of a mobile handset in US\$	New users at 20 US\$ for an handset	New users at 15 US\$ for an handset	New users at 10 US\$ for an handset
Benin	7.45	11.44	124,972	487,176	677,715
Botswana	19.14	27.38	119,014	196,496	228,203
Burkina Faso	9	12.84	428,593	1,243,958	1,453,007
Cameroon	15.34	22.16	868,037	1,732,300	1,869,861
Cote d Ivoire	29.7	30.06	3,057,420	3,539,351	3,914,283
Ethiopia	6.06	64.19	1,436,628	1,637,668	2,644,673
Ghana	14.02	23.15	1,283,271	1,469,652	1,841,837
Kenya	17.12	26.68	2,862,457	4,165,549	5,663,481
Mozambique	4	23.2	56,457	79,895	287,147
Namibia	24.64	25.12	162,992	192,395	232,584
Nigeria	5.65	12.57	356,907	1,004,573	2,527,884
Rwanda	3.69	9.34	Not available	Not available	Not available
Senegal	19.55	25.43	1,336,691	2,169,548	2,301,775
South Africa	19.25	32.41	2,652,827	3,354,797	4,094,783
Tanzania	10.89	17.3	1,422,927	2,102,510	3,272,065
Uganda	5.74	14.98	-	1,499	1,499



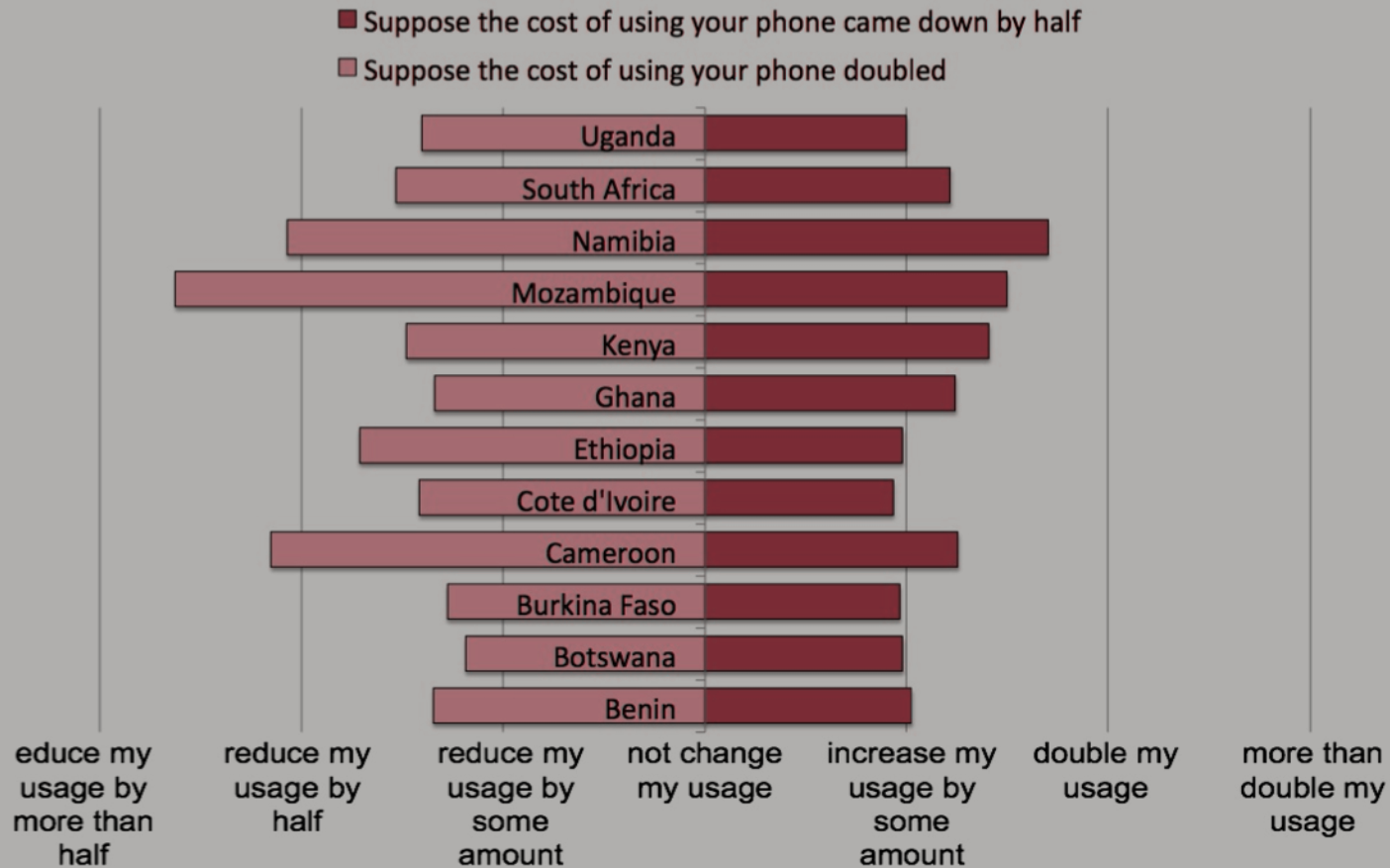
Mobile WTP

	16+ without mobile phone or active SIM card		Number of 16+ without a mobile phone or active SIM willing and able to spend 1US\$ or more	Number of 16+ without a mobile phone or active SIM willing and able to spend 2 US\$ or more	Number of 16+ without a mobile phone or active SIM willing and able to spend 5 US\$ or more	Average monthly WTP in US\$ for mobile expenditure of non-users that would be interested in getting a mobile phone	Monthly untapped market in US\$ million
Benin	69.80%	3,162,099	2,797,101	1,402,507	161,217	2.94	8.26
Botswana	40.50%	446,140	311,446	199,511	66,192	4.28	1.47
Burkina Faso	72.80%	4,929,897	4,371,694	1,875,892	430,952	3.13	13.71
Cameroon	63.50%	5,177,393	3,452,460	1,855,275	550,724	3.75	13.14
Cote d Ivoire	58.20%	7,033,592	4,485,498	3,645,855	1,677,528	6.86	31.44
Ethiopia	96.80%	42,497,353	10,231,145	3,104,395	74,428	1.53	25.68
Ghana	40.20%	5,036,815	2,849,435	1,953,135	984,279	9.34	38.4
Kenya	48.00%	9,941,748	5,866,299	5,235,785	1,245,083	3.3	25.69
Mozambique	74.30%	14,078,222	1,407,840	1,199,765	376,037	2.96	6.7
Namibia	50.70%	644,056	275,364	247,254	71,171	4.88	1.35
Nigeria	22.70%	18,541,687	7,989,151	6,234,941	5,128,000	6.09	65.25
Rwanda	90.10%	4,735,492	-	-	-	-	-
Senegal	60.20%	3,779,221	3,428,481	1,294,681	502,730	3.28	11.33
South Africa	37.90%	12,331,758	7,604,512	5,551,777	2,209,625	4.34	36.27
Tanzania	78.50%	15,066,652	5,560,959	4,750,935	1,064,087	2.61	21.42
Uganda	79.30%	11,174,801	429,585	429,585	429,585	10.09	4.51

Mobile

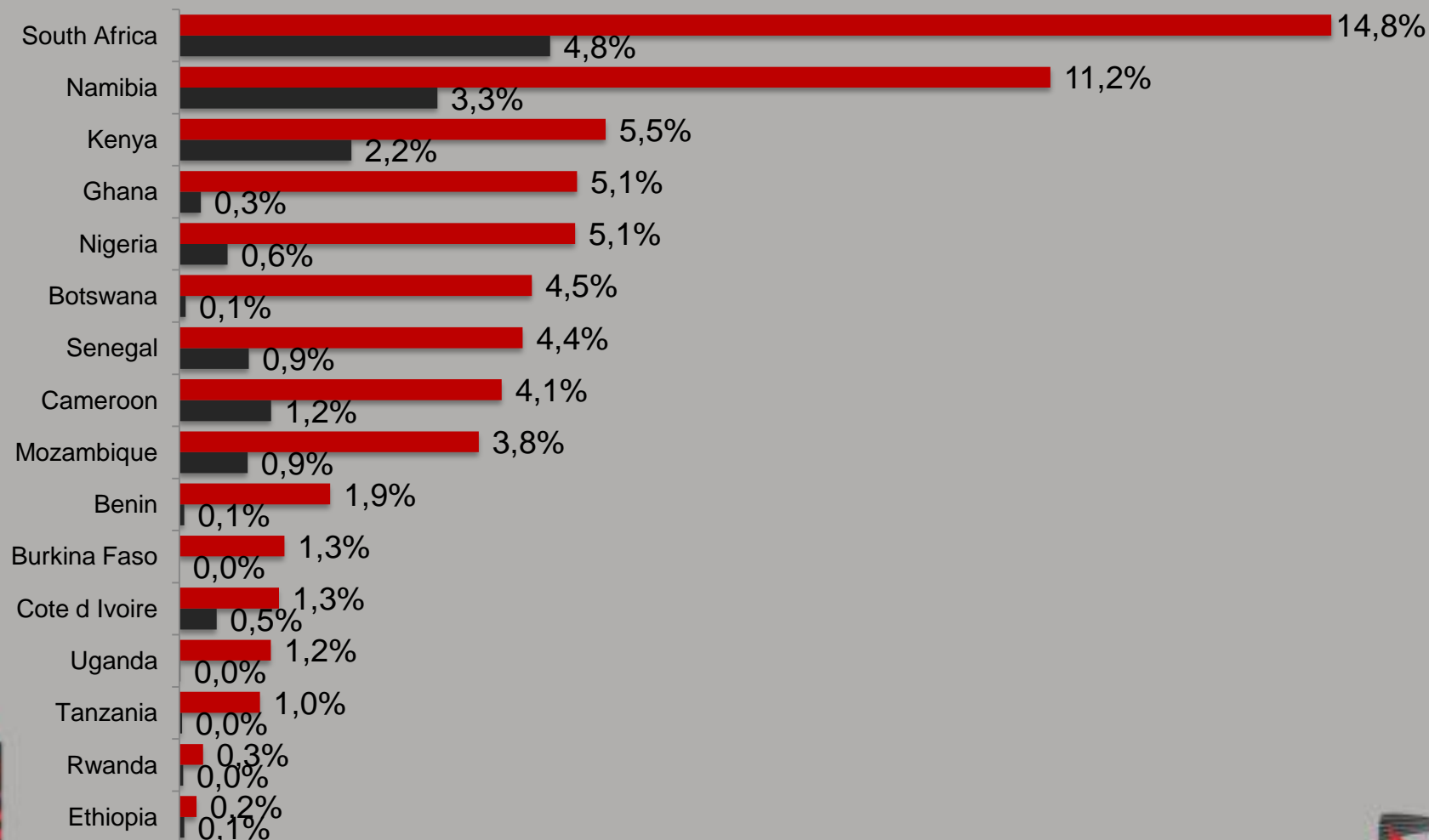


Anticipated usage and expenditure in case of price change for existing users

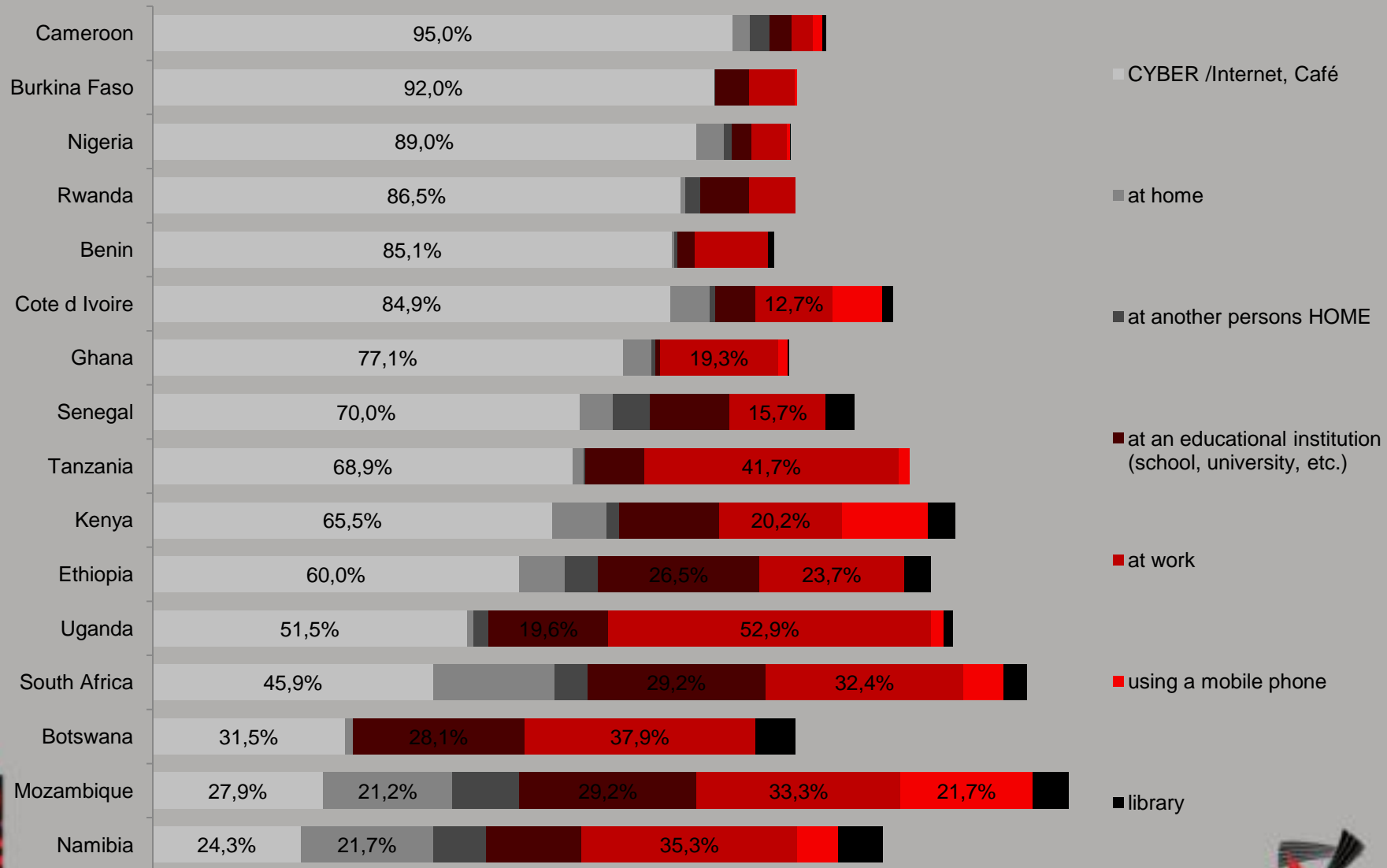


Home computer + Connection

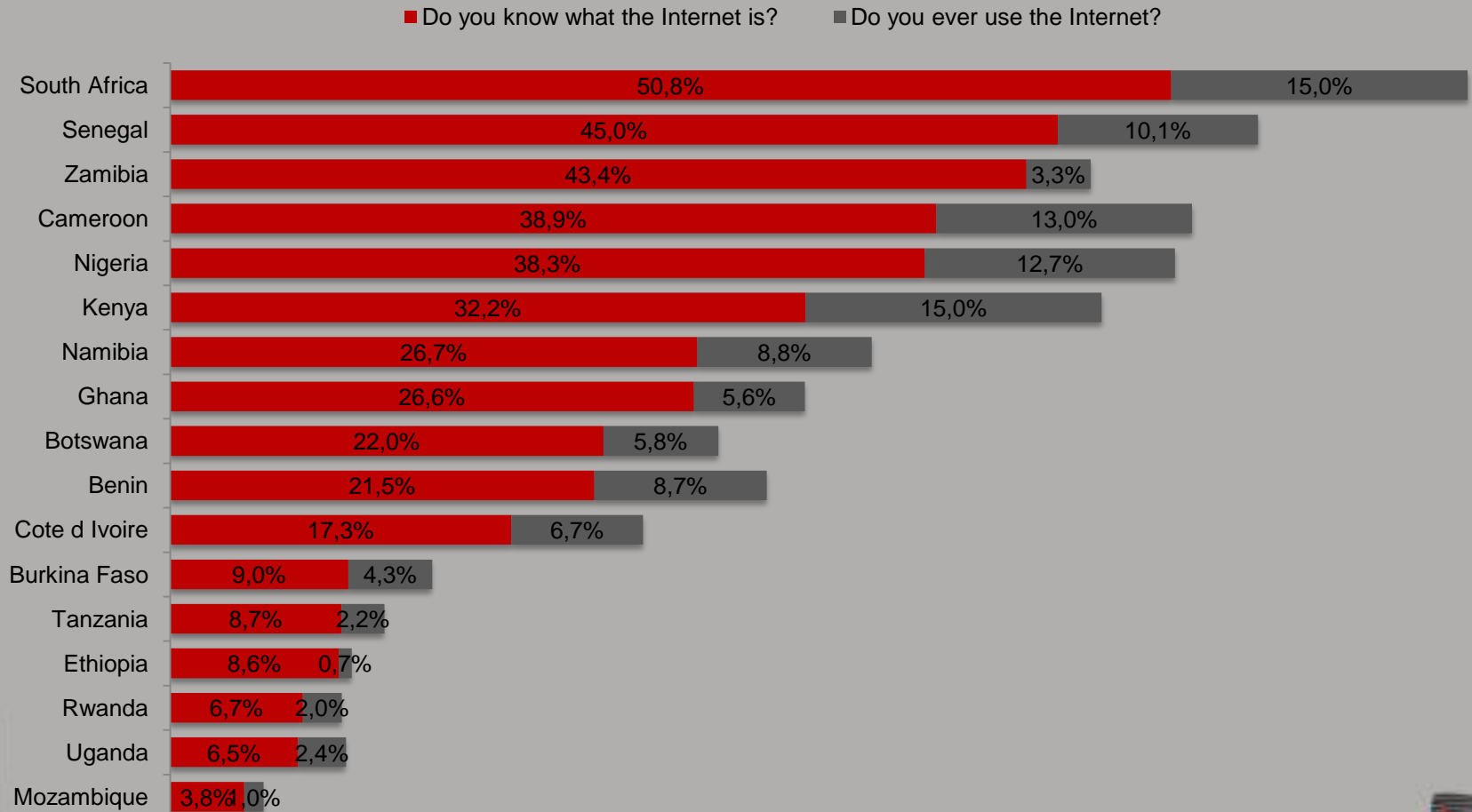
■ Households with computer at home ■ Households with working Internet connection



Points of Internet Access

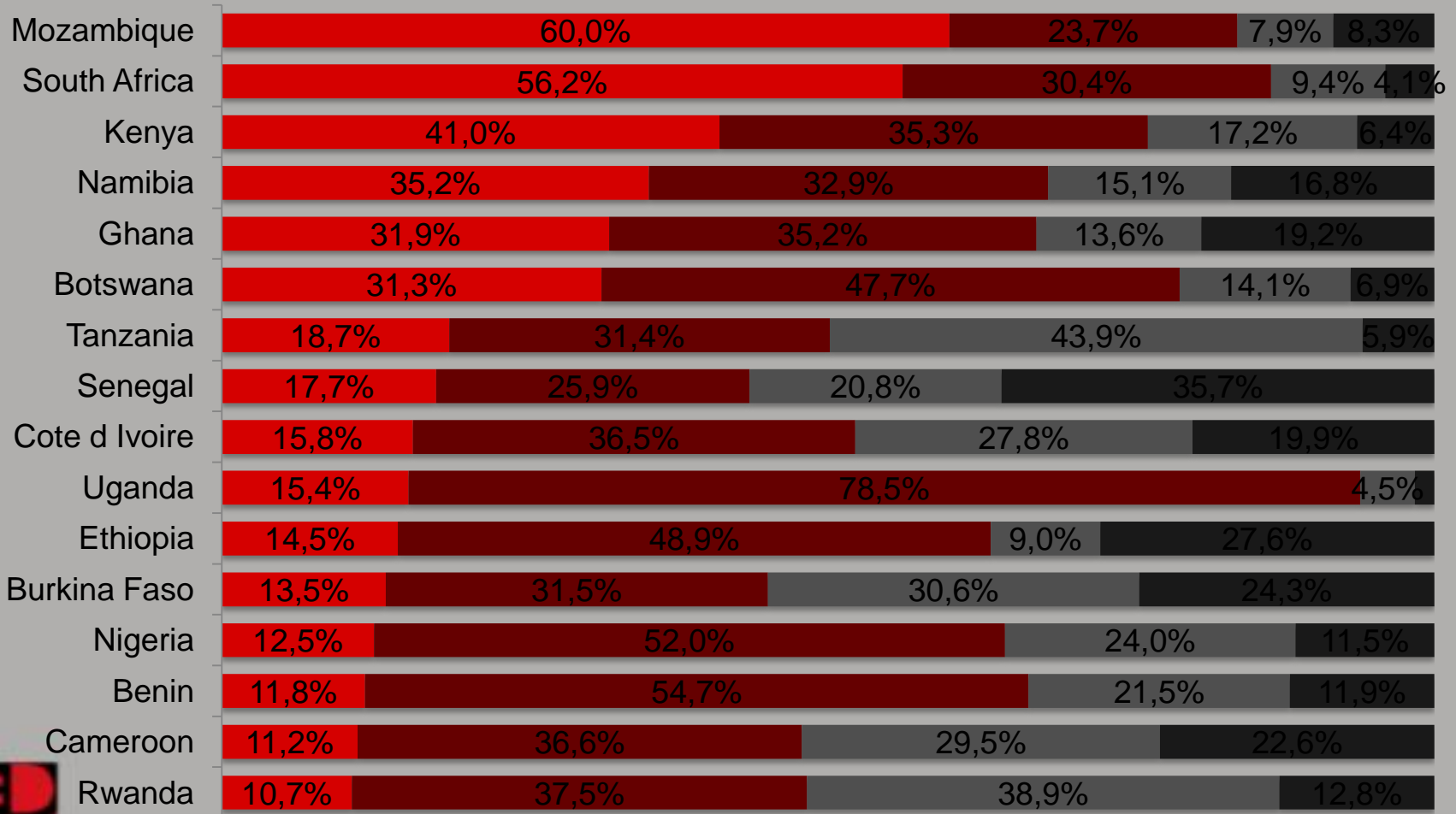


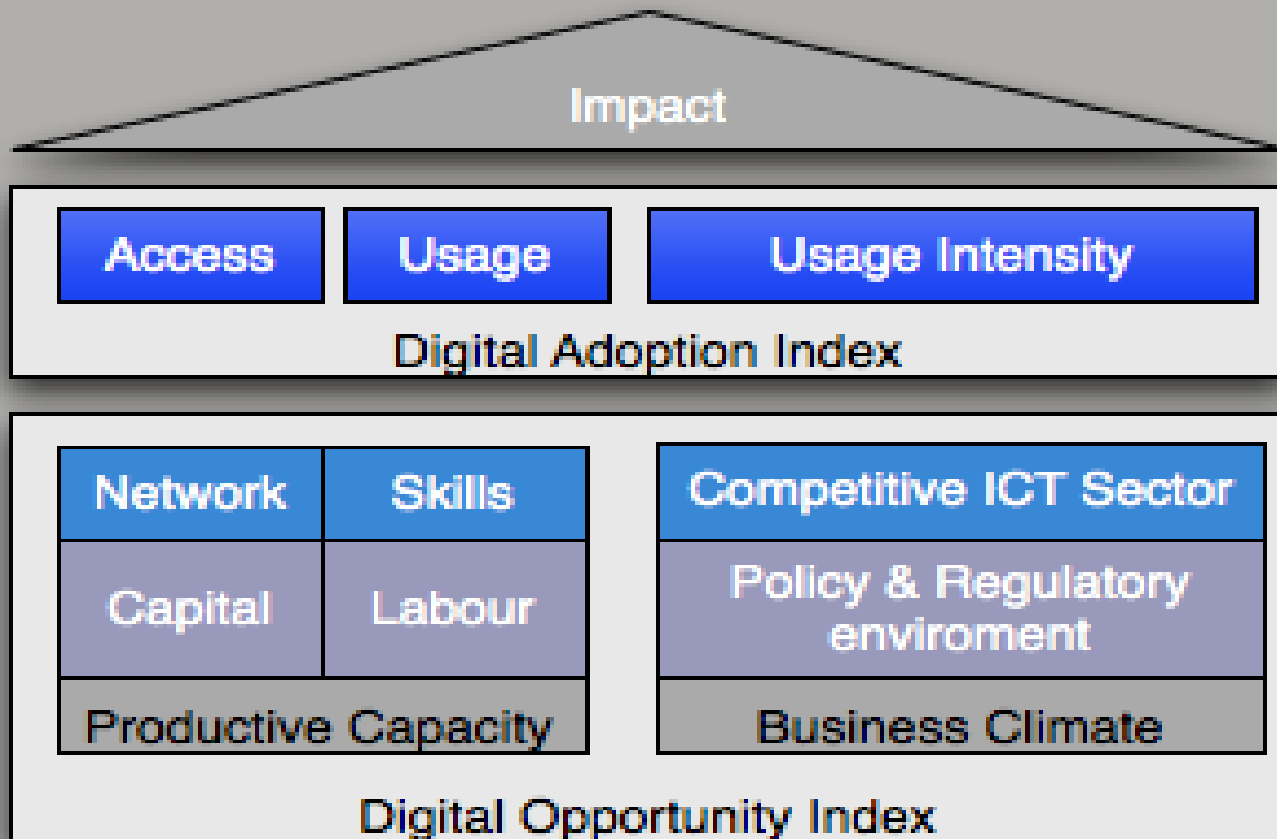
Internet awareness and usage



Internet usage/frequency

- Every day or almost every day
- At least once a week
- At least once a month
- Less than once a month





Conclusions

- Create conditions for investment through accountable, capacitated institutions, certain regulatory environments and flexible policy frameworks
- Remove protectionist strategies, open markets to competition to meet pent up demand, while developing strategies for backbone investment
- Reduce vertically integrated entities producing anti-competitive behaviour and resource intensive access regulation
- Create enabling regulatory environments through removal of barriers to entry, service neutral licensing, cost-based \ (removal of artificial priced asymmetrical termination), prevention of abuse of market dominance
- Open access regime for optimal use of networks and facilities and spectrum to enable entrepreneurship and innovation
- Development of dedicated human capital strategies for sector institutions
- Targeted, competitively implemented universal services strategies rather than scattergun approach



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- Burkina Faso - Université de Ouagadougou - Dr. Pam Zohonogo
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- Côte d'Ivoire - University of Abidjan-CIRES - Prof Arsène Kouadio
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