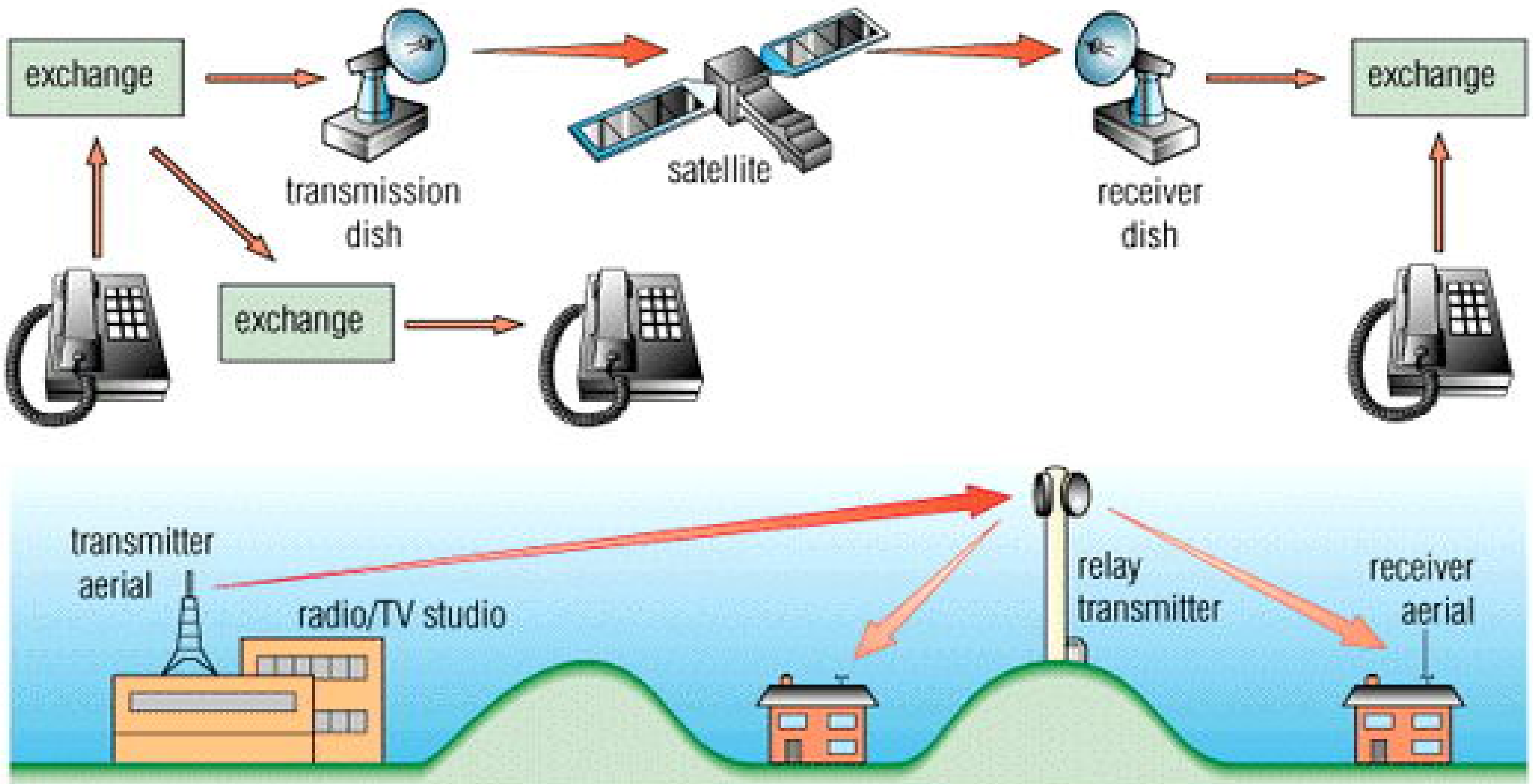
Infrastructure Planning and Management

Class 6 – Telecommunications Infrastructure in India

Agenda

- Historical Overview
- Reforms in the Telecom Sector
- Key Players and Regulators
- The Status of the Indian Telecom Industry
- Future Directions

The Telecommunications sector



Timeline

- Prior to 1980s
  - State owned players and infrastructure dominated this sector. In many cases the equipment used was outdated and the reach of telecommunications services was poor. Tele-density – the number of telephone connections per 1000 people was very low as was connectivity in rural areas.

- 1980s
  - Private sector was allowed to enter this sector. However, in the intial stages they were only allowed to manufacture equipment

- 1990s
  - After the liberalization of the Indian economy, the Private sector was also allowed to provide services. This led to a sharp decrease in prices, improvement in service quality and increased access to telephony services

National Telecom Policy (NTP)-1994

- This policy paved the way for the entry of the private sector and opened up both the Cellular market and the landline market for competition
- Another defining feature of this plan was the concept of a Universal Service Obligation (USO) designed at providing infrastructure and telephony services to rural areas
- However this policy had some problems
  - An Auction system was used to select players and to allocate spectrum. However, the fixed license fees bid by the bidders were too high and uneconomic, leading to requests for renegotiations
  - Competition was also inadequate

National Telecom Policy 1999

- The shortcomings of NTP 1994 were addressed issues in NTP 1999
- A Revenue sharing model was introduced as opposed to a fixed license fee approach.
- More competition was introduced which in turn led to falling prices
- Rs 500 Billion of Investment was slated for this sector
- National and International Long Distance were opened up to private players in 2001
- BSNL, the state owned telecom provider was Corporatized in 2001 and now competes with other private firms for revenues and market share
- USO fund was set up for rural connectivity. As opposed to having private players directly provide connectivity in rural areas, an alternate approach was adopted whereby private operators contributed a portion of the revenues to a USO fund, which would then be used by BSNL to provide rural connectivity

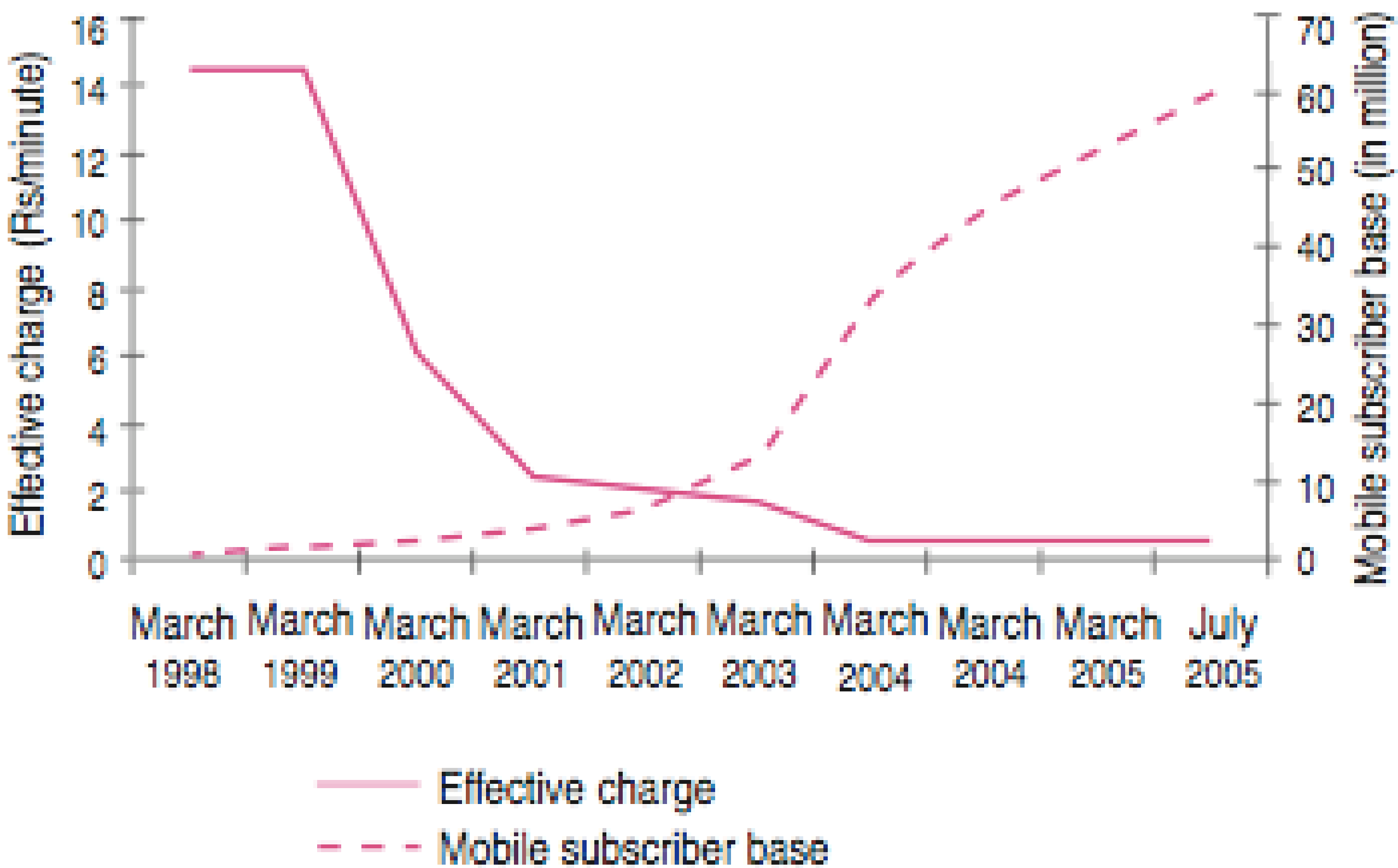
Telecommunications Regulatory Authority of India (TRAI)

- TRAI was set up in 1997 as a **Regulator**. Due to a large number of private players entering this industry, an independent regulator was necessary to ensure that consumers were treated fairly
- Initially TRAI was set up with few powers but was subsequently given more power to
  - Manage spectrum licenses
  - Regulate prices
- Most experts feel that TRAI can be given more independence
  - For instance, the regulator can be given a decision making role on issues such as the convergence of technologies, allocation of spectrum etc

Key Players in the Telecommunications Sector

- BSNL – a public sector player in the local, long distance, cellular, and internet communications space
- MTNL – a public sector player active in Delhi and Mumbai as regards local telephony, and active across India in the cellular space
- VSNL – a public sector player in the Internet and long distance space
- Private providers
  - Bharti, Reliance, TATA, Vodafone, Aircel etc
  - They provide landline, cellular and internet services, they

The graph below, adapted from the Indian Infrastructure Report 2006, clearly shows the effects of reforms in the Indian telecommunications sector, particularly on the usage of mobile telephones. Prices for consumers have decreased dramatically and have been accompanied by an equally dramatic rise in the number of subscribers or users of mobile telephones



Current status of the Telecom sector in India

- We have 165 million subscribers (this includes mobile as well as landline users)
  - Target is to achieve 575 million subscribers by 2012
  - Currently there is a 50-50 split between BSNL and Private Operators in terms of the number of subscribers
  - In the landline segment private players account for 15% of the market, with BSNL accounting for the rest
  - In the mobile telephony market on the other hand, private players account for nearly 80% of the subscribers. Growth in this market has been fuelled by the availability of cheap and affordable handsets

- Currently Tele-density is greater than 10
  - It is currently 2 in rural areas, the target is to increase this to 10

- In terms of Internet usage, there are more than 2 Lakh Broadband customers. A rapid increase is envisaged in this sector

The Road Ahead for Indian Telecommunications

- Policy Decisions on 3G
  - Currently the government plans to auction spectrum for 3G technologies on a first-come-first-served basis
  - Policy decisions must also be taken on allocating extra spectrum. Currently a controversy exists on the rationale for allocating this extra spectrum, with protests by CDMA and GSM operators
  - Decisions need to be taken on the mode of licensing spectrum and fees
    - Should it be based on the number of existing customers or on fresh bids?
    - Should a revenue sharing approach be followed or a license fee approach)

Other decisions facing the telecommunications sector

- New Policies need to be crafted for convergence of technologies that can lead to a unified medium that delivers voice, data and images
- Policies needed on decreasing in interconnect charges to bring down call costs
- Decisions to be made on merging of Access Deficit Charges (paid to BSNL to subsidize some of their non-profitable operations such as rural access) and USO, since they both fulfill similar obligations
- New Policies are needed regarding rural Telecom
  - Particularly on using WiFi for last mile connectivity, and releasing spectrum appropriately
  - Incetivizing private players to provide rural connectivity

Conclusion

1. The telecommunications sector features a large amount of competition between firms, particularly in the cellular telephony space. This is partly due to the reforms enacted by the government. This competition has led to an enormous increase in phone usage (there are more mobile phones than landlines currently)

2. Telecommunications drives information flow and thereby the knowledge and service sectors. This in turn drives economic growth. Favorable policies in this space, and successful implementation have made the “Telecommunications Story” one of the big successes in Indian Infrastructure so far. This in turn has the potential to fuel inclusive economic growth in India in the years to come

Thank You