



INFRASTRUCTURE SHARING- *An Indian Experience*

Telecom Regulatory Authority of India
New Delhi

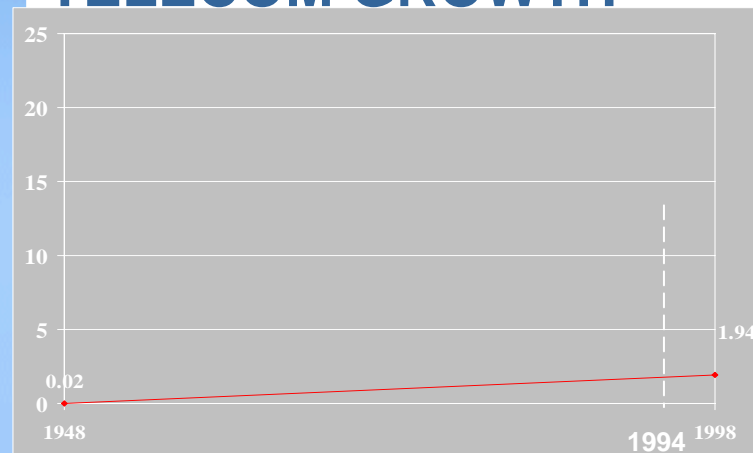


Background

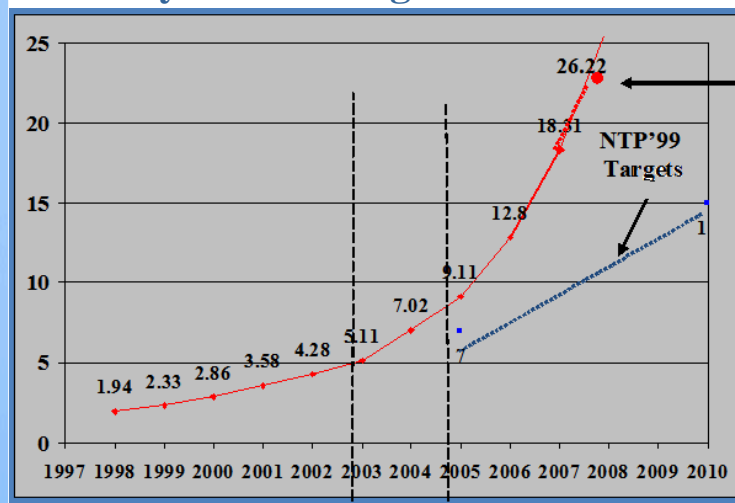
TELECOM GROWTH IN INDIA

- 1991- Teledensity less than 1%
- 1991- Telecom sector opened to private operator to provide mobile.
- 2003- Calling party pay regime was implemented
- 2004- The growth of mobile sector started to pick up
- Government announced in May 2006 to provide 250 Million telephones by 2007 and 500 Million telephones by 2010
- Most of the growth was in mobile sector as wireline was stagnating at around 40 Million

TELECOM GROWTH



50 years: Total growth 1.92%



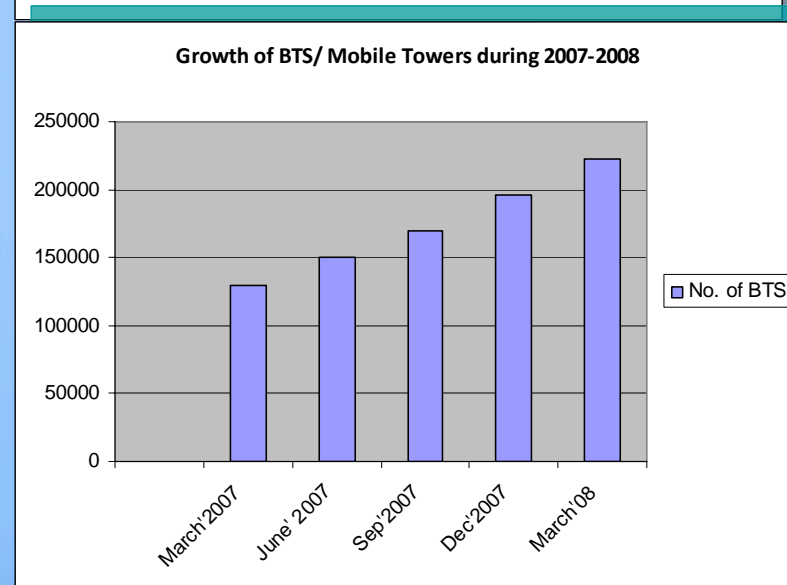
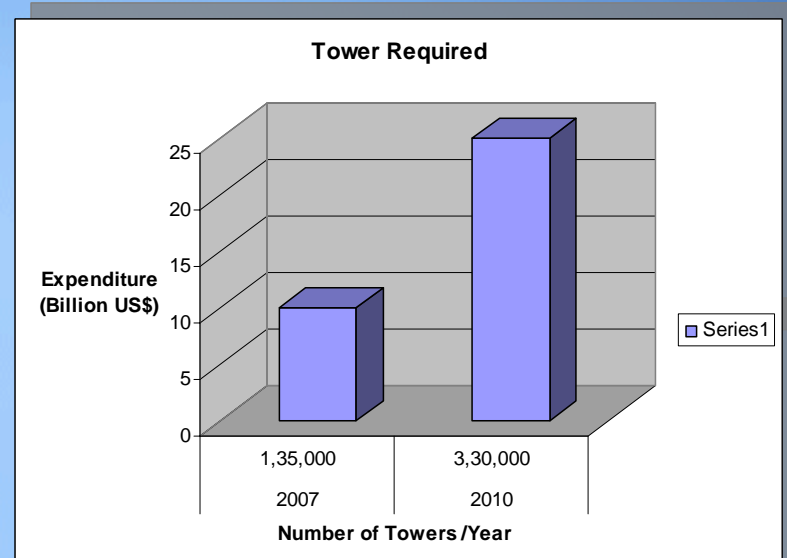
Phase-I Phase-II Phase-III

Telecom Reform: 90's till date



Background

- The estimated number of tower required to reach the target was 1,35,000 towers by 2007 and 3,30,000 by 2010.
- This required huge investment of US\$ 10 Billion by 2007 and US\$ 25 Billion by 2010 only to setup towers.





Building of Telecom Infrastructure

GOVERNMENT INITIATIVES

- In order to develop an independent business model to encourage creation of towers, Department of Telecommunication (DoT) introduced a new class of service providers called Infrastructure Provider Category – I on 13.08.2000
- The salient features of this scheme
 - Permission through simple registration
 - 100% Foreign Direct Investment (FDI) permitted
 - No license fee
 - They can create/ lease/ outright sale towers etc.



Building of Telecom Infrastructure

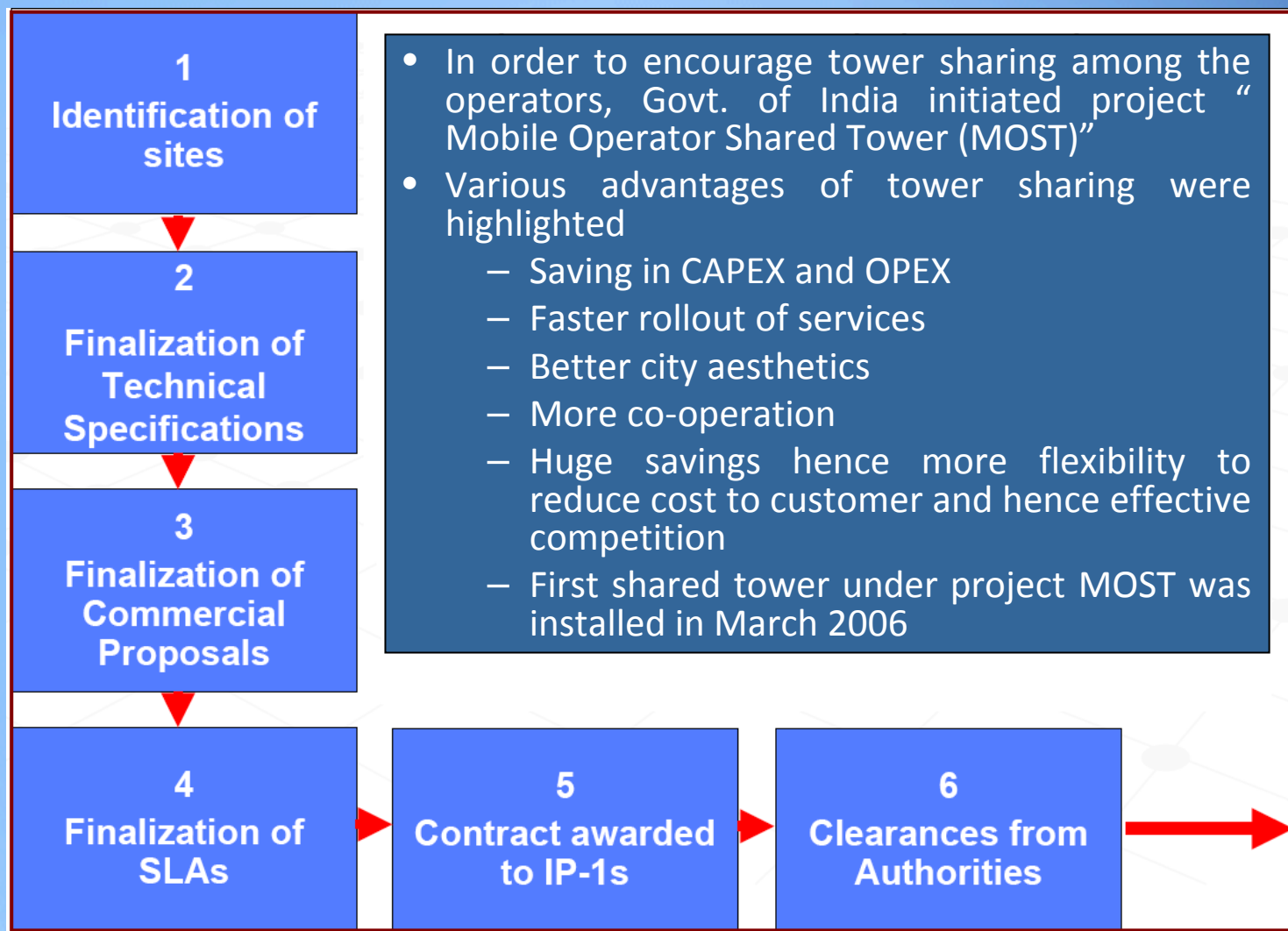
GOVERNMENT INITIATIVES (contd.)

- In spite of all this, willingness of the service providers to share tower was initially low.
 - Apprehensions were that sharing of towers with their competitors would result in huge churn as later will have almost same coverage area and QoS
 - Some service providers ironically assumed that denying sharing may give them advantage over competitor by delaying competitor's service rollout in that area



Building of Telecom Infrastructure

PROJECT MOST





Building of Telecom Infrastructure

PROJECT MOST (contd.)

FLAGSHIP SITE – DELHI HIGH COURT



- ✓ 2 Roof-top Towers of 15 Meter height
- ✓ First Tower – 3 Operator Sharing (GSM)
 - Single tower supporting 3x3 GSM & 3 Microwave Antennas
- ✓ Second Tower – 3 Operators Sharing
 - 1 GSM + 2 CDMA



Building of Telecom Infrastructure

PROJECT MOST (contd.)

FLAGSHIP SITE - DHANDSA

- ✓ Ground Based Towers of 40 Meter height
- ✓ Six operators sharing (4GSM+2 CDMA)
- ✓ Single tower supporting 4x3 GSM, 2x3 CDMA & 6 Microwave Antennas
- ✓ Tower design certified by IIT Delhi, a premier Technical Institute of India





Building of Telecom Infrastructure

UNIVERSAL OBLIGATION FUND

- USOF Administrator started project to create infrastructure for rolling out mobile services in rural areas in October 2006
 - 81 clusters of villages were identified where there was no telecom services.
 - Location of the towers were identified.
 - Total no. of identified towers in 81 cluster were apprx. \approx 8000
- Project is proposed in two parts .
 - First part relates to setting up of passive infrastructure sites comprising of land, tower, electric power connection, power backup (generator) etc. in identified rural and remote areas.
 - Second Part relates to provisioning of mobiles services by access service providers by BTS equipments installation with associated antenna and backhaul. Initially the infrastructure created will be for voice telephony which can later be used for broadband services as well.



Building of Telecom Infrastructure

UNIVERSAL OBLIGATION FUND SCHEME (PART-I)

- Universal Service Obligation Fund (USOF) envisaged subsidy to setup the passive infrastructure to selected Infrastructure Provider (IP-I) and different access service providers
- Selection will be based on bidding process with one seeking least subsidy shall be selected for a particular cluster
- One IP-I/ Access service provider was selected for each cluster
- Subsidy shall be spread over a period of five years. Service providers shall not pay any rental to infrastructure provider for using it till five years except sharing operational cost



Building of Telecom Infrastructure (contd.)

UNIVERSAL OBLIGATION FUND SCHEME (PART-I)

- Subsidy shall be spread over a period of five years. Service providers shall not pay any rental to infrastructure provider for using it till five years except sharing operational cost
- Infrastructure Provider have to complete total project within 12 months time (Half of the towers in six months). Work on construction of towers have already started.
- Minimum three access service providers chosen by bidding process in Part-II by USOF will ride on these towers for giving services in such areas.
- After five year the infrastructure provider and service providers will undergo commercial agreements on mutual basis to continue the arrangement. All subsidy from USOF shall stop after 5 years.



Building of Telecom Infrastructure UNIVERSAL OBLIGATION FUND SCHEME (PART-II)

- Three service providers were shortlisted by USOF per cluster to share the towers set up in Part-I
- Selection is done based on minimum subsidy support basis for rolling of mobile service
- The services has to be rolled out within two month time from the date tower is ready.
- These shared towers are targeted to be made operational in a phased manner by June 2008.
- Mobile services shall be extended to over 500 Districts in 27 states using these towers



Building of Telecom Infrastructure

UNIVERSAL OBLIGATION FUND SCHEME (PART-II)

- Broadband Connectivity for Rural Areas
 - Broadband penetration in rural and remote areas is likely to be boosted in a phased manner by utilizing the infrastructure created for provision of mobile services.
 - This programme will cover Common Service Centers (CSCs) being set up by Government at school, colleges, primary health centers and Gram panchayats in a phased manner.



Building of Telecom Infrastructure

TRAI's INITIATIVES

- TRAI started consultation process on Infrastructure Sharing in November 2006
- Emphasis of the consultation paper was on
 - Developing **mutual cooperation** among service providers
 - Pursuing Mobile Operators to **adopt infrastructure sharing** and avoid mandating
 - **Facilitate** active infrastructure sharing also
 - Provide incentive to develop towers and infrastructure to roll out mobile services in rural and far flung areas.
 - Encourage use of **non conventional energy** sources by telecom operators where power supply is erratic.



Building of Telecom Infrastructure

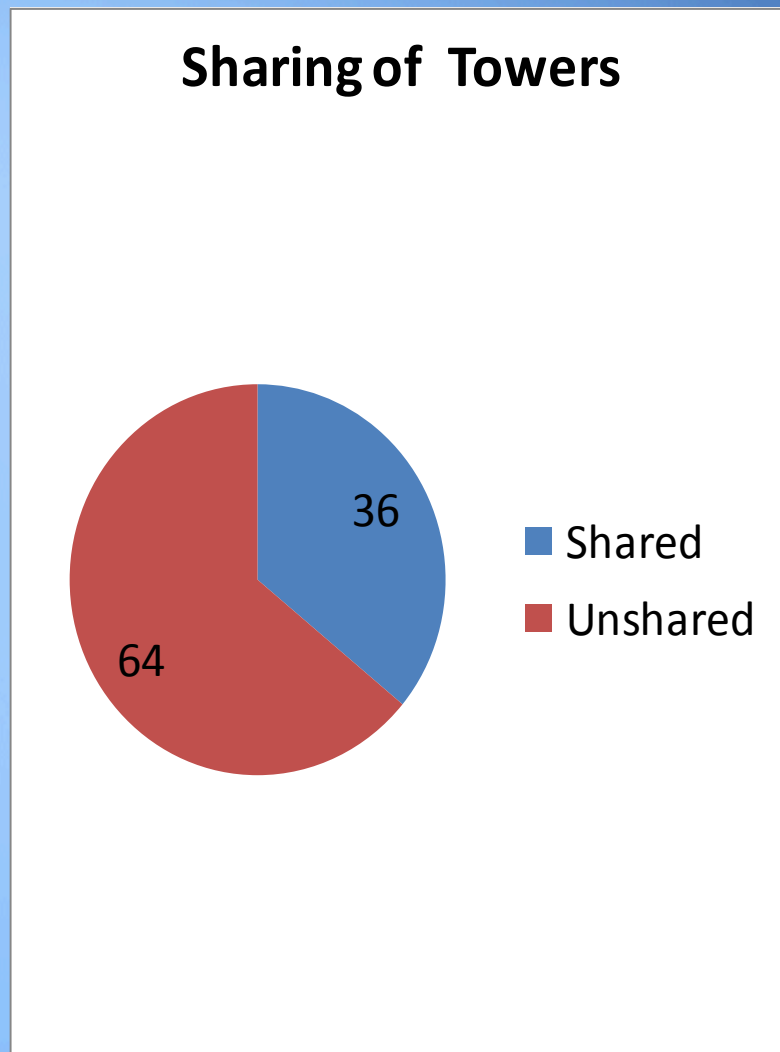
TRAI's INITIATIVES

- TRAI recommendation on Infrastructure sharing were sent to Govt. on 11.04.07
- Salient features of recommendations are:
 - **Encourage passive infrastructure sharing** among service providers on mutual agreement basis.
 - Emphasis was laid to bring in **transparency, reasonability and well defined time frame** to facilitate infrastructure sharing.
 - Well defined mechanism to facilitate infrastructure **sharing in critical areas** (where possibility to erect towers is limited).
 - **Facilitate active infrastructure sharing** by modifying restrictive clauses in the existing license.
 - Financial support for creation of **infrastructure in rural** and far flung areas.
 - Encourage use of **non conventional energy sources** in areas where electric power supply is erratic



Sharing of Towers -PRESENT STATUS

- Most of the telecom licensees have hived off their telecom tower business or are in process of doing so into a separate entity
- Sharing of Telecom towers is now being favored by telecom operators in a big way
- Total Number of towers : 0.22 Million (as on 31.03.2008)
- Total Number of Wireless Subscribers: 261.06 Millions
- Enabling environment and appropriate regulatory framework has helped to encourage infrastructure sharing





Future concerns

- Ensuring reasonable pricing for sharing of infrastructure on non-discriminatory terms and conditions to all access service providers
- Identification of Critical Infrastructure and Efficient use of resources for infrastructure sharing
- Ensure that tower may not become bottleneck facilities to rollout wireless services in view of increasing restriction by municipal corporation
- Ensure guaranteed SLA by Infrastructure Providers Category-I



Way Forward

- Telecom Infrastructure sharing will become important for speedy growth and rollout of telecom services especially in developing countries
- Governments has to take initiatives to facilitate proper framework for infrastructure sharing
- Proper regulatory and policy framework for infrastructure sharing is important to boost this sector.



Thank You

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