

# Innovative Policies and regulation for wireless access in Africa

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*The Internet is for Everyone*

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AGENCE DE RÉGULATION  
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# Policies are required to:

- Bridge the wider access gap at the bottom of the pyramid – bring access to next half billion
  - about 95% of the African population - not own either the fixed phone or the computers - nor users of the Internet.
- Address underlying divides - geographic (rural/urban), gender, physical disability, socio-economic problems (income) and skills (education) divides.



# Policies are required to:

- Move beyond access to infrastructure to content, applications, services
- Take cultural and linguistic diversity into the account – 53 countries and .... languages



# Challenges to access

- Limited fixed line network and slow high-speed backbone growth
- Mobile reach in most areas, but at a relatively high tariffs
- Slow implementation on Universal Access strategies and disbursement of funds
- Minimal recognition of development uses of ICT and potential to combine access, capacity and applications

# Challenges to access in Africa

- Potential of wireless networks virtually untapped
- Licensing is more or less vertical and tied to technologies (fixed, mobile, Internet)
- Vertical service delivery mechanisms (e.g. parallel health, education networks)
- Parallel & uncoordinated connectivity projects

# Goal of communication policy is to provide affordable access

- Access to people with incomes less than \$ 1/day, by aggregating demand at every village levels and let entrepreneurs drive it
  - Close the infrastructure gaps between urban and rural areas for raising living standards
  - No one should have to walk more than 500m to get access to Internet services
  - Provide as many services as possible to consumers



# Wireless technologies encourage a different model of infrastructure development better suited to the challenges of extending Internet connectivity to the next half billion –BOP in rural areas

..if we stop thinking of the poor as a burden and start recognizing them as value conscious consumers, a whole new world of opportunity will open up... C.K. Prahalad

Aid/ Grant does not scale - Successful Enterprises can scale to all villages, Ashok Jhunjhunwala

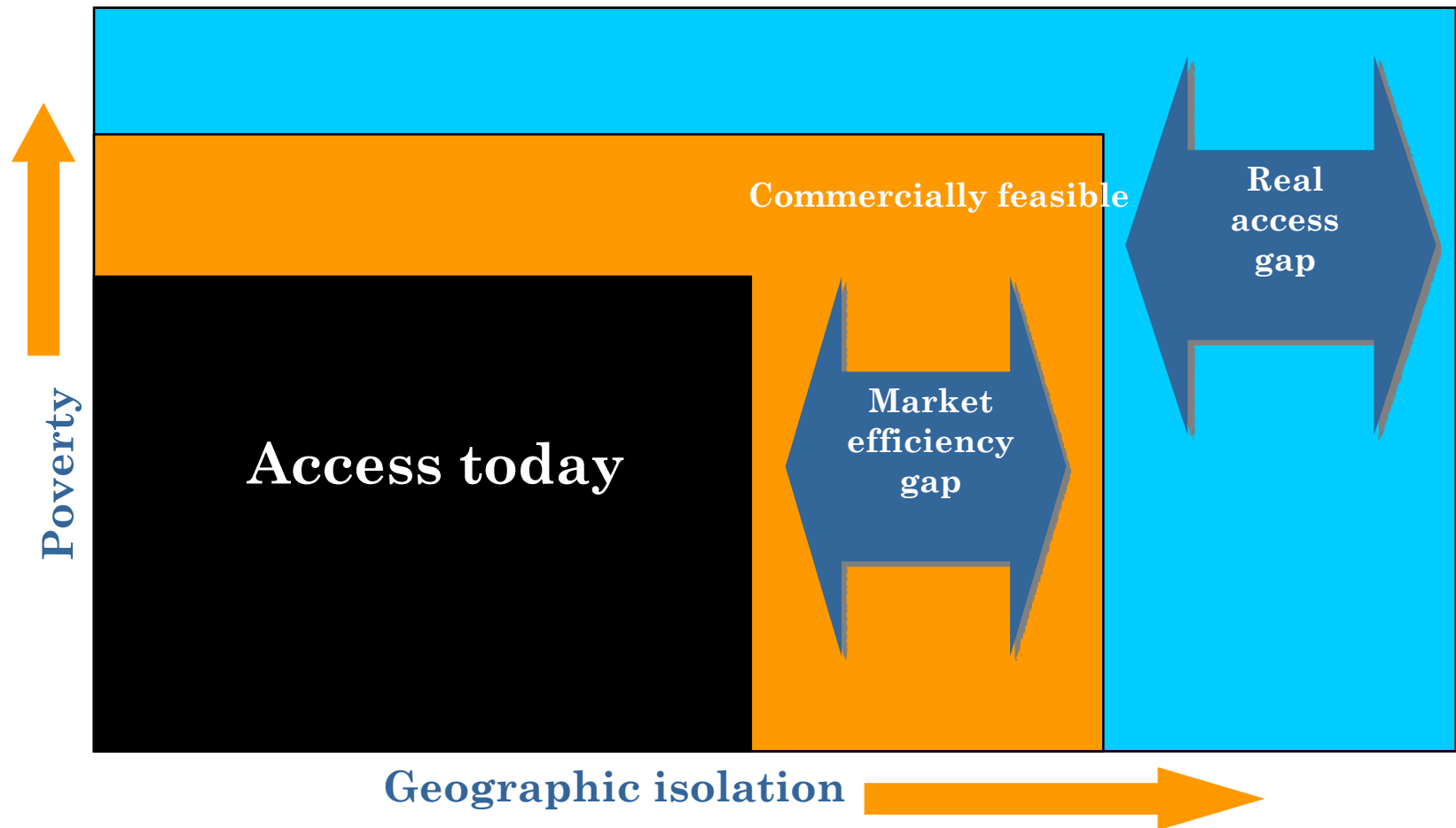
A table, an umbrella for shade and a street corner all what is needed to provide communication services

# Wireless

- Easy to deploy
  - takes advantage of existing transportation infrastructure (e.g., roads) for long-distance traffic backhaul
  - expand from the bottom-up, without a preconceived plan
- Scalable –
  - Linked to the needs and attributes (geographical, demographic, economic) of local communities
- Cost advantage serving disperse populations
  - Civil work costs are the largest investment
- Unlicensed (license-exempt) spectrum
- Radio frequency is underutilized in rural areas



# Wireless policies need to address both the market efficiency and real access gaps



# Market efficiency gaps

- Legacy Spectrum rules that govern the license exempt band (900 MHz, 2.4 GHz and 5 GHz).
  - 2004 study showed significant heterogeneity across the continent in the regulation of the 2.4GHz and 5GHz bands in terms of licensing requirements, power and range limitations for WLANs, equipment certification rules, and restrictions.
- Ban of outdoor use, severe power restriction, slow licensing procedures.
- Monopoly on the backhaul connections
- Unfair interconnection
- Vertical licensing
- No licensing framework for community operators

# Real access gap

- Definition of universal service to include advanced ICT services
- Introduction of effective institutional, financial and subsidy models for universal access
- Innovative and efficient disbursement - models for channeling USO funds to subsidize ICT kiosks in rural or low-income areas
- Converged and technology neutral models - Horizontal licensing
- Open access (including shared infrastructure) approaches

# Innovative policy options

- Micro-financing programs for network infrastructure deployment
  - Is an effective way of channeling public funds into ICT development projects, local actors are often best positioned to understand the characteristics of local demand for ICT services and integrate them with local information needs.
- Connect ICTs with the development of Small Business, Co-operatives and Entrepreneurship
  - Local entrepreneurs and/or SMEs taking the entrepreneurial role in deploying wireless networks (WISP)
  - Community and cooperative ownership model

# Innovative policy options

- ICTs part of integrated development (water, road, energy projects)
- Promote infrastructure sharing to reduce the cost of cables and masts
- Licensing community operators
- Promotion of the deployment of backhaul networks
- Interconnection and interoperability between different access networks, services layers and applications

# Enabling wireless regulation – spectrum allocation and pricing

- Allocation/Assignment of spectrum based international best practices, frequency tables, WRC recommendations
- Fair spectrum pricing - High licensing fee is barrier to development and innovation – fees should ensure that:-
  - The regulator gets sufficient revenue to undertake its spectrum management activities
  - That the licensees who pays for the resource are serious enough to use the resource efficiently (debatable);
  - Careful analysis of the implication of non- market based approach such as fees based on income, opportunity cost, benchmarks, etc.
- Promote spectrum sharing and reuse
- Spectrum trading where and when feasible to exploit the virtues of market based approach

# Enabling regulation – spectrum licensing

- Spectrum licensing:-
  - Auctioning should be used in cases where demand exceeds supply or where secondary trading is a reality;
  - In case supply exceeds demand or secondary trading is not feasible then assign on a first-come, first serve principle and apply opportunity pricing or incentive pricing
  - The commons regime is to be applied for specific and limited bands (e.g. ISM bands) based on international best practices
  - Class licensing is to be applied for specific devices that are either highly harmonized or low power with limited risk of interference (e.g. mobile phones, UWB devices)

# Enabling wireless- beyond innovation

- A robust institutional structure;
  - Degree of independence, clarity of relations with government
- Clarity of policy directions
  - Consistency, clarity, equal treatment of policies
- Efficacy of regulatory processes including enforcement
  - Simplicity of compliance, efficiency of licensing
- A rigorous economic regulation regime
  - interconnection, universal access, tariffs, licensing based on economic and market principles
- Appropriate regulatory standards
  - Strategic competence, applications of standards - price regulation, cost-oriented standards for access/interconnection, competition rules, spectrum standards

# Good Wireless Regulation – competence in ex-ante and ex-post

- Ex-ante (regulatory agencies)
  - The regulation of licensing to permit market entry
  - *Ex ante* regulation to foster sustainable competition, including asymmetric regulation (whereby a dominant operator is subject to more regulation)
  - Interconnection.
  - Price controls, including ‘price-cap’ regulation to ensure prices (on average) fall in real terms.
  - Price rebalancing – long-term consumer interests (choice) versus short-term (lowering prices).
  - Numbering policy
  - Universal service
  - Local loop unbundling
  - Regulation to facilitate the process of new technology and 'convergence'
  - Regulation to facilitate interoperability
  - Initiatives to protect consumers regarding contractual arrangements and unfair trading
  - Quality of service
  - Carrier selection, call-by-call selection and pre-selection
  - Number portability
  - Information provision obligations e.g. relating to price and quality of service.
- Ex post (competition commissions and lawyers)
  - competition policy based on general competition law to foster competition and restrict anti-competitive conduct

# Conclusion

- Community and enterprise driven
- Multi-stakeholder approach to policy making and delivery of services ( i.e. integrated development]
- Capacity of the regulator and policy makers to develop and implement policies that are aligned with development in technology, market and global best practices
- Content, application and services part of policy and regulation
- Universal services strategies and under-service area licenses that take the advances of technology into the account.
- Efficiency... because wireless technologies are more efficient than regulations and policies

# Thank you

