Anatomy of a Micro-Telco

Connecting people to information and each other

A key to economic development and ending poverty
Outline

• Why is ICT Important for Development
  – Macro: ICT and GDP correlation
  – Micro: Value of ICT at the base of the pyramid

• Anatomy of a Micro-Telco
  – Business Model
  – Financing
  – Technical Architecture
  – Content and Services
  – Business Systems

• Enabling Environment
ICT & GDP are Highly Correlated

Figure 3.1: How Digital Opportunity relates to national economic performance
The chart shows the relationship between DOI and national wealth, as indicated by GDP per capita, using a logarithmic scale.
People will pay to Communicate

There are social benefits to improved communications within a community
Anatomy of a Micro-Telco

• **Financial Scale** – 400 users at $10/month or $48,000 revenue pa.

• **Technical Choices** – WiFi Mesh, WiMAX/WiFi mix or GSM franchise/leverage model

• **Content & Services** – voice is still revenue generator but network technology enables broadband data over the same infrastructure

• **Business systems** - PREPAID, measured service, PC solution to: provisioning, collections, biz mgmt

*Sustainability means a profitable business*
## Micro-Telco Business Models

### Independent
- Unlicensed spectrum
- Open source solutions
- Co-op or Franchise
- Build on telecentre successes
- Plug and Play goal
- VSAT based interconnection

### Carrier Relationship
- Franchise model
- Supports carrier expansion
- Helps carrier meet social contract
- Use USF
- GSM carriers because of low handset cost
- Interconnection, VoIP or USF support requires gov't involvement
- Plug and Play goal
Micro-Telco Financing

- Universal Service Funds
  - Operating subsidy (typical)
  - Investment mechanism (new)
- Government as anchor customer
- Microfinance solutions
- Carrier expansion
- Franchisor
- Scale is important (frequency not size)
Micro-Telco Technical Architecture

Technology choices continue to proliferate
  • power and security required

WiFi mesh networks
  • unlicensed spectrum
  • mesh enables broader coverage
  • regulator/incumbent telco may interfere anyway
  • WiMAX mix may be optimal (licensed spectrum)

Mobile operator cooperative approach (GSM, CDMA)
  • USF application
  • single base station “islands of coverage”

VSAT based connectivity beyond the community
Micro-Telco Services and Content

• Voice service over data infrastructure (VoIP)
• Local community needs
• Internet access
• Public/government services
• Financial services
• Business and Agricultural applications
Micro-Telco Enabling Environment

Telecom infrastructure regulation

• spectrum usage
• interconnection
• universal service funds (varies)
  ➢ Use for broadband as well as voice
  ➢ Investment model vs. subsidy model
• operating license, VoIP (varies)

Business enabling environment

Government’s role is key and multi-faceted