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Benefiting you with world-class ICT

Providing Affordable Broadband Internet Service

Opportunities and Challenges

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Economic Impact

Research by the World Bank in 2009 found that for every 10 percentage point increase in high speed Internet connections in developing countries, there is an increase of 1.3 percentage point in economic growth.

- McKinsey Report

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World Internet Penetration

Rank	Country	Internet Users	1 Year Growth %	1 Year User Growth	Total Country Population	1 Yr Population Change (%)	Penetration (% of Pop. with Internet)	Country's share of World Population	Country's share of World Internet Users
173	Eritrea	59,784	17%	8,535	6,536,176	3.21%	0.91%	0.09%	0.00%
193	Timor-Leste	11,472	10%	998	1,152,439	1.73%	1.00%	0.02%	0.00%
125	Myanmar	624,991	9%	49,496	53,718,958	0.86%	1.16%	0.74%	0.02%
159	Burundi	146,219	17%	20,808	10,482,752	3.15%	1.39%	0.14%	0.01%
164	Sierra Leone	92,232	15%	12,123	6,205,382	1.86%	1.49%	0.09%	0.00%
156	Somalia	163,185	12%	17,090	10,805,651	2.95%	1.51%	0.15%	0.01%
140	Niger	298,310	17%	44,407	18,534,802	3.95%	1.61%	0.26%	0.01%
103	Ethiopia	1,636,099	16%	224,689	96,506,031	2.56%	1.70%	1.33%	0.06%
148	Guinea	205,194	16%	28,158	12,043,898	2.54%	1.70%	0.17%	0.01%
166	Congo	87,559	16%	11,980	4,558,594	2.49%	1.92%	0.06%	0.00%
124	Malawi	675,074	9%	57,875	16,829,144	1.58%	2.23%	0.42%	0.02%
197	Marshall Islands	1,246	8%	92	52,772	0.26%	2.36%	0.00%	0.00%
137	Chad	317,197	16%	44,763	13,211,146	3.01%	2.40%	0.18%	0.01%

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Pillars of Broadband Penetration

Development of Public Policies & Strategic View	Development of Strategic Regulation	Development of Infrastructure	Capacity Building in the public and the private sector
Development of Public Policies & Governance Models to accelerate the penetration, use, and adoption of broadband services. **Demand & Supply Side**	Update the regulatory frameworks to promote the investment in infrastructure and the adoption of ICTs **Supply Side**	Increase the penetration of broadband services by increasing the geographic and population coverage **Demand & Supply Side**	Generate demand through the development of innovative services and applications and through capacity building of the public and the private sector. **Demand Side**
E.g: Lower import tax on handsets/devices **Key player: Govt Ministries**	E.g: review of regulatory policy **Key player: Regulatory Body**	E.g: deployment of new infrastructure **Key player: Operators**	E.g: Telecenters; training regulators; **Key player: Vendors, Operators**

Opportunities in Myanmar

Myanmar has very low Internet users penetration

- The only dominant Internet service is Mobile Broadband

The regulations has been liberalized

- So many AS, NFS(C), NS, NFS(I) licenses have bee issued
- A lot more liberalization in progress

Few providers are actually offering service

- Only a handful number of ISPs for such a sizable market

Big rooms for new technologies and coverage

- Fixed broadband only available in major cities and still can't fulfill the demands
- Only 3G to compete with mainly
- Perfect for technology leapfrog

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Challenges in Myanmar

Regulatory is still trying to catch up

- Spectrum rules
- International Gate Way license
- Interconnect rules

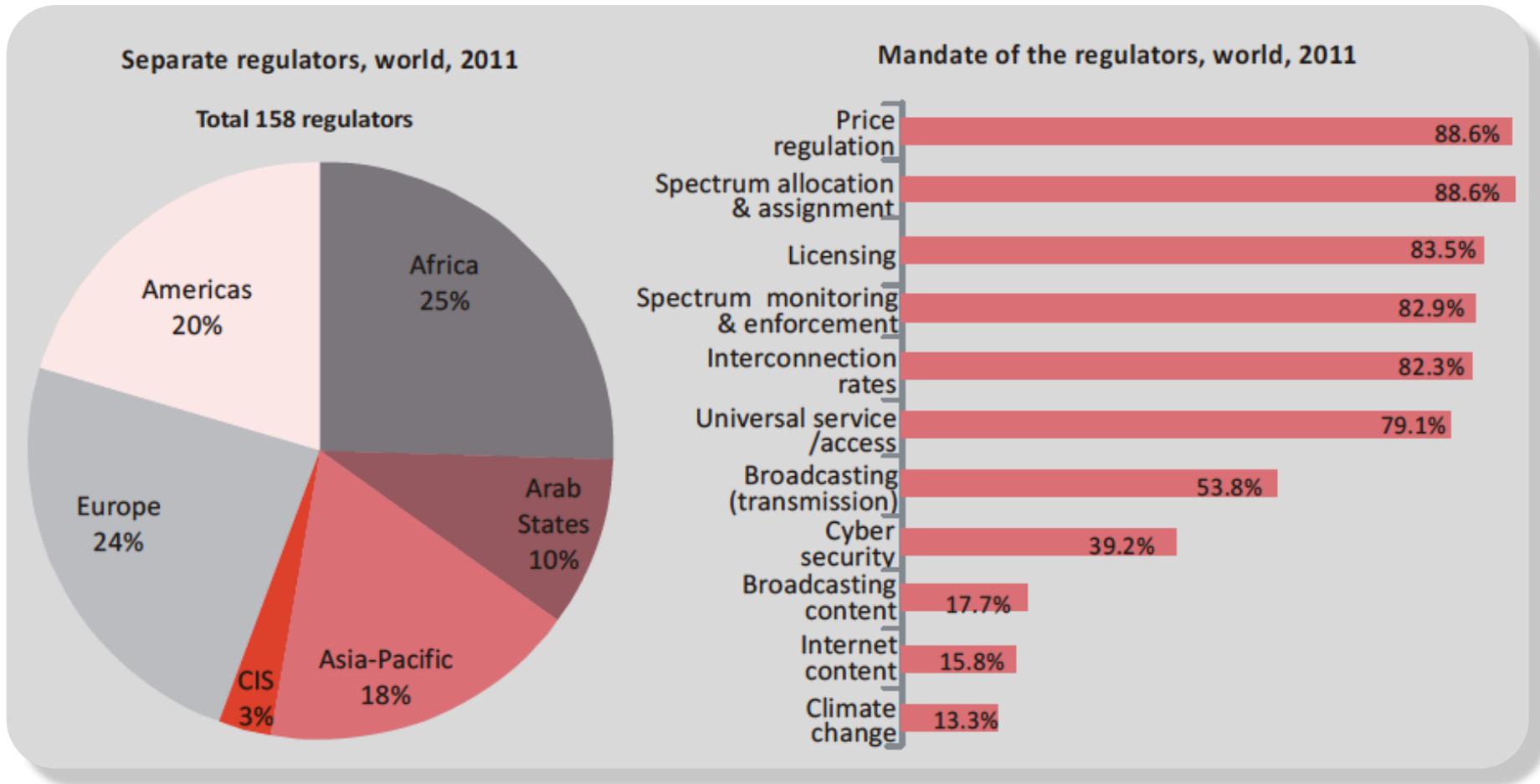## Poor infrastructure

- Fiber, copper, tower, power, etc.,

Limited human resources and capacity

- Lack of experience and know-how
- Returnees' expectations are high
- Foreign expats are costly and they have language difficulties

Poor co-operations between operators/providers

- No strong neutral Internet community
- Most if not all engagements are business driven

A Snapshot of the Regulators in the World

Separate regulators, world, 2011

Total 158 regulators

- Africa 25%
- Arab States 10%
- Asia-Pacific 18%
- CIS 3%
- Europe 24%
- Americas 20%

Mandate of the regulators, world, 2011

Mandate	%
Price regulation	88.6%
Spectrum allocation & assignment	88.6%
Licensing	83.5%
Spectrum monitoring & enforcement	82.9%
Interconnection rates	82.3%
Universal service /access	79.1%
Broadcasting (transmission)	53.8%
Cyber security	39.2%
Broadcasting content	17.7%
Internet content	15.8%
Climate change	13.3%

Source: ITU World Telecommunication/ICT Regulatory database

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Development of Strategic Regulation

Singapore's progressive IGW opening moves

- In 2000, Singapore liberalized its telecom sector and revamped its regulatory framework.
- Establishing a Code of Practice for Competition in the Provision of Telecommunication Services.
- Singapore's Info-Communications Development Authority (IDA) determined that the dominant carrier, SingTel, should allow collocation at its submarine cable landing stations.
- This requirement was built into the mandated Reference Interconnection Offer (RIO) that SingTel was instructed to prepare, containing cost-based rates for collocation.
- However, IDA left connection services to be negotiated commercially between SingTel and its competitors.
- After feedback from industry, IDA went back and, in 2002, added connection services to the mandated offerings included (again, at cost-based rates) in SingTel's RIO.
- Two years later it implemented further IGW mandates, allowing operators to access capacity that is owned or leased on a long-term basis on any submarine cable at the submarine cable landing station (SCLS). IDA also gave operators more flexibility in accessing backhaul and transit services.

Source: International Sharing: Singapore's Experience, GSR discussion paper, February 2008.

Development of Strategic Regulation

Nigeria's IGW license framework

- **Full Gateway license**

  Entitles holders to receive an international signalling point code, to transmit "direct voice signals" and to deploy Time Division Multiplexing and IP transport protocols.

- **International Data Access (IDA) license**

  Permit is aimed at entities that seek to provide their own gateways to link to international packet-switched backbone networks;

  The licence is technology-neutral.
  Applicants must have their own networks, but the IDA licence does not provide for numbering plan or frequency assignments.

  Source: ITU World Telecommunication Regulatory database, according to responses received to the ITU annual Telecommunication Regulatory Survey.

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Development of Strategic Regulation

Unlicensed Frequency Spectrum

- "**We find that generally countries with lower competition in their local and long distance markets impose more restrictions on use, in particular on power and range.**"
Research Report MIT Information Technologies and International Development

- "**It is precisely in places where no infrastructure exists that Wi- Fi can be particularly effective, helping countries to leapfrog generations of telecommunications technology and infrastructure and empower their people.**"
- Foreword by *Kofi Annan UN Secretary General* for TheWireless Internet Opportunity for Developing Countries.

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Easy Community Effort

Let's grow the industry

- Put aside self-interests and find common ground to work together to grow the industry
  - Actively participate in public consultations to feedback and influence regulatory body
  - Engage for mutually beneficial interconnect
  - Be opened for knowledge sharing

- Embrace responsible foreign investment
  - They can build the infrastructure in a short time
  - They can create jobs (Network engineers need networks to work on)
  - They can bring new ideas and technology

- Educate and train local professionals to gain international best practice
  - Instill responsible and accountable mind set
  - Build teams, NOT heroes
  - Encourage result oriented culture (Work SMART, Don't work HARD)

- Promote awareness on socioeconomic impact of fast Internet access
  - **Internet != Facebook**

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Our Commitment

Hold high ethical & moral standards

Guarantee product's quality and service

Deliver best value (price/performance)

Grow with customers;

make money with you (not off you)

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