

# Creating Access, Value and Profits with Rural ICT Services

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## Hypothesis: The Internet is *POWER*

Hypothesis is largely untested in rural context

Development Community is slow/ineffective

Private sector is still unconvinced/unable

Opportunity knocks:

Cable

STD/PCO

SMS/wireless

Prepaid

# Need: Assessments and Best-Practice

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Hypothesis: The Internet is *POWER*

But need to do for the Internet what others have done for voice telephony, e.g. rigorous evidence of:

- micro- and macro-economics
- consumer surplus
- productivity gains
- earnings, wages, employment
- women's empowerment
- health and wellness
- education and literacy
- peace and security....

# SARI: Sustainable Access in Rural India

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SARI is a project of

- MIT
- IIT Madras
- Harvard University
- iGyan Foundation
  
- n-Logue Communications Pvt. Ltd.

# WLL Village Tele-kiosks

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- Provide Internet (via WLL/CorDECT), PC, and application suite (an Internet tele-kiosk) to villages - many off the phone grid
- Village Internet tele-kiosks are locally owned and operated (franchise model)

# corDECT

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- Internet provision at rates that can handle applications such as video chat
- Toll-quality voice services and simple connectivity to the PSTN
- Affordability and robust performance more important than unnecessary new features

# Pilot Project Scope

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- Cover all the villages and small towns in Madurai District, Tamil Nadu, South India
- Madurai city not included
- Pilot project undertaken in the Taluk of Melur covering the two Panchayat Unions of Melur and Kottampatti
- Service area 2,000 KM<sup>2</sup>, 32,000 people

# Pilot Status

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- 80 connections in over 50 villages
- Average village size of 1,000 households; smallest is 300 households
- Will extend to over 200 villages
- Highest density of rural Internet kiosks anywhere
- 23% of catchment area population has used the Internet (national average 1.5%, world 9%)
- Kiosks with local entrepreneurs as well as in government offices, schools, etc.

# Connected Villages

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- Padinetankudi
- Karungalakudi
- Keelavalavu
- Vellalur
- Urranganpatti
- Thaniamangalam
- Alagarkovil
- Neaythanpatti
- T.Ulagpitchanpatti
- Sengarampatti
- Othakadai
- Attapatti
- Kottampatti
- Chittampatti
- Pudhutamaraipatti
- Pulimalaipatti
- Mankulam
- Karpuooravahini
- A.Vellalapatti
- Navinipatti
- Kelaiyur
- Kallampatti
- Arittapatti
- Narasingampatti
- Therkutheru
- Kottakudi
- T.Vellalapatti
- Thiruvadhavur
- Arasappanpatti
- Vellaripatti
- Andipattipudur
- Thumbaipatti
- Melur- Kalanjiyam Tr Centre
- Palayasukkampatti
- Kuthappanpatti
- Kidaripatti
- Kattayampatti
- Pullipatti

# Current Research Inputs Include

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- household surveys
- operator surveys
- user surveys
- instrumented PC's
- ISP meter reads
- maintenance logs
- daily usage reports
- government usage reports
- baseline surveys
- payment reports

# Micro Business Model

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- Capital costs:
  - wiring, furniture \$300
  - kiosk equipment \$1,000
  - other \$300
- Recurrent costs (monthly):
  - rent, elec., maintenance \$25
  - Internet \$15
  - Interest and depreciation \$28
- Break-even revenue (no labor)  
\$68 (monthly), \$ 2.70 (daily)

# Micro Business Model

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- Break-even revenue                      \$2.70 per day
- Today average revenue                 \$2.27 per day
- Average number visitors                 25 per day
- *Note: phone still not available (will drive substantial foot traffic)*
  
- Substantial under-reporting
  - meter readings and monitoring software to help understand usage (average under-reported Internet usage at 1/13 minutes).
- Tensions between research and business efforts, cultural issues
  - More minutes might mean more ISP charges
  - Accurate minutes count helps test hypothesis

# Costs of Entry

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	<u>Average</u>	<u>Min</u>	<u>Max</u>
■ System and Wallset	\$465	\$30	\$1640
■ Electrical Expenses	25	4	140
■ Marketing	32	4	300
■ Rent (advance)	140	40	1920
■ Design/appearance	160	13	500
■ Furniture	82	20	500
■ Total observed	\$750	\$0	\$3530

# Scaling the Results

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- TN's rural population density is 297 per KM<sup>2</sup>
- Most of rural TN is within 50 KM of fiber
- Adequate electricity in Madurai district (~6-8 hr/day)
- Physical terrain of Madurai district okay for terrestrial wireless
- Communities are poor (incomes average under \$1/day, highly variable) and agriculture based, ICT awareness and sensitization helps drive interest Internet
- Fairly supportive/enlightened government
- Lower Illiteracy, fairly equal male/female balance

# Scaling the Results

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Recall current break-even point is \$2.70 per day

- \$300 Internet appliance \$2.10
- 100 KM Microwave backhaul \$2.95
- Population density of 100/KM<sup>2</sup> \$4.31
- VSAT \$4.68
- PV Solar Cells \$5.06

# Assorted Tales

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- Educational booklets
- Local sourcing
- Egov efforts
- Health, Medicine, Prices

# Randomly Assorted Lessons

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- Training, buy-in, ongoing support for KOs
- Local, local, local
- Maintain self-awareness
- Buy decent equipment
- Choose partners wisely
- Financing
- Beware attention
- Patience

# Thank You

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<http://edevelopment.media.mit.edu/SARI/mainsari.html>

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Berkman Center for Internet and Society

Harvard Law School

<http://cyber.law.harvard.edu/>

<http://www.tenet.res.in/>

<http://web.media.mit.edu/~mikeb/>

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