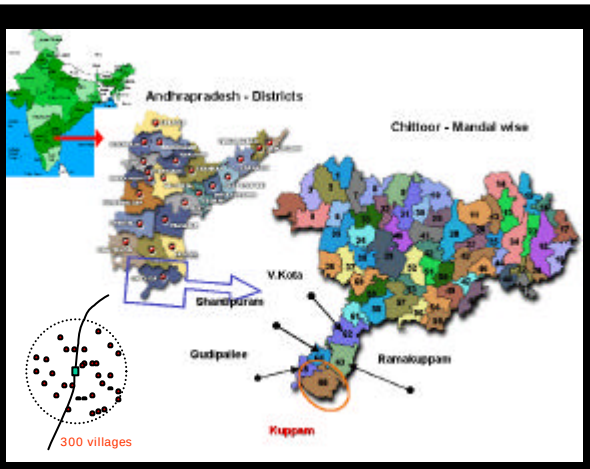
- How can they stand up and be counted?
- How will they get access to resources and education?
- How will they be able to compete?
- How will they bridge the distance with their urban brethren or those in the developed world?

These are the different faces of the 5 billion people in the developing world who are not yet connected

What do they need?

- Technology
- Sustainable business model and
- an Organization which thinks and acts Rural

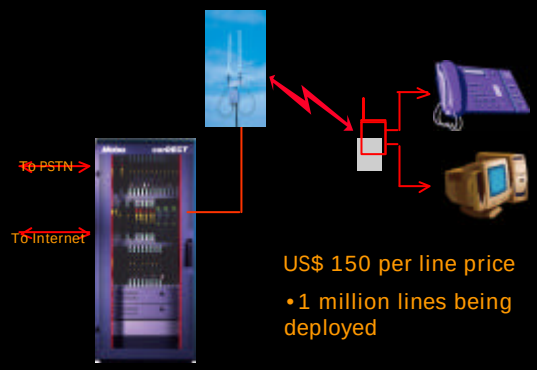


- In India, fibre connectivity to most county towns *(talukas)* provided by State-owned incumbent
  - Fibre has capability for infinite bandwidth
- 85% of villages lie within 20 Km radius of *talukas*
  - Typically 300 villages in 30 Km radius

Wireless systems can connect most of these villages

- Technologies are continually evolving
- Costs keep going down
- Bit rates keep increasing

Technology



US$ 150 per line price

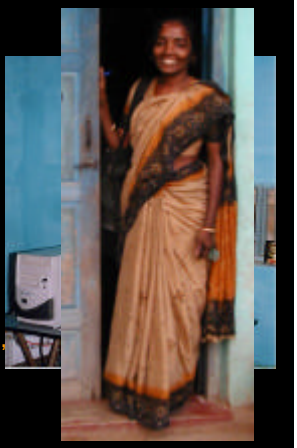
•1 million lines being deployed

- With exchange and tower in the Town, gives wide geographical coverage of up to 35 Km radius
- Works at even 55ºC, with low power requirement (1 KW) and extremely low start-up costs

- Jointly developed by the Indian Institute of Technology, Madras and Midas Communication Technologies
- Provides simultaneous toll-quality voice & dedicated Internet connectivity of up to 100/200 Kbps for each and every user
- Always-ON Internet – a unique feature that supports the use of the Internet regardless of time and place
- Enables a wide range of services suited for rural needs at bandwidths of even 64 Kbps

Business Model

- Rural Service Provider
  - n-Logue Communications – The organization that thinks and acts rural
  - Recruits kiosk operators, provides on-site training and technical support and helps in maintenance, upgradation, etc.
  - Enables setting up of the kiosk infrastructure
    - including multimedia PC with web camera, printer, power back-up, software etc. at a cost of just US$ 1000
  - Partners with the Government, NGOs, private enterprises, educational institutions, hospitals to offer various services through the kiosk

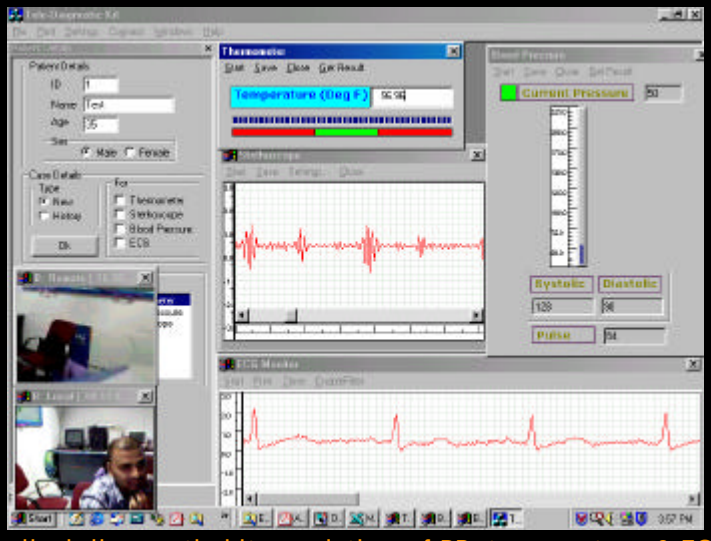


Business Model

- Local entrepreneur
  - Should have studied up to grade 10 with no prior computer training
  - Should have ability to effectively communicate and network in the community
  - Provides telephony, Internet access and various services to the local community
  - Channels information needs of community to application and content providers
  - Needs to earn US$ 75 p.m. providing
    - computer education, photography, DTP, typing, email, voice/video mail, e-Governance and other services

Services offered at kiosks through multiparty video conferencing

distance education, e-Governance, telemedicine, veterinary care, agricultural support etc.

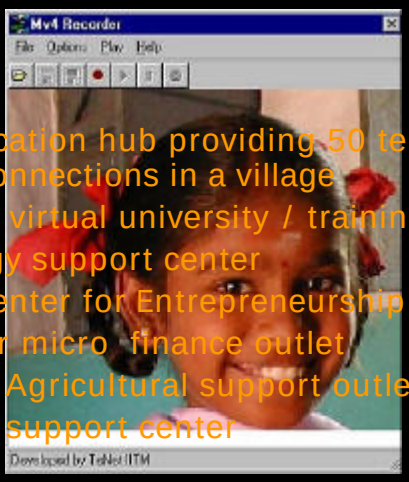


Medical diagnostic kit consisting of BP, temperature & ECG measurement and stethoscope at just US$ 200

Rural ATM at just US$ 1000 with fingerprint authentication

Office package with language support

In the future, a kiosk can be a



- Communication hub providing 50 telephone and Internet connections in a village
- Center for virtual university / training center
- Technology support center
- Support center for Entrepreneurship
- Banking or micro finance outlet
- Trading & Agricultural support outlet
- A medical support center

and more...

It can bring smiles and prosperity

Is this replicable in other developing economies?

- Replicable
  - Business as drivers for connectivity
  - Aggregation of demand where incomes are low
  - Technology designed for specific conditions
- Not necessarily replicable
  - Specific technologies and business models that has worked in India

In summary

- Technologies can impact lives provided there is a big enough vision behind it
- To achieve the dream of truly connecting the rural populace
  - Finance, Commerce, Training & Information are key
  - Driving education, health and entrepreneurship is the means
  - Large number of innovative technologies and applications catering specifically to rural areas need to be developed