UNIVERSAL ACCESS/ SERVICE FOR ICTS

CONCEPTS, PREVAILING PRACTICES & IMPLEMENTATION IN INDIA

Institute on Internet & Society, CIS,
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OUTLINE

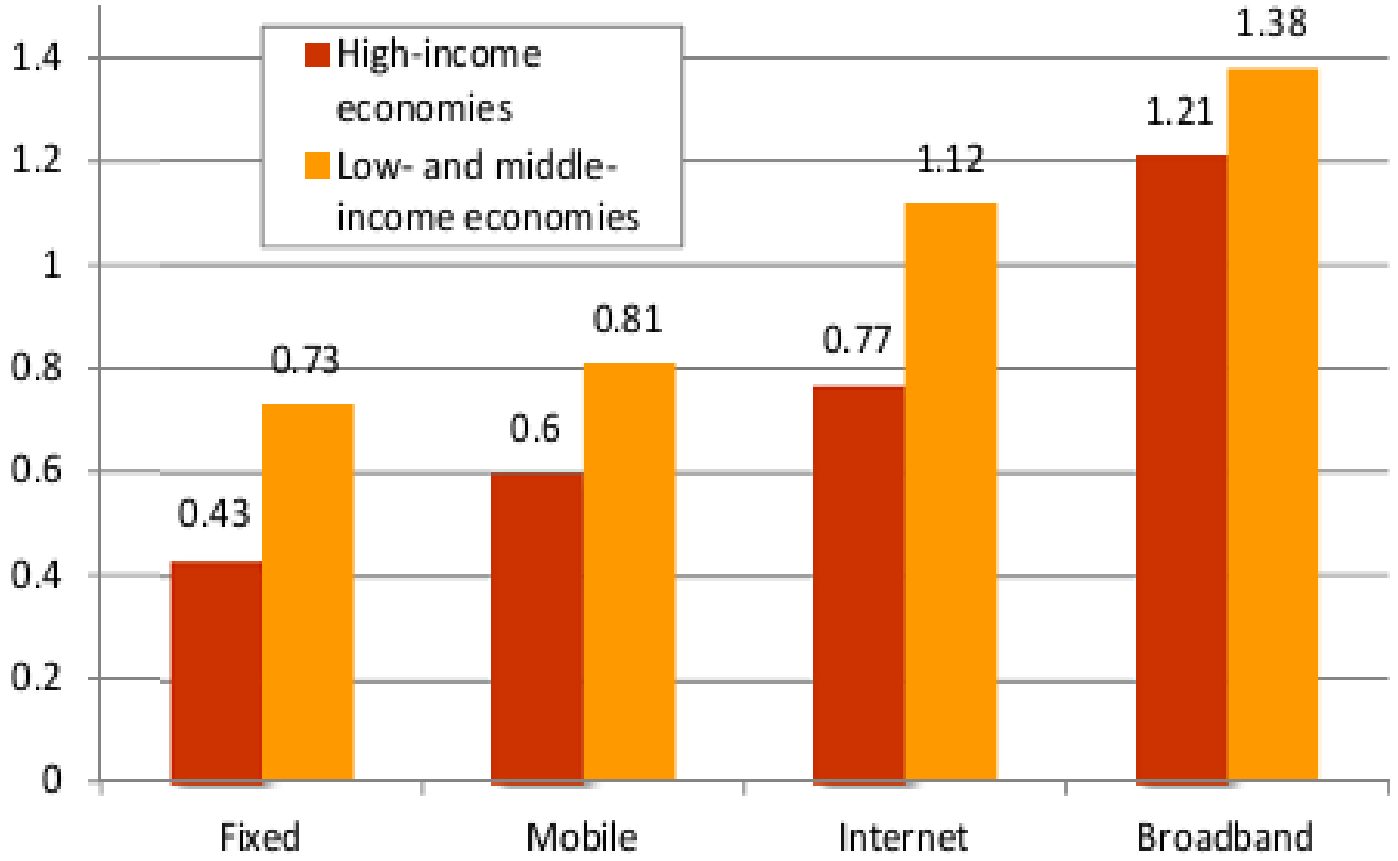
- Importance of ICTs
- Understanding the terms
- US in practice
- US in India
- What lies ahead

IMPORTANCE OF ACCESS TO ICTs

- Connectivity fosters social development, including education, health and increased citizen participation in national affairs.
- Provides crucial knowledge inputs into productive activities
- Makes regional, national and even global enterprises/markets accessible
- Enhances income and employment potential
- Increases the reach and delivery of government and social services.
- Enables mainstreaming & inclusion

IMPORTANCE OF ACCESS TO ICTs

HOW INVESTING IN ICTs CAN BOOST GDP GROWTH

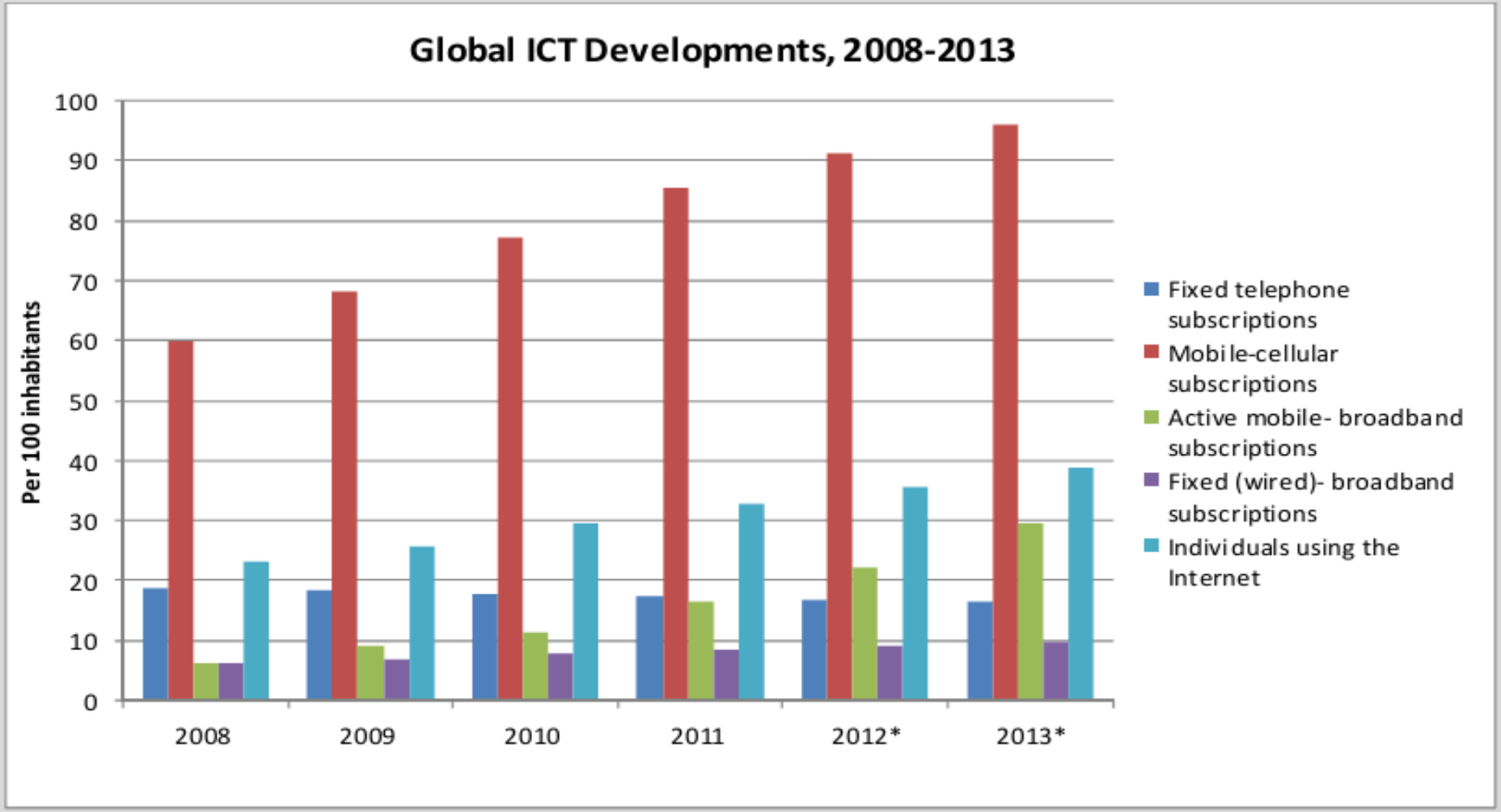


Source: World Bank (2009).

Note: The vertical axis is the percentage-point rise in economic growth per 10-percentage-point rise in penetration.

IMPORTANCE OF ACCESS TO ICTs

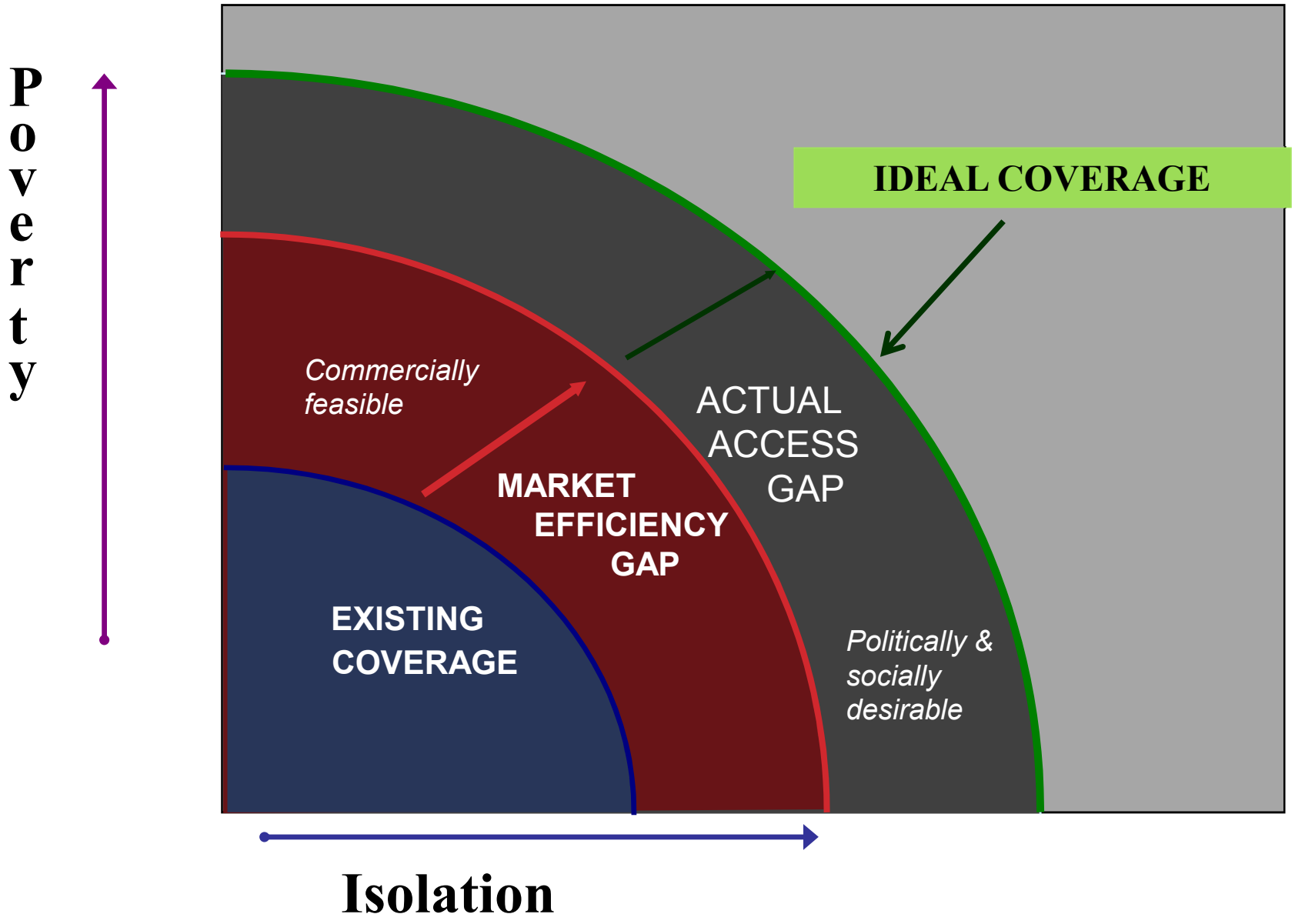
GLOBAL ICT TRENDS & BB PENETRATION, 2008-13



*Note: *2012 and 2013 data are based on estimates.*

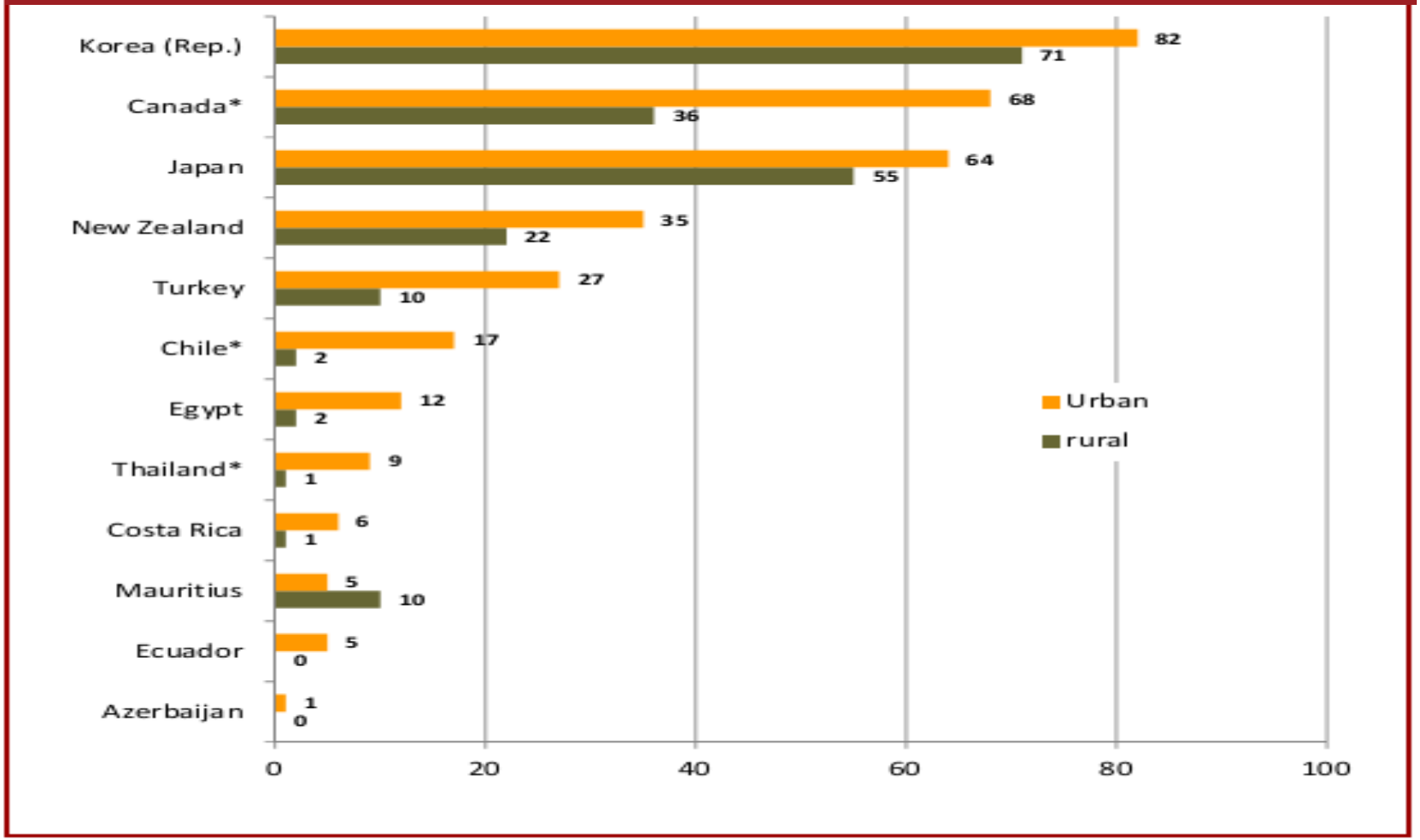
Source : ITU World Telecommunication/ICT Indicators database.

THE NEED FOR UA/US



THE NEED FOR UA/US

PROPORTION OF RURAL & URBAN HOUSEHOLDs WITH BB ACCESS 2007-08



Note: * Data refer to 2006
** Broadband refers to both wireless and fixed (wired) broadband access

Source: ITU World Telecommunication /ICT Indicators database

UNDERSTANDING UA/US: WHY THE ACTUAL ACCESS GAP

- **Geographic: Rural & Remote Areas**
  - Scattered population
  - Low income
  - Low perceived utility of service
  - Lack of commercial/industrial customers
  - Lack of roads, power etc.
  - Difficult terrain,
  - Insurgency
- **Economic**
  - Urban Poor
- **Socio-Economic**
  - Gender
  - Disabled

UNDERSTANDING UA/US: ORIGINS

- Historically the term ‘Universal Service’ precedes ‘Universal Access’
- Universal Service: Term coined by Theodore Vail, president AT&T in 1906.
- Also finds mention in USA’s 1934 Communications Act-Affordability & Universal Availability
- Modern debate over UA/US arises on account of market liberalisation and competition
    - Cross subsidies no longer automatic/feasible for affordable access
    - Other means of affordable access/service needed

UNDERSTANDING UA/US: DEFINITIONS

- Universal Access (UA): Availability of affordable ICTs on shared/community basis i.e. public access
- Universal Service (US): Affordable individual/household services
- Prior to mobile revolution, UA was only option for developing countries
- Today US through wireless is a feasible option
- Scope
  - Voice (Fixed/Mobile)
  - Internet/Broadband
  - Emergency services

UNDERSTANDING UA/US: HALLMARKs

- **Availability**: the service is available to inhabited parts of the country through public, community, shared or personal devices
- **Accessibility**: all citizens can use the service, regardless of location, gender, disabilities and other personal characteristics; and
- **Affordability**: the service is affordable to all

(Source: ICT Toolkit, Ch. 4)

UNDERSTANDING UA/US: ADDRESSING THE GAPS

- **Mandatory Service Obligations-met with very little success.**
  - Service Providers preferred to pay penalties than meet rural roll out
- **Cross Subsidisation-higher revenue from NLD & ILD services used to subsidise local calls. Not effective with competition lowering the ILD/NLD rates.**
  - Not efficient, inequitable.
- **ADC-charges paid by service providers to incumbent to finance deficit on account of below cost provision of local services.**
  - Anti competitive. Lead to market distortions
- **Universal Service Funds**

UNDERSTANDING UA/US: WHY USFs ARE PREFERRED

- USO funds are efficient and transparent
- Specifically used to fund high cost areas/low income population
- Can effectively (at lower cost) motivate service providers to expand services to uneconomic areas
- All service providers can participate on equal footing
- If carefully used do not create market distortions
- Supplement to liberalisation and competition

US IN PRACTICE: EU'S- SAFETY NET WITH SAFEGUARDS

- Access at a fixed location for making and receiving local, national and international telephone calls and fax communications, and data communications at data rates that are sufficient to permit functional internet access;
- Availability of at least one comprehensive directory and directory enquiry service comprising all fixed and mobile subscribers who wish to be included;'
- Availability of public payphones or other public voice telephony access points ; [with the possibility of making free emergency calls to the 'single European emergency call number 112 and other national emergency numbers']
- Specific measures ensuring access and affordability of publicly available telephone services to users with disabilities or special needs, and those with low incomes.
  - *Minimalistic/ avoidance of market distortions*

US IN PRACTICE: USA's LARGE PROGRAMME WITH LEGACY ISSUES

- High-cost programme, which subsidizes local carriers operating in high-cost regions of the country to ensure reasonable basic telephone rates
- Low-income subscribers programmes, which include the Link Up and Lifeline Programmes that provide subsidies for service initiation and monthly fees, respectively, with eligibility based on subscriber income
- Rural healthcare providers programme, which subsidizes telecommunications services used by rural healthcare providers and provides them with toll-free access to an Internet service provider
- The schools and libraries programme, also called the E-rate Programme, which provides support funding to schools and libraries for telecommunications services
  - *Ballooning costs, frauds forcing review*

US IN PRACTICE: OUTPUT BASED AID IN CHILE

- Public telephone service to about 6,000 unserved localities – a target that was met during the period from 1995-1999.
- Support for telecentre projects.
- Support further extended to include backbone, broadband and mobile network expansion.
  - Fibre optic backbone extension project, which includes funding for a WiMAX installations
  - Extension of mobile service into unserved areas;
  - Rural broadband to an additional 3 million rural residents.

Funded from Govt. Budget.

US IN PRACTICE: VARYING CHARACTERISTICS/ PRIORITIES

- **DEVELOPED COUNTRIES**
  - Extensive fixed networks in place before extensive mobile networks. Initially, mobile is a complementary service for most;
  - Prior designation of USP, therefore no tenders.
  - Collection based on broad revenue-based sector contributions
  - Services–voice (individual, fixed), internet , public access, Emergency Services, accessibility
  - Broadband including OFC through more often through market/ public funding

Source: Adapted from Sepulveda overview of UASF Global Trends – April 1, 2010

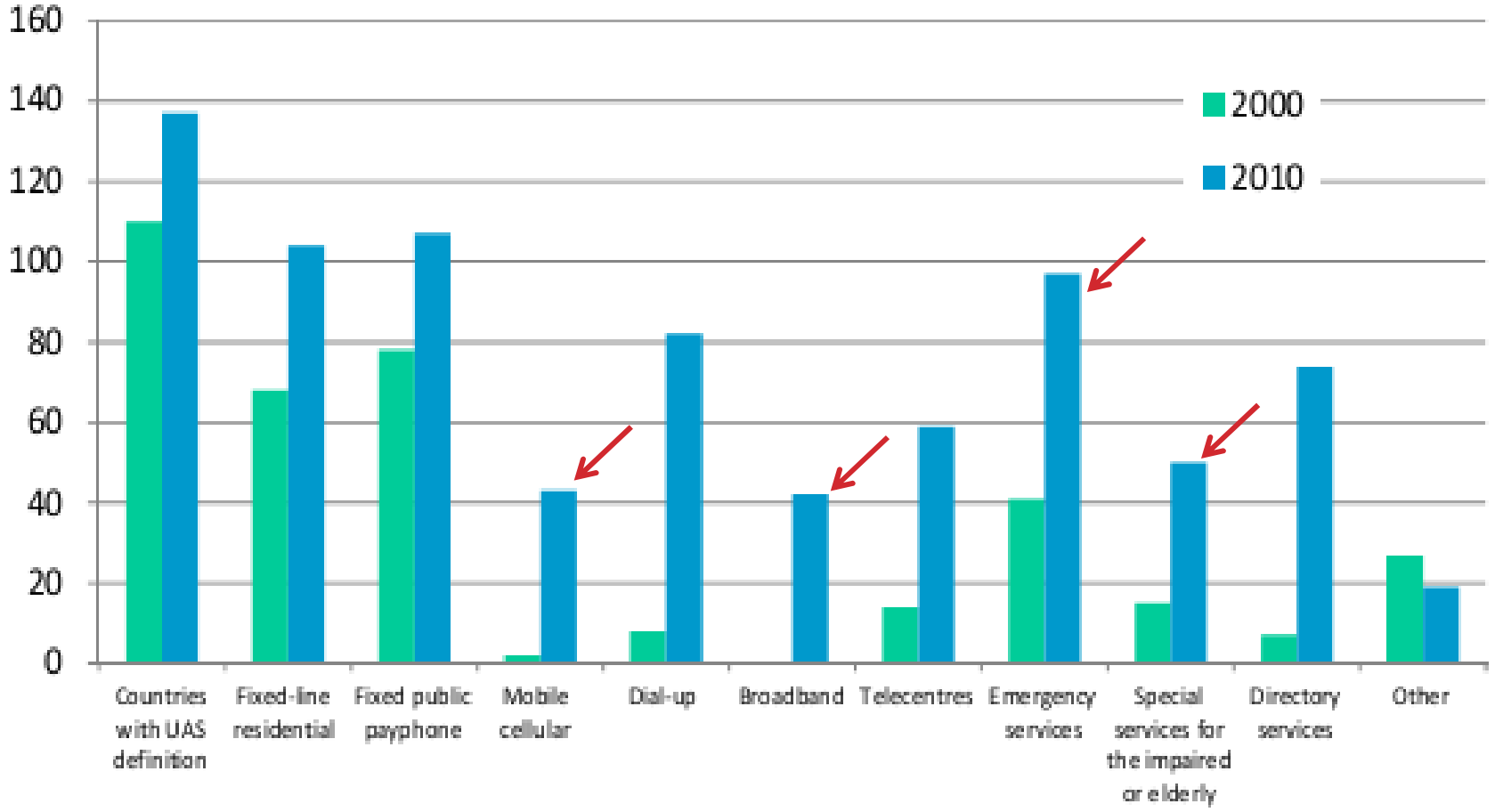
US IN PRACTICE: VARYING CHARECTERISTICS/ PRIORITIES

- **DEVELOPING COUNTRIES**
  - Very limited & fixed network (main cities only; virtually none in extensive rural areas, where most population resides)
  - Relatively higher coverage by mobile signal
  - Project-by-project designation of USP
  - Collection based on broad revenue-based sector contributions.
  - Service – Initially: voice public access (fixed and/or VSAT); Now: voice individual access (mobile infrastructure) and increasingly broadband initiatives including OFC roll outs

Source: Adapted from Sepulveda overview of UASF Global Trends – April 1, 2010

US IN PRACTICE: CHANGING PRIORITIES

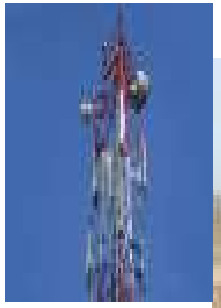
UNIVERSAL SERVICE/ACCESS DEFINITIONS 2000-2009



Source: ITU World Telecommunication/ICT Regulatory Database

US IN PRACTICE: THE COMPLETE PICTURE







Infrastructure



Services



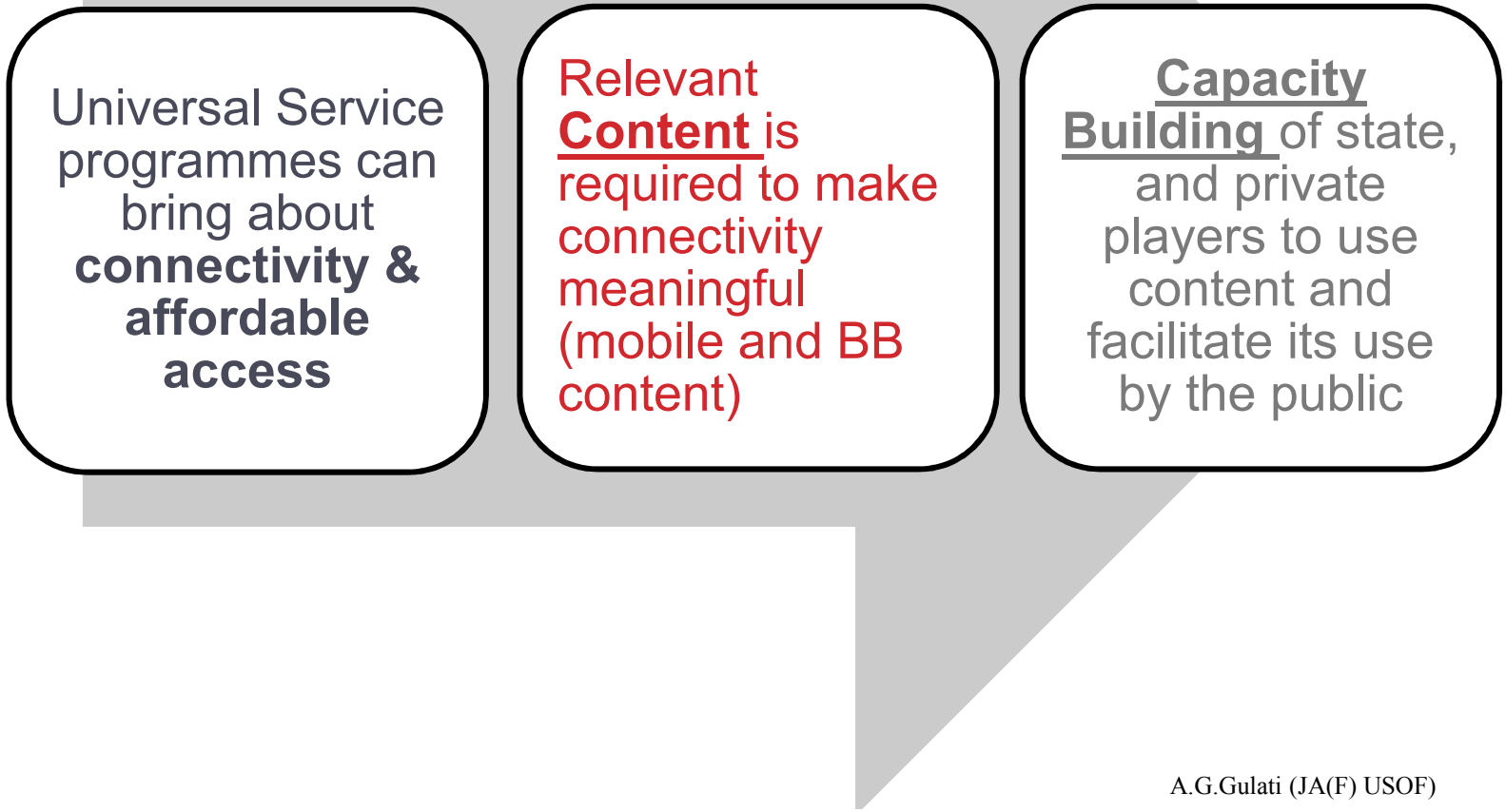
Special Needs





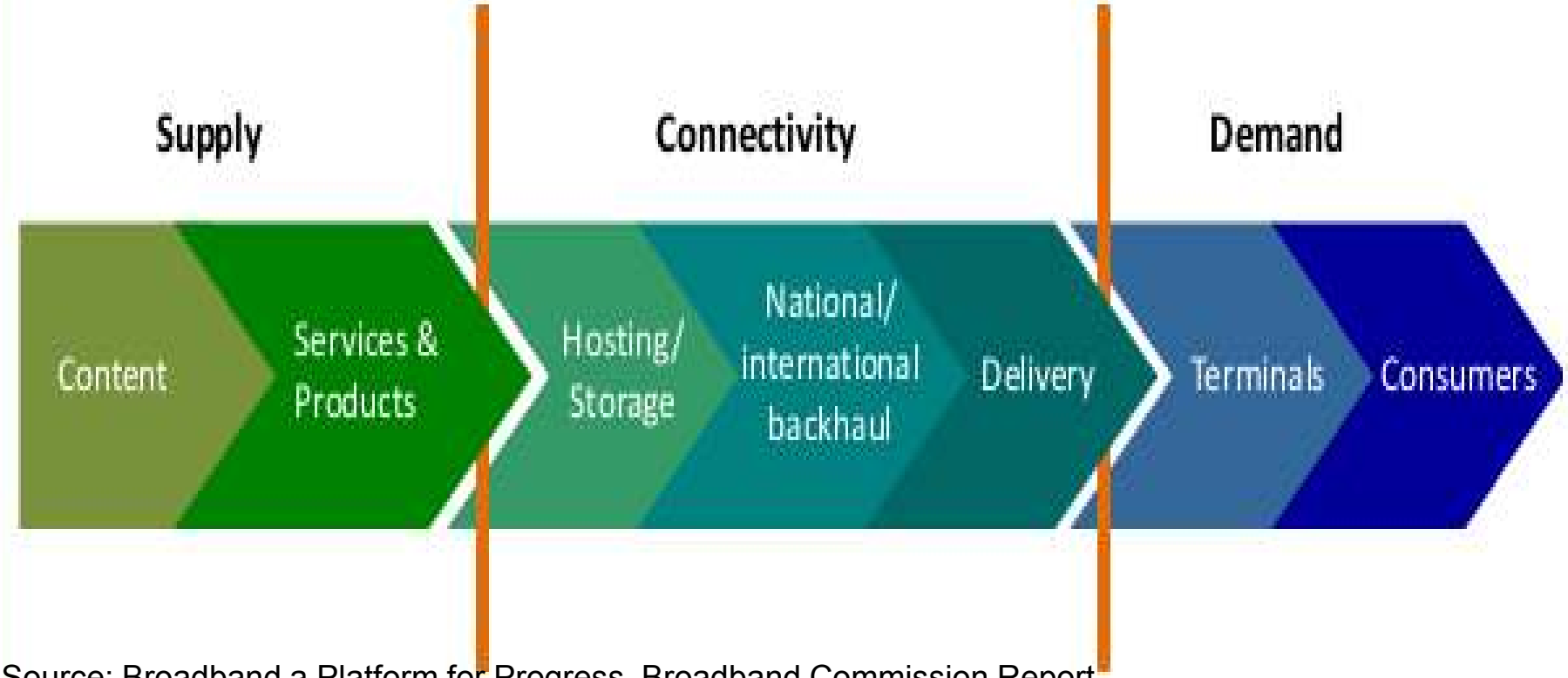
US IN PRACTICE: THE COMPLETE PICTURE

CONNECTIVITY MUST BE SUPPORTED BY CAPACITY AND CONTENT



US IN PRACTICE: THE COMPLETE PICTURE

BROAD BAND VALUE CHAIN



Source: Broadband a Platform for Progress, Broadband Commission Report



US IN INDIA

Legislation, Organisation, Scope, Implementation

DEFINITION OF USO



- Obligation to provide access to telegraph [telecommunications] services to people in rural and remote areas at affordable and reasonable prices.

US IN INDIA: CURRENT SCENARIO

Parameter	Status (Dec' 2012)	Target
Rural teledensity	39.85%	70% by 2017;100% by 2020
Internet	25.33 million (landline)	Broadband on demand by 2015
Broadband	14.98 million	175 million by 2017, 600 million by 2020

Source: TRAI

US IN INDIA: CONTEXT

DESIRED GOALS: NTP 2012

To develop a robust and secure state-of-the-art telecommunication network providing seamless coverage with special focus on rural and remote areas for bridging the digital divide and thereby facilitate socio-economic development

To create an inclusive knowledge society through proliferation of affordable and high quality broadband services across the nation

Source:DoT

US IN INDIA:INSTITUTIONAL STRUCTURE

- USOF is a statutory fund
- Indian Telegraph (Amendment) Act 2003
- Came into existence as on 1.4.02
- Non lapsable fund
- Universal Service Levy as 5% of adjusted gross revenue of telecom service providers
- Indian Telegraph (Amendment) Rules 2004 govern scope and implementation
- Administrator appointed on 1.6.2002.
- Attached office of DoT

More details available at www.usof.gov.in

US IN INDIA: SCOPE

Public access, individual household lines and telecom infrastructure in rural/remote areas.

- **Till November 2006, ITR limited USOF activities to only 'basic' services:**
  - **Stream I:** Provision of public telephone services (village public telephones & rural community phones)
  - **Stream II** :Provision of household telephones in net high cost rural/remote areas.(RDELs)

US IN INDIA: SCOPE

Public access, individual household lines and telecom infrastructure in rural/remote areas.

- **In November 2006, ITR amended to allow USOF support for mobile & broadband connectivity & general infrastructure:**
  - **Stream III**: Infrastructure for Mobile Services
  - **Stream IV**: Broadband Connectivity
  - **Stream V**: General Infrastructure
  - **Stream VI**: Induction of new technological developments through Pilot Projects

US IN INDIA: FUNDS



- USL BALANCE: Rs. 27,949.91 Crore as on 31.3.13
- Disbursement as on 31.3.13: Rs. 15,784.4 Crore
- USL first credited to consolidated fund of India
- Available to USOF through budgetary process
- Utilization subject to government of India rules and regulations on financial propriety
- Audit: C&AG

VPTs/RCPs ACROSS INDIA



VPTS/RCPS ACROSS INDIA



NAGALAND

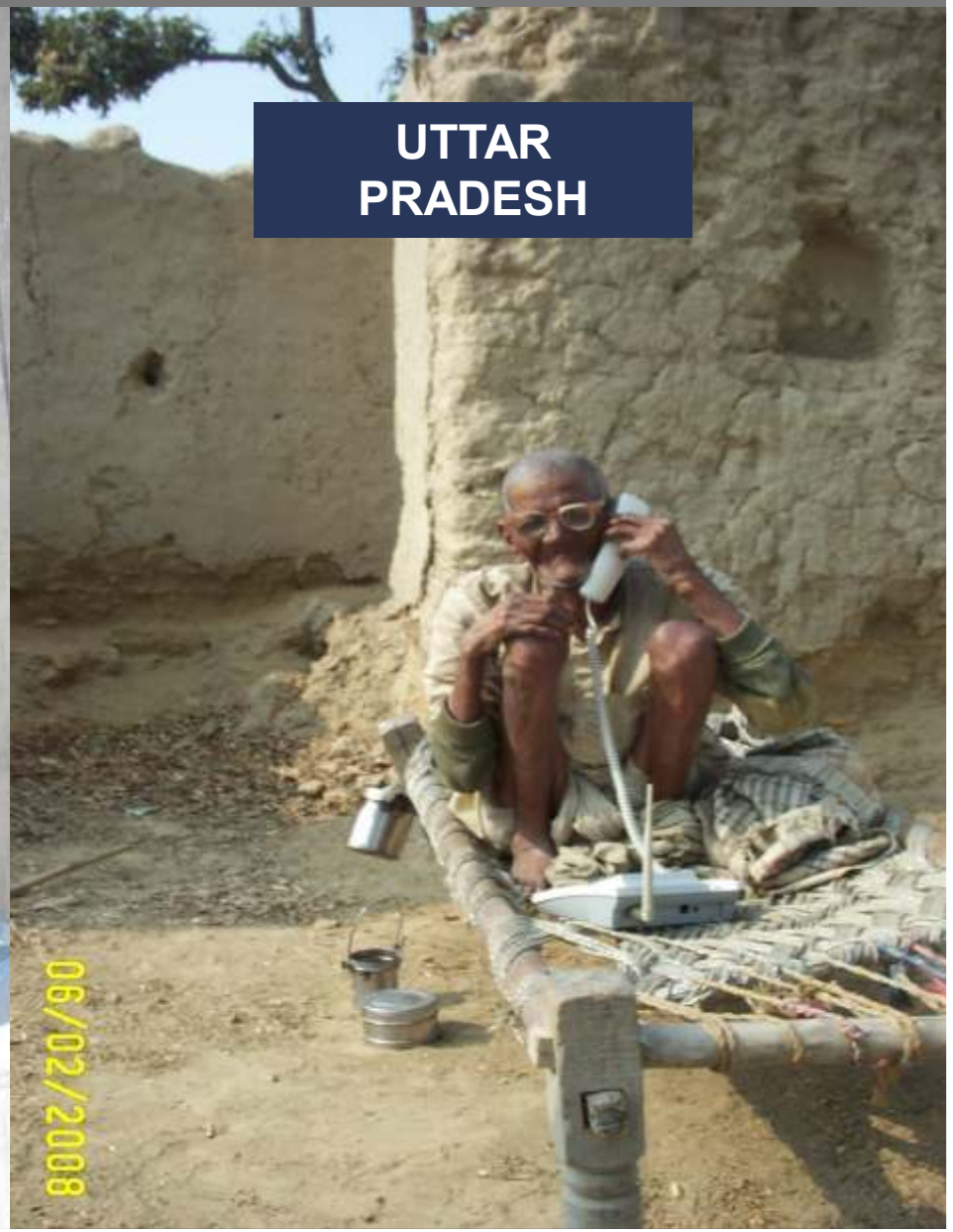


RAJASTHAN

USOF

RURAL DELS





RURAL DELS







MOBILE INFRASTRUCTURE & SERVICES



New Mobile Users-Chhattisgarh

7300 MOBILE TOWERs

WEST BENGAL

TAMIL NADU

USOF

OPEN ACCESS OFC NETWORKS IN N.E STATES

High Capacity Broadband for rural areas

Leased Capacity at discounted rates for all service providers



WIRE LINE BROAD BAND



JHARKHAND



WEST BENGAL

3.6 lakh Broadband Connections

SOLAR MOBILE CHARGING CENTRES

Local entrepreneurship model

Cheap charging facility for rural areas







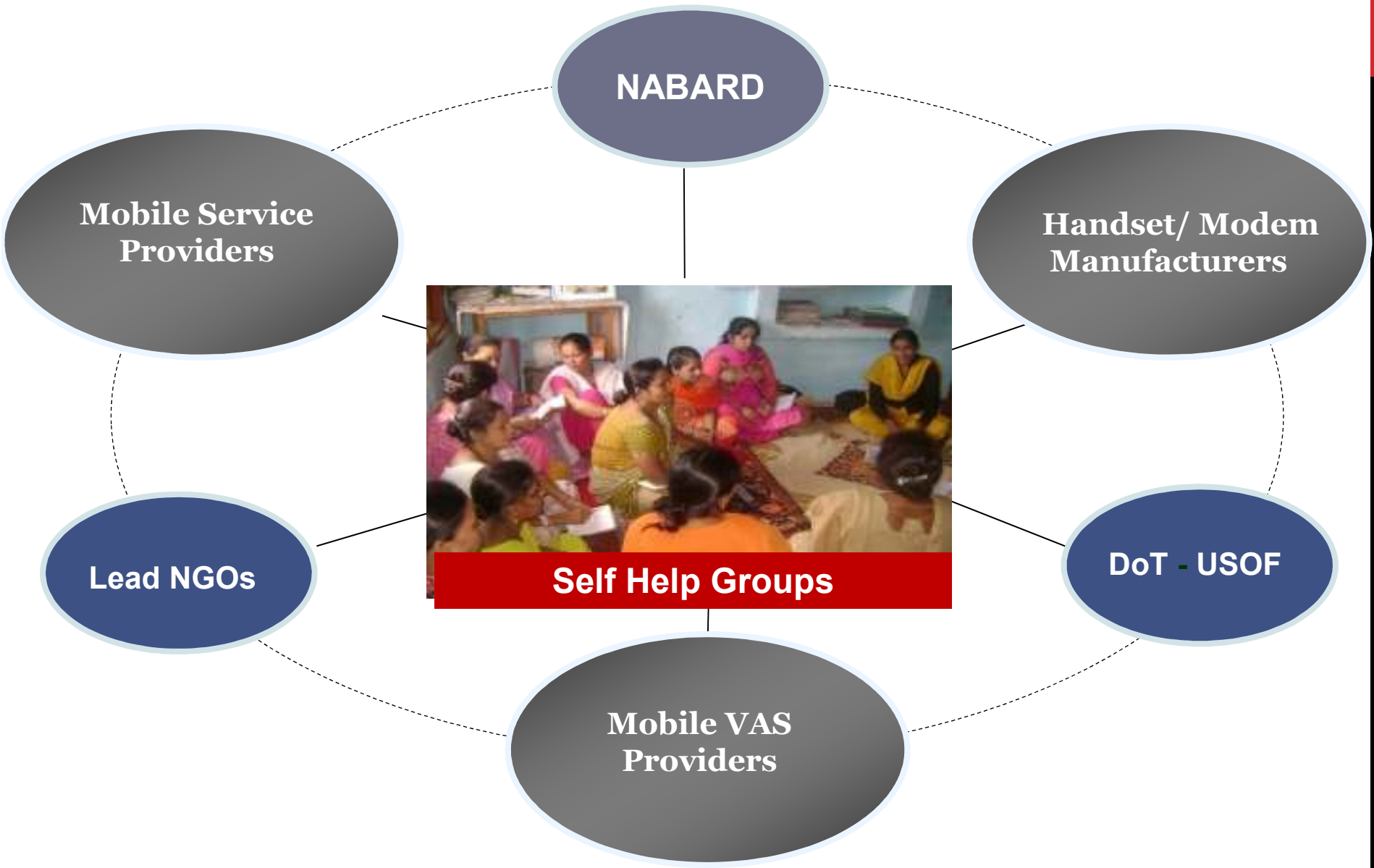
SANCHAR SHAKTI

Scheme for Mobile VAS & Livelihood related ICT Skills for Rural Women's SHGs

SANCHAR SHAKTI

- Scheme initiated with the objective of improving rural SHGs' access to skills, knowledge, financial services and markets through mobile connectivity and Value Added Services
- Involves provision of customized content: information on markets, financial literacy, vocational training, health, social issues, government schemes to improve livelihoods, awareness and self confidence through SMS, IVRS and toll free query systems
- Multi-stakeholder approach whereby SPs, VAS content providers, NGOs & USOF work in coordination towards connectivity, content and capacity building of SHGs
- Agreements signed for 4 Mobile VAS pilot projects dealing with SHGs working with agriculture, livestock rearing, textiles handicrafts, cottage industry etc.
- The projects cover about 10,000 SHG members in the states of Maharashtra (Pune), Rajasthan (Ajmer), Uttarakhand (Almora, Tehri Garhwal, Chamoli, Bageshwar, Uttarkashi and Andhra Pradesh (Srikakulam, Vishakapatnam, East Godavari). Other projects may follow.

SUCCESFUL BOTTOM-UP APPLICATION OF MULTI-STAKEHOLDER APPROACH



SCHEME FOR ACCESS TO ICTs FOR DISABLED IN RURAL AREAS

ICT Centres	• For PwDs in educational/rehabilitation/vocational training institutions in rural areas • Equipped with appropriate Assistive Technologies/Content
Special Handsets and Content	• For PwDs in rural areas • With/without access to bundled content
Public Access	• To telecommunications facilities equipping with ATs in villages/in and around rural institutions for PwDs

US: NOT A UNIVERSAL PANACEA

- USF efforts must be supplemented by simultaneous programmes towards overall rural infrastructure/service development
- IT (devices, e-services/applications, capacities) education, power, health, etc.
- Much greater level of coordination and mutual leveraging between concerned state/private agencies called for



NEWER/ FORTHCOMING SCHEMES

- **Covering remaining uncovered rural areas with mobile services-including LWE areas**
- **NOFN/BBNL to connect 2.5 lakh village *panchayats* with OFC & provide whole sale, non-discriminatory access to all service providers**
- **Wireless Broadband**
- **Support for powering of telecom installations through renewable energy**





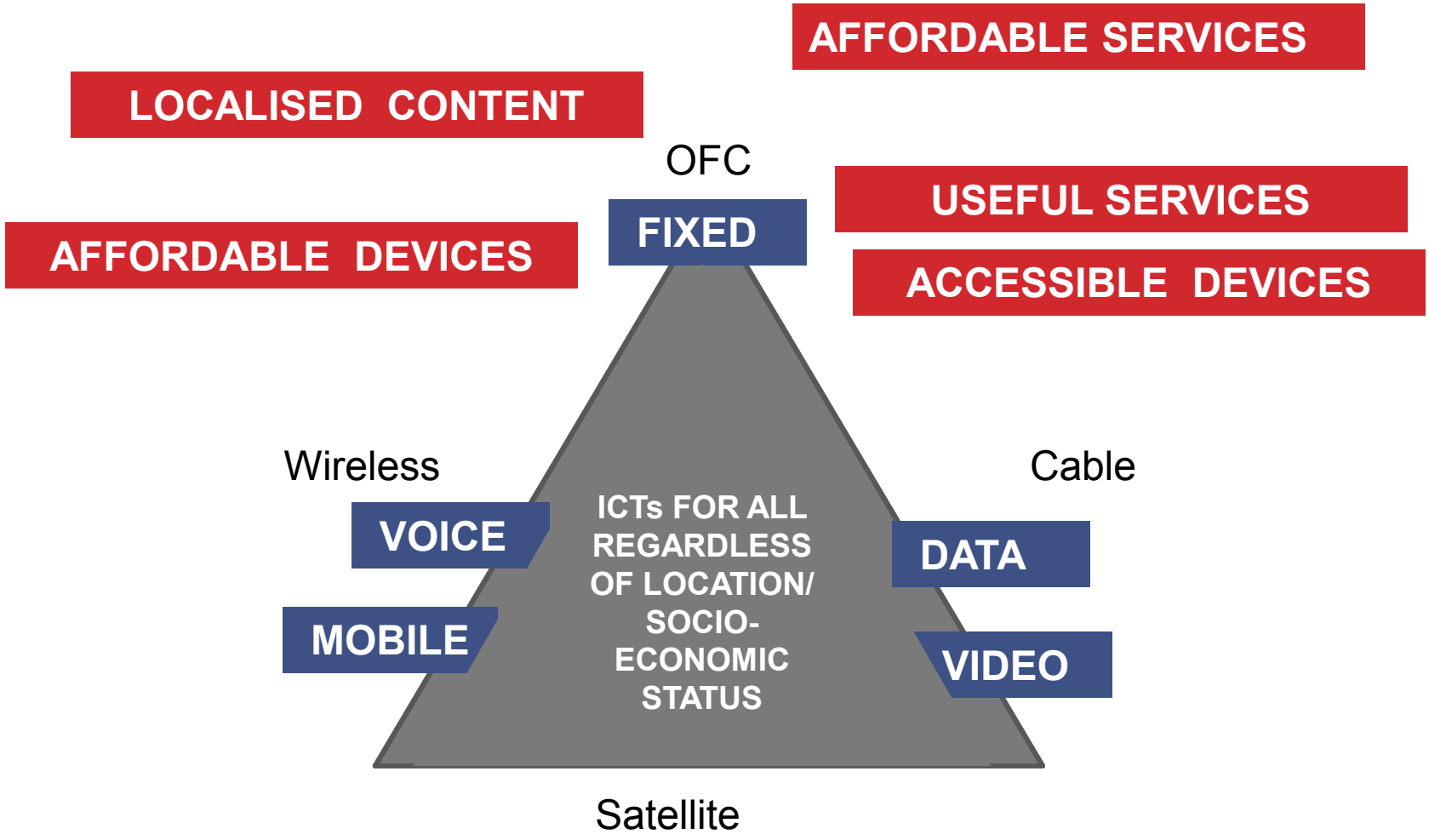
US: WHAT LIES AHEAD

- **Relevance**
  - BB as a necessity
  - Inclusion of all regions/population segments
- **Scope**
  - NGN
  - Accessibility
  - Capacity & Content
- **Safeguards**
  - Complement not substitute market forces
  - Encourage competition

US: WHAT LIES AHEAD - BROADBAND AS A NECESSITY

Country	Announced by	Date	Investment	Goals and targets	Speeds
New Zealand	Government	2009	NZD 1.5 billion	Ultra-fast broadband by 2019; 75% population coverage	Fibre
Japan	Government	2008 - 2009	JPY 37.1 billion	Intelligent transport systems, improving ICT infrastructure, training staff, new industries, and broadband roll-out to rural areas	N/A
Spain	Government	2008	N/A	Installing next-generation fibre and regulating broadband	Up to 30 Mbit/s
Poland	Telekom.Polska (TP)	2008 NGN and FTTx	EUR 400 million	TP is investing in passive optic networks from 2009-2011	50 Mbit/s
Finland	Government	2008	EUR 200 million in public-private partnerships	Extending ultra-fast broadband for 100% of households by 2016	1 Mbit/s 2010; 100 Mbit/s 2016

US: WHAT LIES AHEAD



Source: Adapted from GSR 2011: Broadband policies



RDEL in Punjab



RDELs in Tamil Nadu



THANK YOU!

www.usof.gov.in



VPT in Karnataka



RDEL in U.P



VPT in Haryana