Capturing Synergies among different communications infrastructure initiatives

Conference on African Research and Education Networking Infrastructure

Mavis A. Ampah
WSIS, Tunis
November 14, 2005

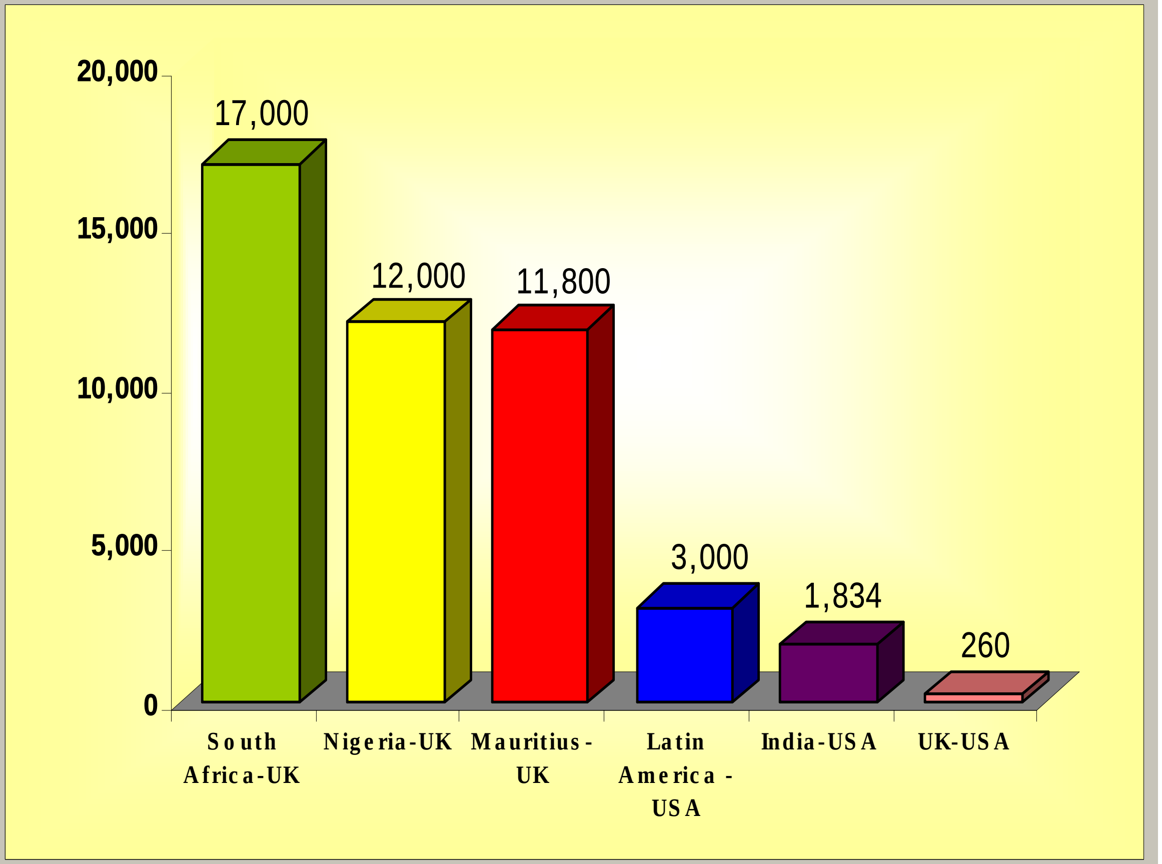
Presentation Overview

- **Africa's International Connectivity**
  - Limited and expensive
    - Monopolies and satellite dependency
- **Africa's Response**
  - Multiple regional terrestrial infrastructure
- **WBG Engagement Strategy**
  - Open Access Infrastructure
- **Beyond Physical Infrastructure**
  - Regulatory challenges

Africa has the Most Expensive Broadband Costs

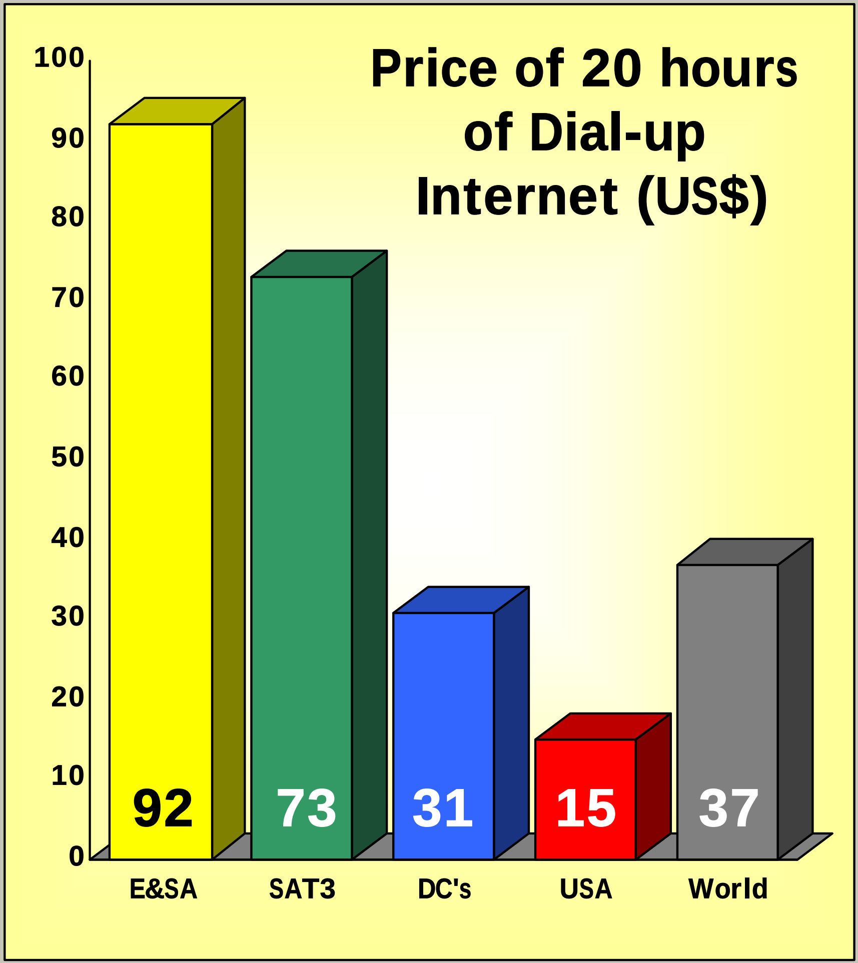
Cost of leasing an E1 Half Circuit (2MB)

- **Africa has only 0.07% of the world's international bandwidth**
- **Limited supply translates into high wholesale prices**



Relief brings marginal impact

- **Where infrastructure exists, only marginal price decrease (Case of SAT3)**
- **Results**
  - High end user prices
  - heavy reliance on costly satellite circuits for international traffic



Reasons...

- **Lack of open access**
  - Monopolistic club arrangement which controls access and price
  - Exclusivity arrangements which forces non-owners to buy capacity only from owners (national carriers) or through IRUs from cable administrator
- **Lack of competition**
  - Monopoly access to key infrastructure
  - Restrictive international services market
- **Unfavorable interconnection/pricing environment**

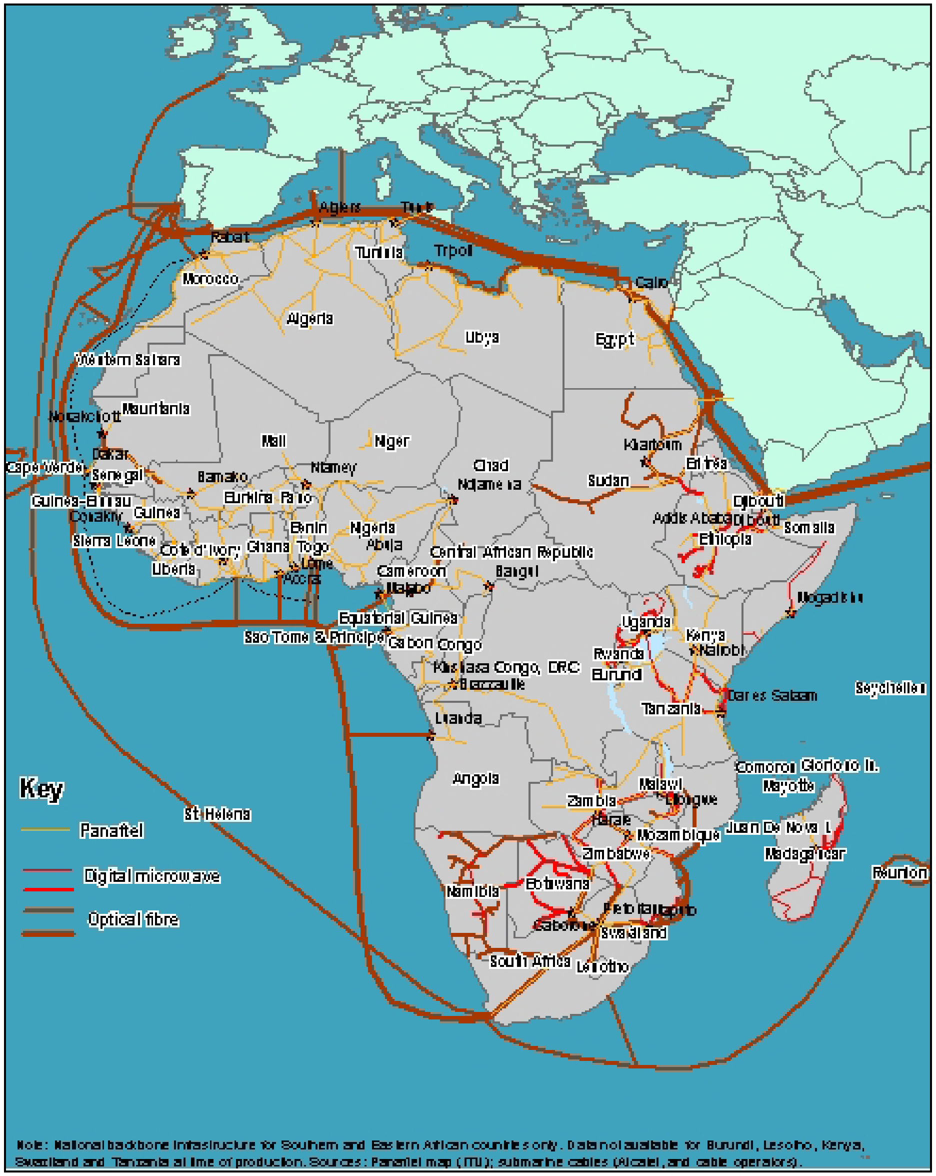
Africa's Response – Multiple Telecom Infrastructure Initiatives to address most significant gaps

Project	Description
COM-7	Fiber optic network linking the SAT-3 submarine cable from South Africa to Namibia, Angola, Zambia, Malawi and Tanzania via power/railway lines
COMTEL	Regional Fiber optic network linking the National Telecoms Operators in the East and Southern Africa COMESA countries
EASSy	Regional Fiber optic network connecting countries along the East and Southern coast of Africa, as well as landlocked countries to the global telecommunications network
……..	
……….	

The World Bank Group

GICT Global Information & Communication Technologies Department

Current Telecom Transmission Infrastructure, July 2004



Prepared for the e-Africa Commission by Mike Jensen and Paul Hamilton

Significant infrastructure gap between West and Eastern/Southern Africa

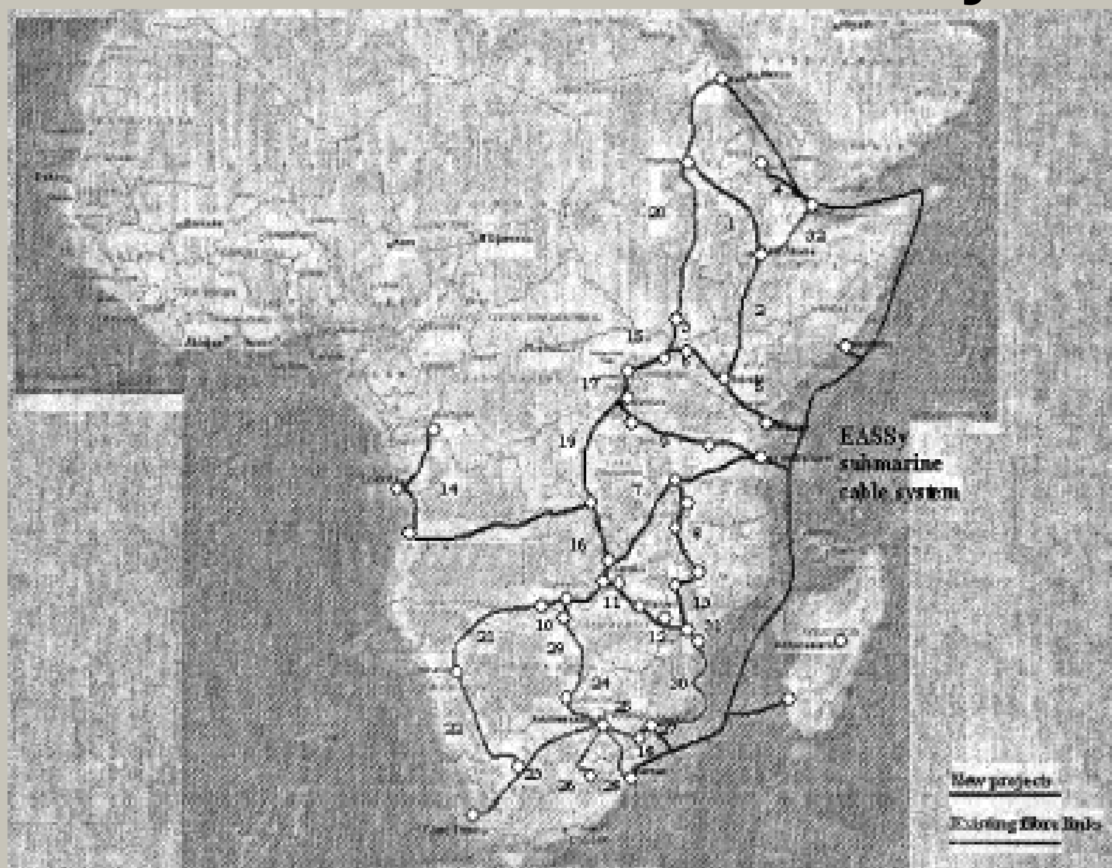
- **East/Southern Africa remains only part of Africa with no effective access to global communications network**

	Total Telephone Subs per 100 Inhab.		Internet (2002)
	2003	Sept 03 Ranking	Users per 10 000 Inhab.
Sudan	3.25	26	25.82
Eritrea	0.89	43	22.61
Somalia	1.80	35	87.58
Kenya	7.35	17	125.27
Tanzania	3.25	25	23.23
Mozambique	2.37	29	16.45
Madagascar	1.79	36	34.57
South Africa	40.28	3	682.01
Ethiopia	0.61	48	7.42
Rwanda	1.70	37	30.60
Uganda	2.73	27	40.49
Congo (DRC)	1.65	38	9.50
Malawi	1.46	40	25.87
Zambia	2.28	32	49.01
Angola	2.35	31	29.42
Zimbabwe	5.80	19	429.75
Lesotho	8.16	16	96.91
Botswana	34.65	4	290.70
Swaziland	10.11	11	193.80
Namibia	16.50	8	266.67
World Average	36.50		981.79
SSA Average	5.81		93.04
SSA Average excl. SA	3.34		50.66
East Africa Average excl SA	2.86		50.00

Connectivity Gap is a reflection of Infrastructure Gap

- 2.9% telephone penetration in E&S Africa against SSA average of 5.8% and worldwide penetration of 36.5%

Proposed E&S Africa Connectivity Program



- **Rationalized Network**
  - Connects Eastern Africa coastal countries
  - linked to national projects and cross-border projects across E&S Africa

WBG Interest

Infrastructure for Maximum Developmental Impact:

- Non-discriminatory access to infrastructure
- Fair pricing
- Maximizes traffic development potential
- Maximizes financial return for investors and developmental impact for end users

Current Structure – Similar to SAT 3:

- Potential Access control (5 yr exclusivity arrangements)
- Potential Price Gouging – smaller consortium members could pay about 4 times for same capacity units; non-consortium members about 7 times
- May benefit only the investors

WBG Engagement Strategy – Synergies in Infrastructure Development

- With Nepad e-Africa Commission– Rationalization and continuous consensus building
- With governments – Increased dialogue on potential benefits of competitive access to infrastructure
- Development partners – coordination of financing, Technical assistance to remove regulatory bottlenecks
- Private Operators (through IFC) – Detailed Feasibility Studies and Structuring of Commercial Options

Conclusions

WBG Strategy - beyond Infrastructure Financing

Primary Emphasis is to ensure that infrastructure financing, including for cable, is underpinned by regulations which promote access and have maximum impact on tariff – leading to higher developmental impact.