

**Information Society**  
**for**  
**Illiterate & Poor People**  
**too**  
**- Applications, Services, Problems and**  
**Solutions**

**By**

**DR T.H. CHOWDARY**

**DIRECTOR: CENTER FOR TELECOM  
MANAGEMENT AND STUDIES**

**INFORMATION TECHNOLOGY ADVISOR**

**GOVERNMENT OF ANDHRA PRADESH**

**CHAIRMAN: PRAGNA BHARATI (Intellect India )**

**thc@satyam.com**

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# *India & Telecoms*

## *@ a glance*

|                         |                         |
|-------------------------|-------------------------|
| Area                    | : 3.3 m Km <sup>2</sup> |
| Population              | : 1,015 mil.            |
| GDP                     | : (PPP) \$ 1,100 bil.   |
| Pop. below poverty line | : 30%                   |
| Literacy                | : 65%                   |

# *India & Telecoms*

## *@ a glance* (2)

**Fixed I/c WLL** : **40.0 m**  
**Growing @** : **8.0 m p.a**

**Mobiles** : **10.0 m**  
**Growing @** : **9.0 m p.a**

**Internet Subs.** : **3.8 m**

**Internet Users** : **35.0 m**

# Information & Knowledge

- Information & Knowledge are resources that enrich & empower & so must be available to all, to avoid disparity, instability, strife.
- Internet is repository for elctronified/digitised information storage, exchange and retrieval.
- *Telecoms must be ubiquitous, broad-band, affordable, reliable*
- *Internet must be accessible to all and affordable to many.*

# India & ICTs

- 30% people below poverty line
- 35% people are illiterate
- 4000 cities/towns; >600,000 villages
- Telephones reaching all ( no Missing Link) through 1.2 mil Public Telephones (PTs); half in villages
- A self employed,educated, attendant remunerated by a commission on collections from usage helps illiterates
- 30% of telecom revenues come from PTs!

# ICT for Classes, Governance & Masses Empowerment & Infomatisation

- Broadband telecoms, Soft-ware Technology Parks (STPs); ITES centers - commercially viable; State facilitation
- Outcome > 8000 software companies; 600,000 professionals
- \$ 8.00 bln. Exports in 2002-'03
- (\$ 50 bln by 2008 & \$ 30 bln. ITES)

# ICT for E-Governance

- Improving efficiency, economy, effectiveness, transparency & responsiveness; simple interface with citizens
- G2C government services to citizens and interaction
- Eg: Andhra Pradesh ; E-Seva, CARD, FAST, C-COPS, SMART-Gov; E-Procurement  
E-Seva: > 30 services,  
all together from any of the centers  
(118 towns + 5000 villages → Addl. 24,000)

# ICT for Masses

- 72% of Indians are rural; literacy < 60%
- Per capita income : 1/3 to 1/5 of Urban people
- Poor infrastructure: roads, electricity, drinking water, health services- a great divide.
- ICT to give information on all affairs- livelihood, education, entitlements, opportunities communication with sons far off...



# Telecom Infrastructure

## Optical Fiber Intercity (Route Km)

| BSNL    | Reliance | other P-Telcos | Rail Tel* | PGCL   |
|---------|----------|----------------|-----------|--------|
| 326,000 | 60,000   | 40,000         | 60,000    | 20,000 |

\* under construction

| Digital Microwave | UHF    | Analogue Transmission Media (coaxial & radio) |
|-------------------|--------|---|
| 110,000           | 45,000 | 53,000  |

# What Needs Doing (begun)

- Public Telephones being upgraded into public Internet kiosks # DSL; WLL & VSAT
- Attendants - trained for PC Skills
- G2C Services; E-Mail; Fax; IP Telephony
- Information Search & Presentation - Agriculture, health, markets, Government Schemes for farmers, small industries; school/college admissions; Tele - health/medical consultation...

# Problems

- Content and language
- Cost of Dial-up Access ( 2 to 3 time Internet usage cost)
- Bandwidth & Reliability- Poorer as we go further from cities
- Capex for upgrade & Opex Subsidies - Universal Access Fund
- Electrical Power-unreliable, part of the day
- Cost of PC & other ICT Appliances
- Proprietary Software

# Solution: Public Policies (1)

- National & Regional Consultative Councils for rapid diffusion of ICT in all regions, among all sections of people
- Rapid rise in literacy, education, computer skills, to diminish digital divide
- ICT for Masses as Mission Activity
- Extensive Public Discourse- None to be “left out”, “dropped”

## Solution: Public Policies (2)

- Cost/ Expense Reductions ( I/e Open Source software)
- Government Funding for Applications and content development ( eg: Singapore, Canada)
- Public Internet kiosks & subsidies

## Solution: Public Policies (3)

- Computer skills as part of education
- Telecom coverage index ( like broadcasting / TV) X% of territory; y% of Pop.
- Spread Mobile Radio infrastructure/net work coverage

# India's Aspiration (1)

Aaanoh bhadraah ritavo yaantu viswatah  
( *Let noble thoughts come from all quarters of the world* )

Vasudhaiva kutumbakam  
(*The whole world is one family*)

Lokaah samastaah sukhino bhavantu  
(*Let all the peoples be comfortable*)

Krinvato vishwamaaryam  
(*Let us make the whole world noble* )  
**and to realise these aspirations**

# India's Aspiration (2)

Om! Sahanaavavatu; Sahanau Bhunaktu  
*(May we protect together; enjoy together)*

Sahaveeryam Karavaavahaih  
*(May we perform valourous deeds together)*

Maa Vidvishaavahaih  
*(May we not hate any)*

Om! Tejaswinaavadheetamastu  
*(May what we learn be brilliant)*

Om! Shantih, shantih, shantih  
*(Peace on earth, peace on the seas, peace in the  
skies)*



**THANK YOU**