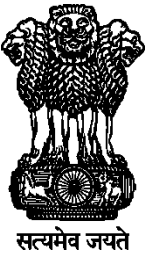


ICT Sector in India Status and Challenges

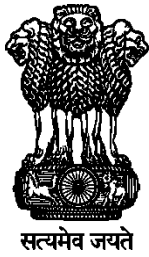
**ITU Regional Workshop on ICT Statistics for Asia-Pacific
2-4 October 2019 , Hanoi, Vietnam**

**Arvind Pandey
Director(P&M)
Ministry of Communications
Government of India
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Contents



- **Demographic Profile & Core Philosophy**
- **Indian Telecom Scenario**
- **ICT-Stakeholders**
- **Measurement of ICT data**
- **Coordination**
- **Legal Framework**
- **Issues and challenges**
- **Way Forward**



Demographic Profile

- **Population** : 1316 million (2nd)
- **Geographical area** : 3.28 million sq km (7th)
- **GDP** : \$ 2.972 Trillion-nominal
: \$11.468 trillion -PPP
- **States/ provinces** : 28
- **Union Territories** : 9
- **Coastline** : 7516 Km
- **Languages** : 22
- **Spoken Languages** : 325 **Dialects** : 1652

Core Philosophy-Inclusive Development



- India's Philosophy -***"sabka saath sabka vikas"*** (Development for All with involvement of All).
- Approach resulted into BB penetration from 15 Mn in 2012 to 595.59 Mn in June 2019.
- Internet data consumption reached 46.23MnTB in 2018 and currently highest in the world.
- Heavy investment made by Govt through BharatNet program to connect 250,000 Gram panchayat covering 600,000 villages-Connecting the unconnected.
- Indian approach for Technologies has always been inclusive and will be inclusive, and India believes leveraging ICT for inclusive development of masses for solving social and economical problems of society.



Indian Telecom Scenario

- **Telecom Subscriber base – 1189.28 million**
 - **Wireless : 1168.31 million**
 - **Wireline : 20.97 Million**
 - **Urban telephones : 678.19 Million**
 - **Rural telephones : 511.09 Million**
 - **Public Sector : 133.58 Million**
 - **Private Sector : 1055.70 Million**

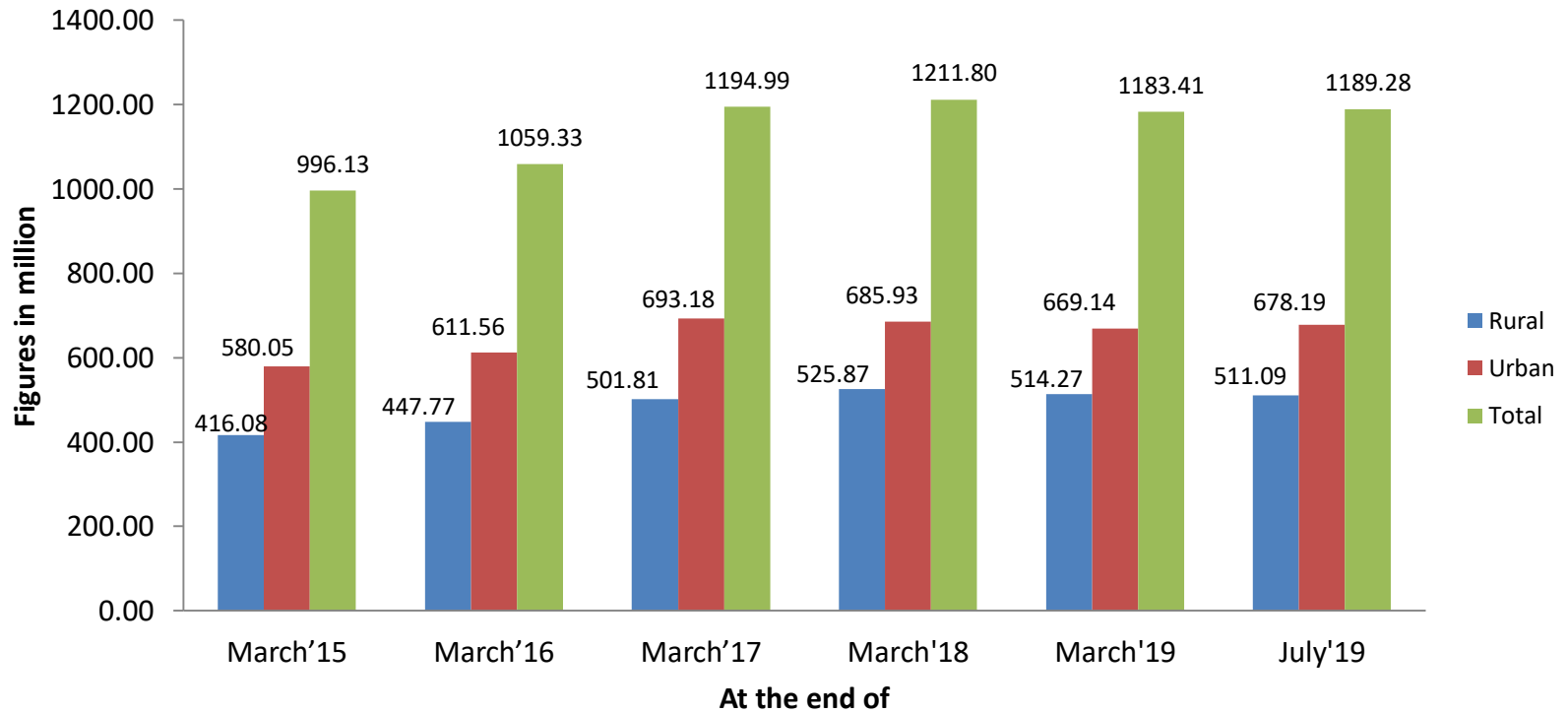
- **Tele-density – :90.23%**
 - **Urban teledensity : 160.87%**
 - **Rural teledensity : 57.02%**

Note: Data as on 31st July 2019



Telephone subscription trend

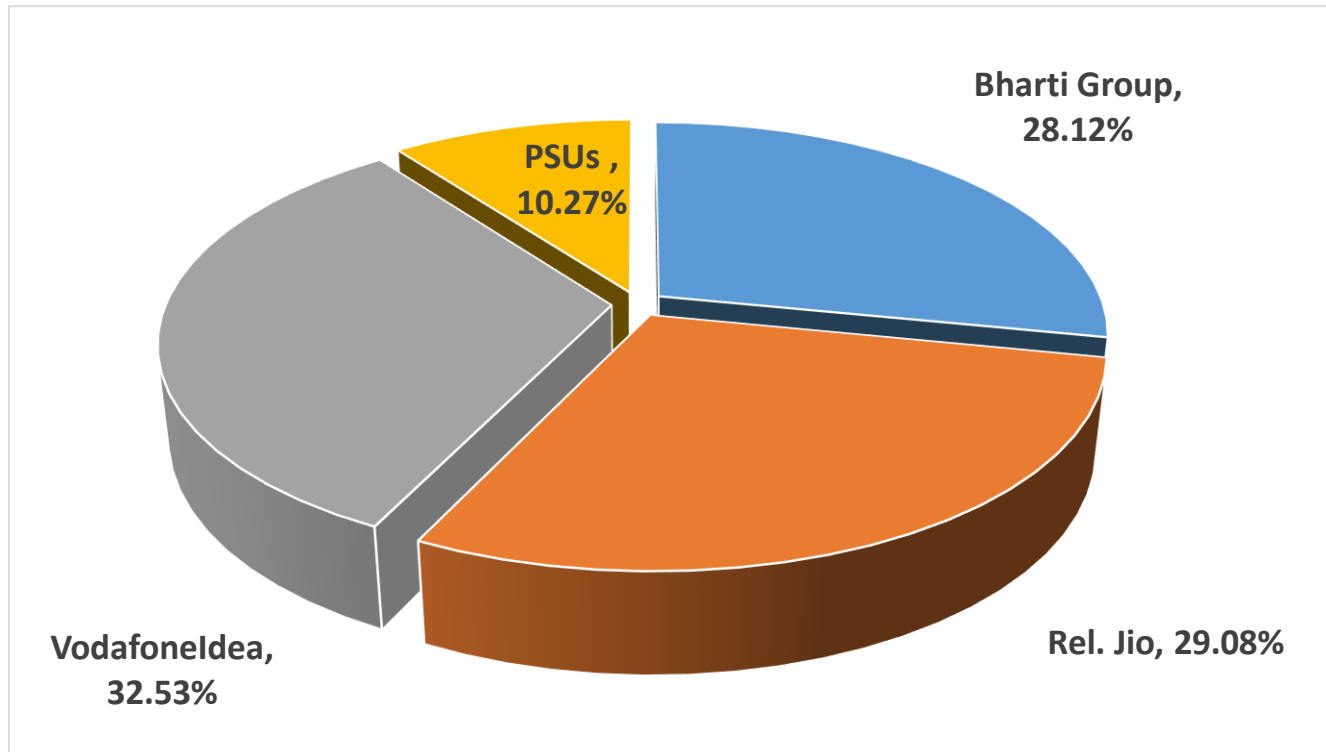
Total Number of Telephone connections



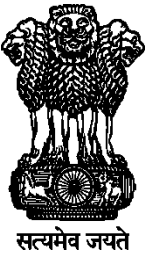
Source: DoT



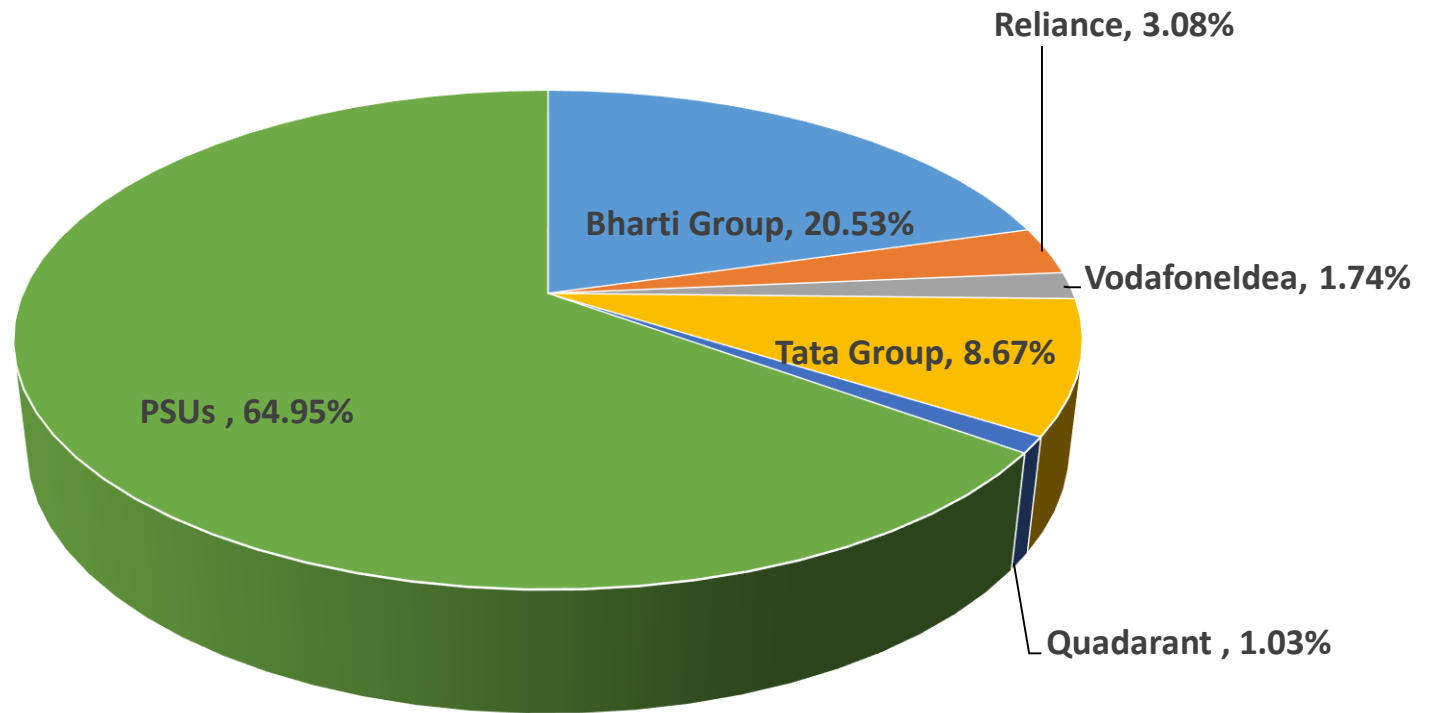
Market Share of TSPs in Wireless connections - July 2019



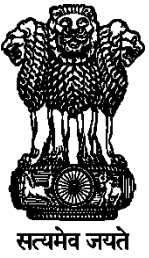
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Market Share of TSPs in Wireline connections- July 2019

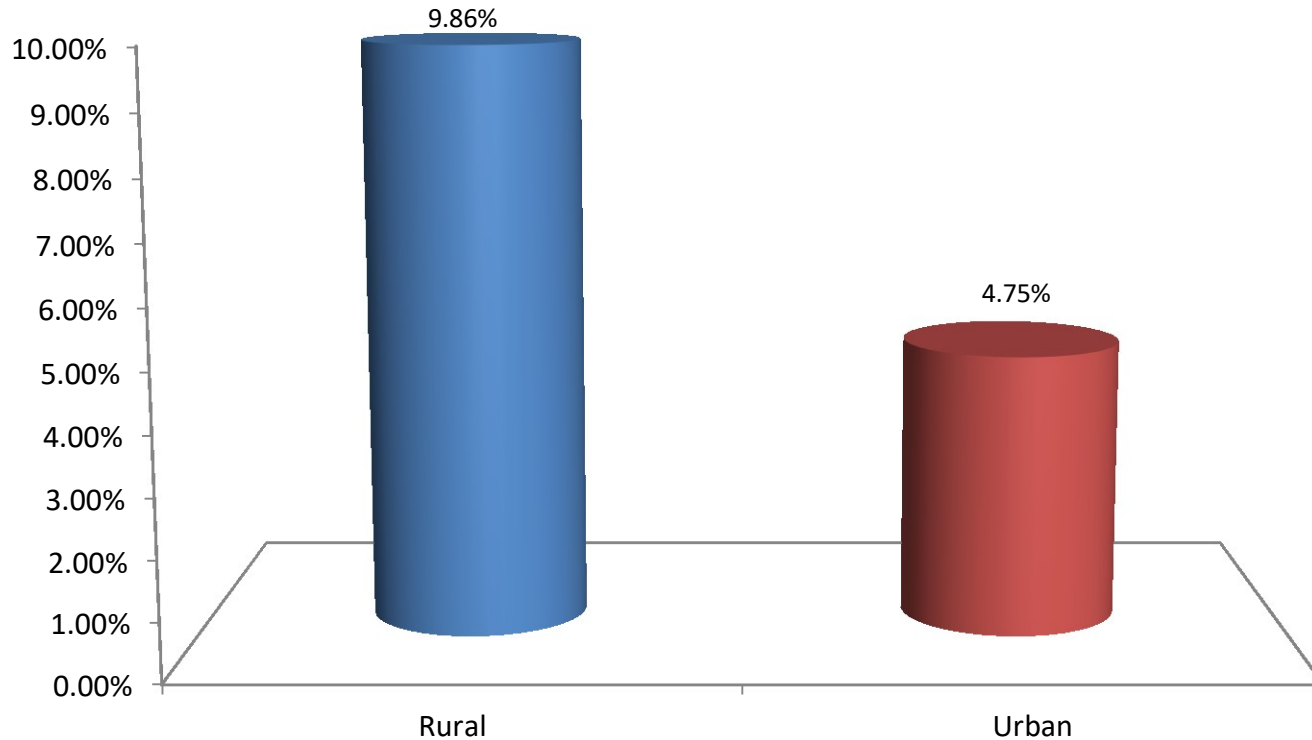


Source: DoT



Telephone growth-Rural vs Urban (2010-2019)

CAGR of total telephone connections 2009-10 to 2018-19



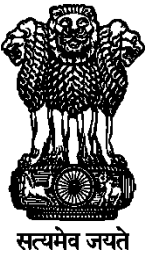
CAGR: Compounded Annual Growth Rate

Source: DoT



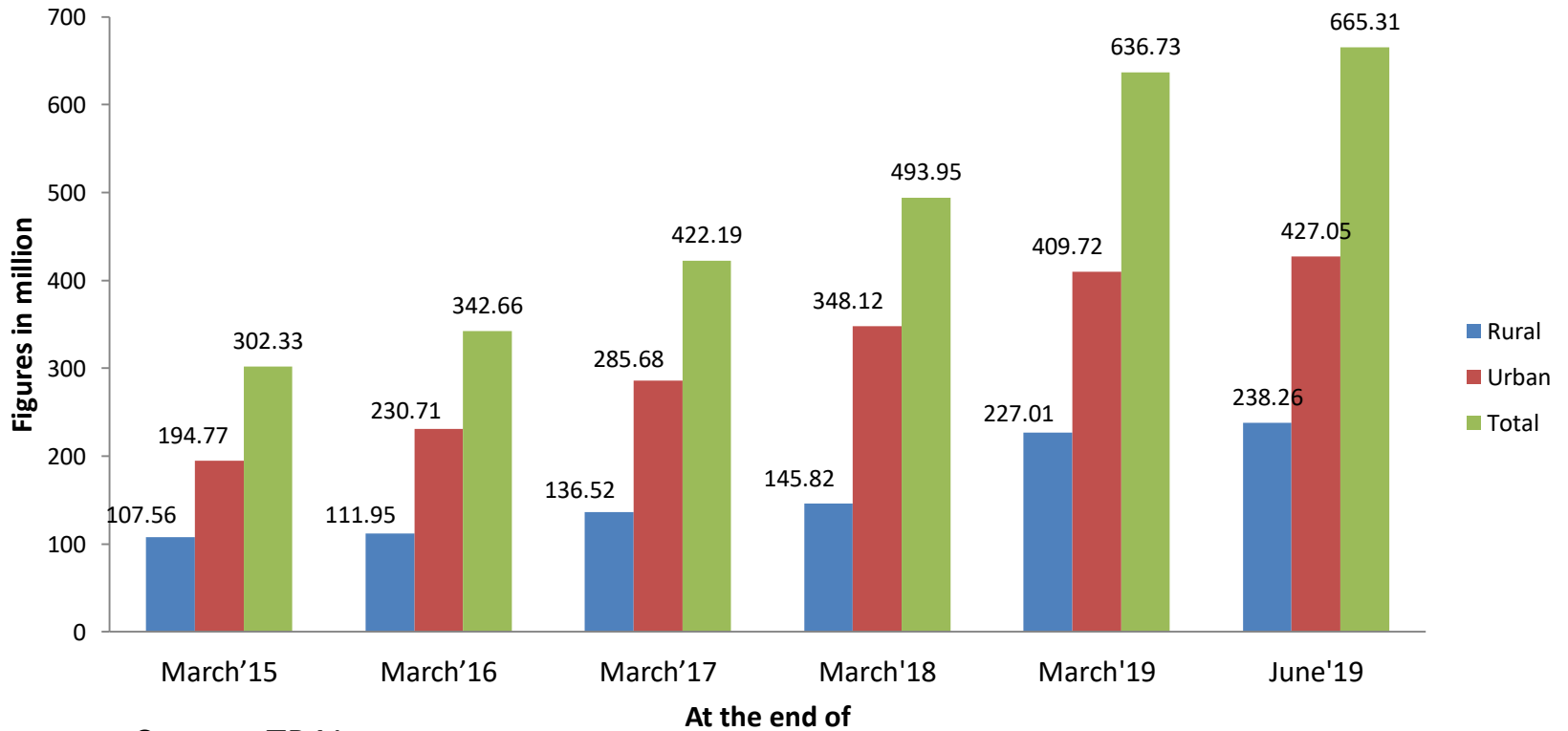
Indian Telecom Scenario

- **Internet Subscribers** :636.73 Million (March 2019)
 - **Broadband subscribers** :594.59 Million (June 2019)
- **Internet subscribers per 100 population : 48.48**
 - **Urban internet subscribers per 100 population : 97.94**
 - **Rural internet subscriber per 100 population : 25.36**
- **Data consumption - 46.23 Mn TB**
 - **Average wireless data usage per subscriber per month -9.06 GB**
 - **Tariff per GB of wireless data - Rs. 7.95 (\$ 0.1)**



Internet connections trend

Number of Internet Connections

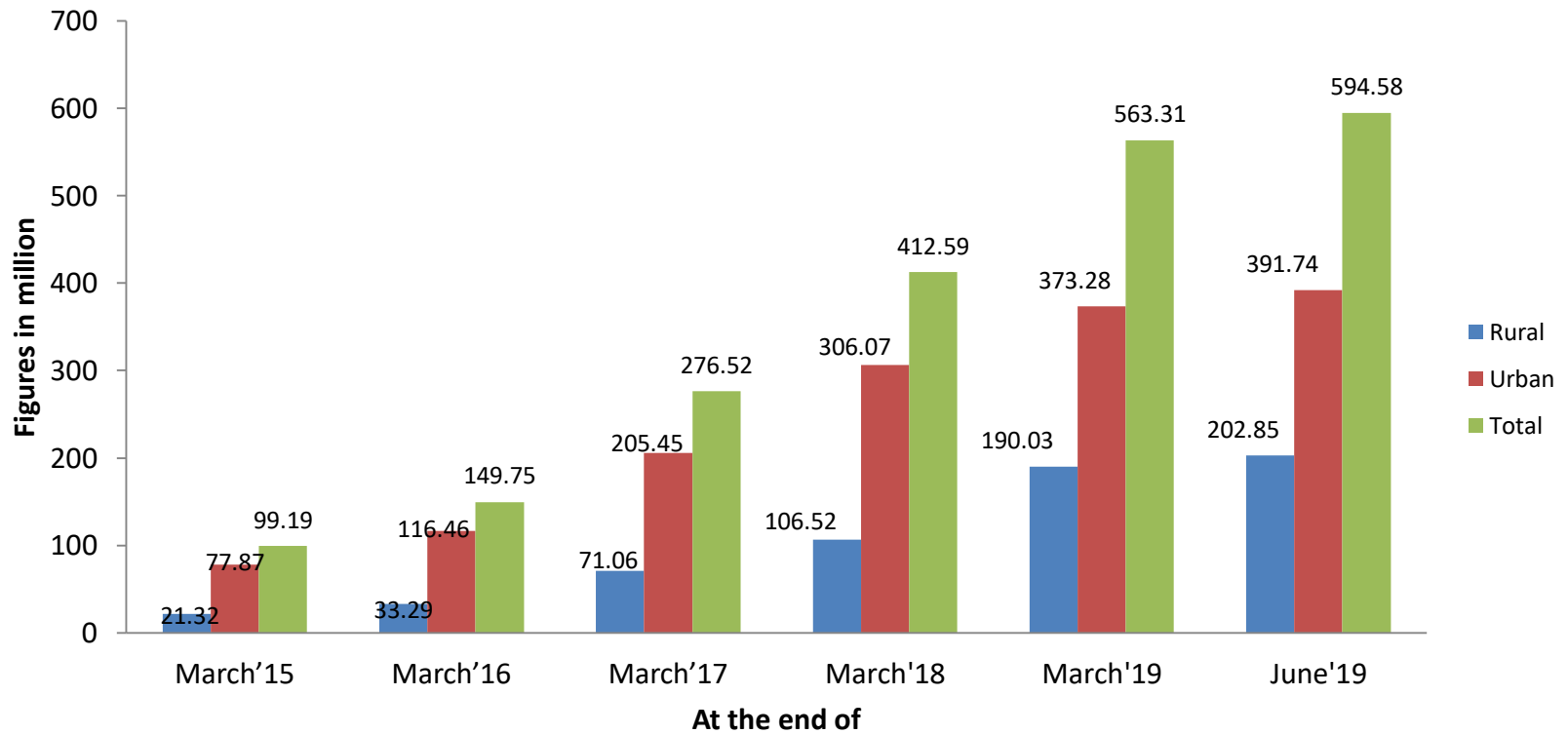


Source: TRAI



Broadband connections trend

Number of Broadband Connections

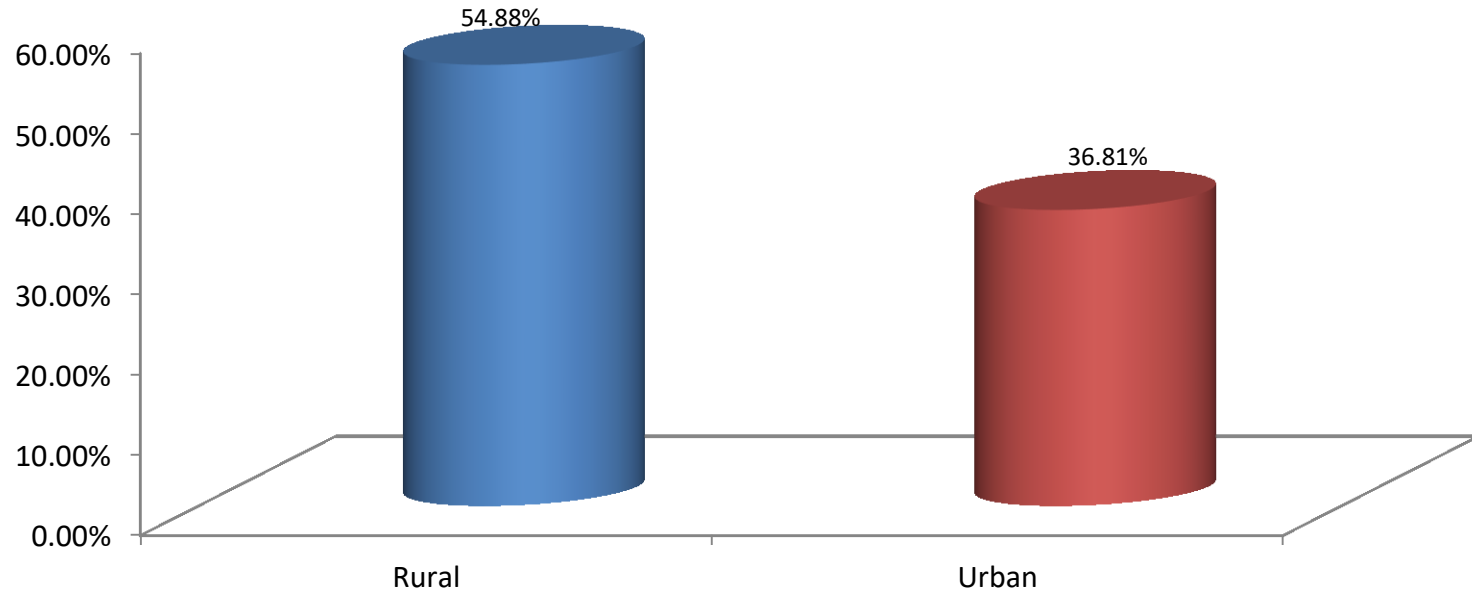


Source: TRAI



Broadband growth - Rural vs Urban (2015-2019)

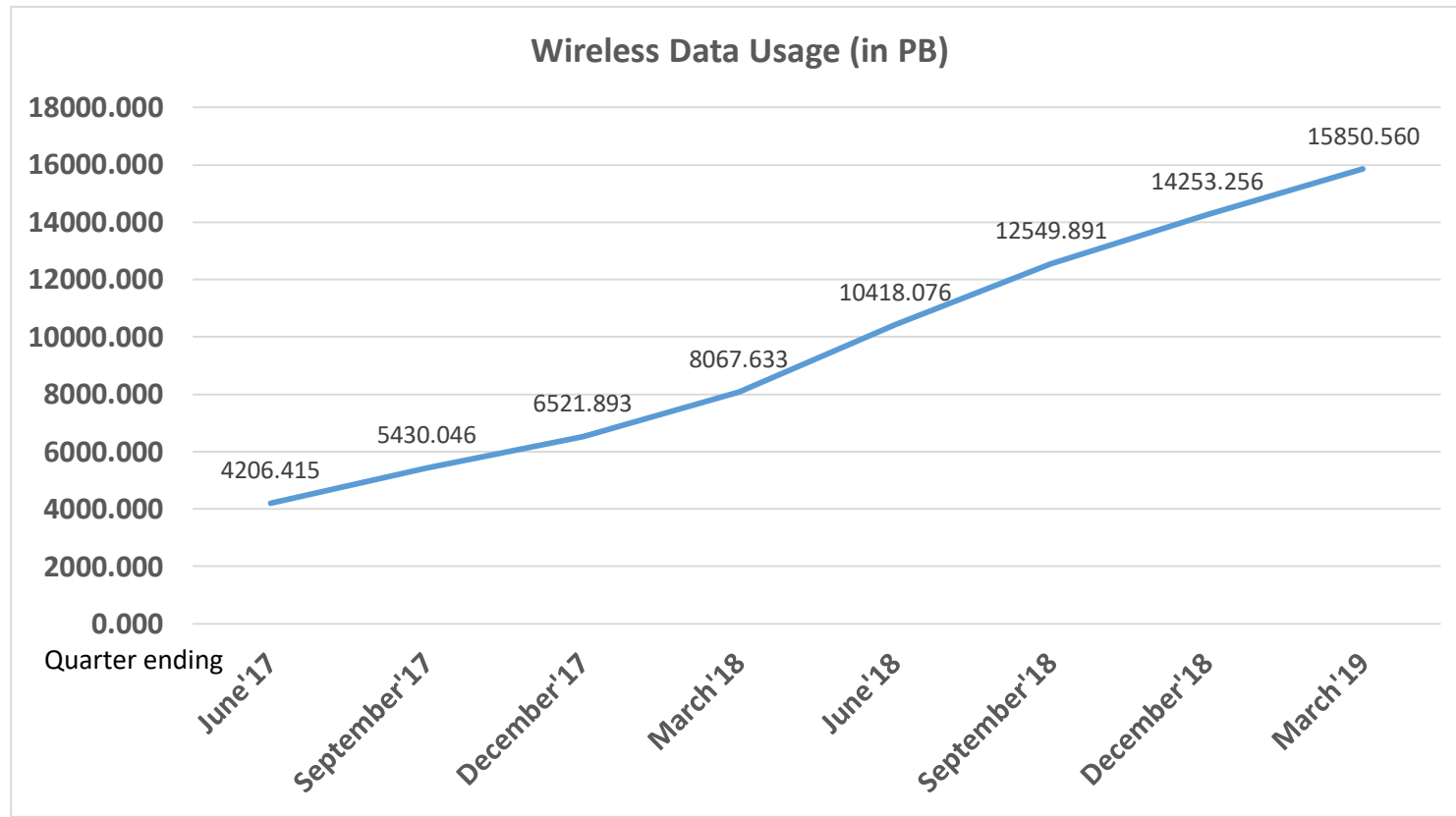
CAGR of Broadband Connections 2014-15 to 2018-19



CAGR: Compounded Annual Growth Rate
Source: TRAI



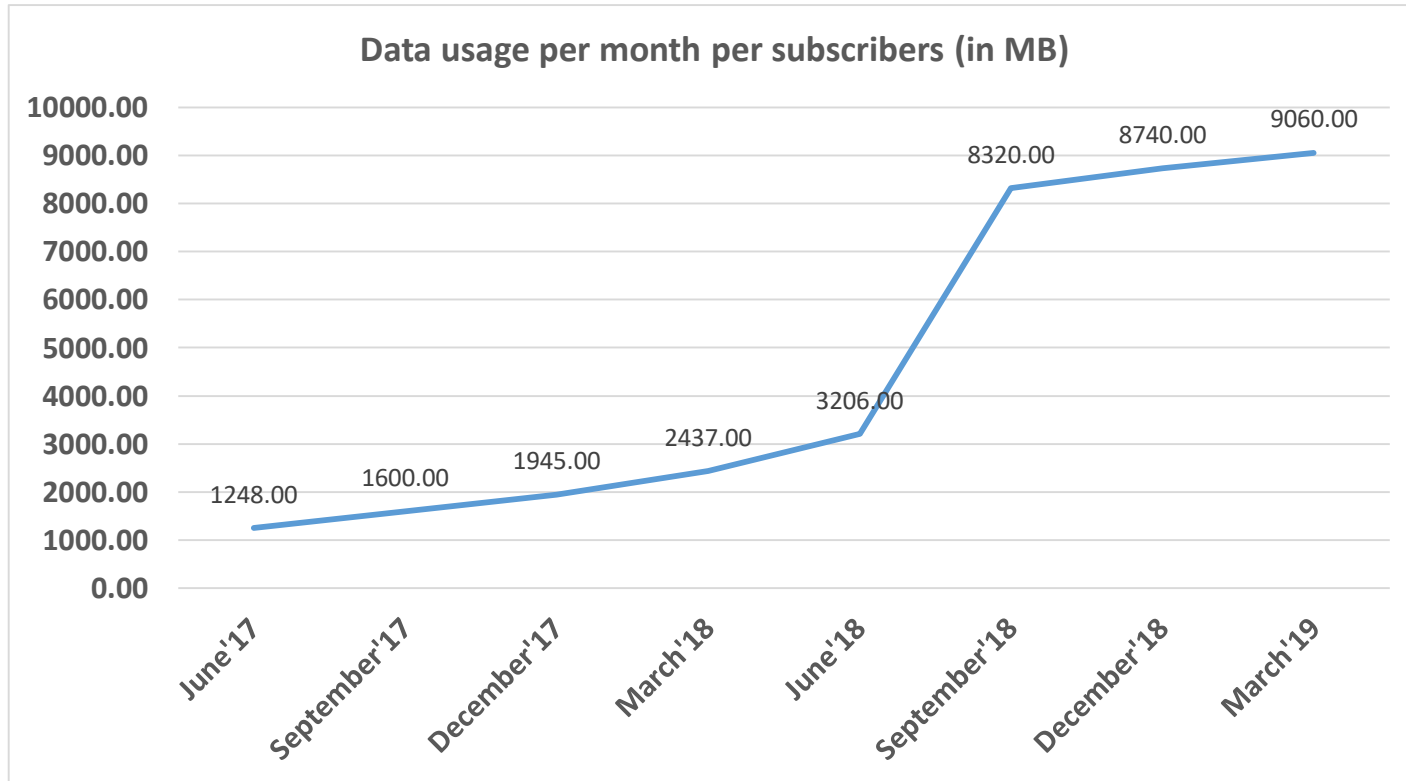
Wireless Data Usage (All India)



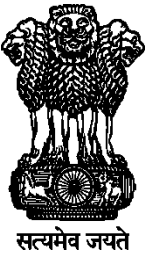
Source: TRAI



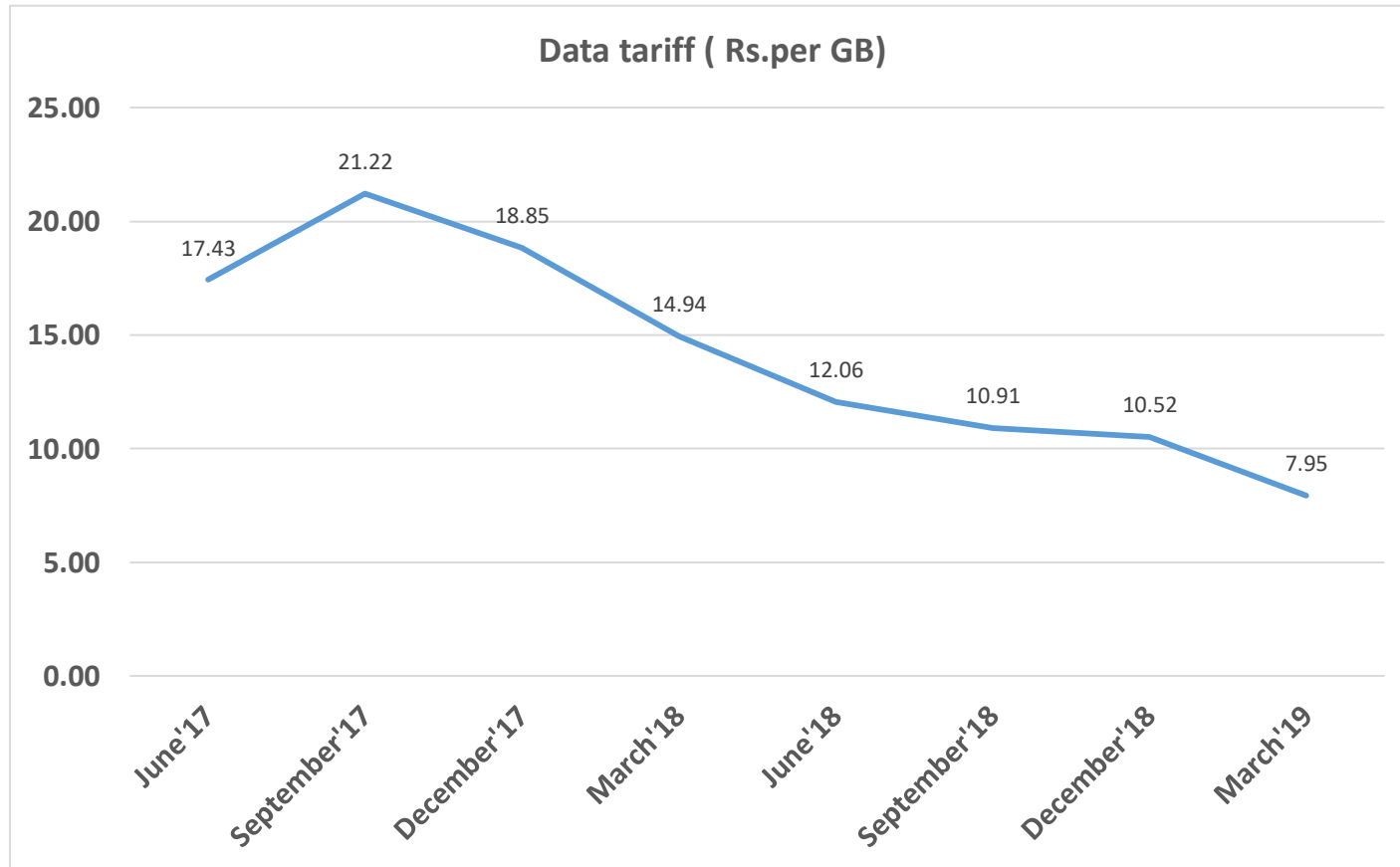
Data Usage per subscriber



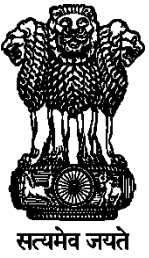
Source: TRAI



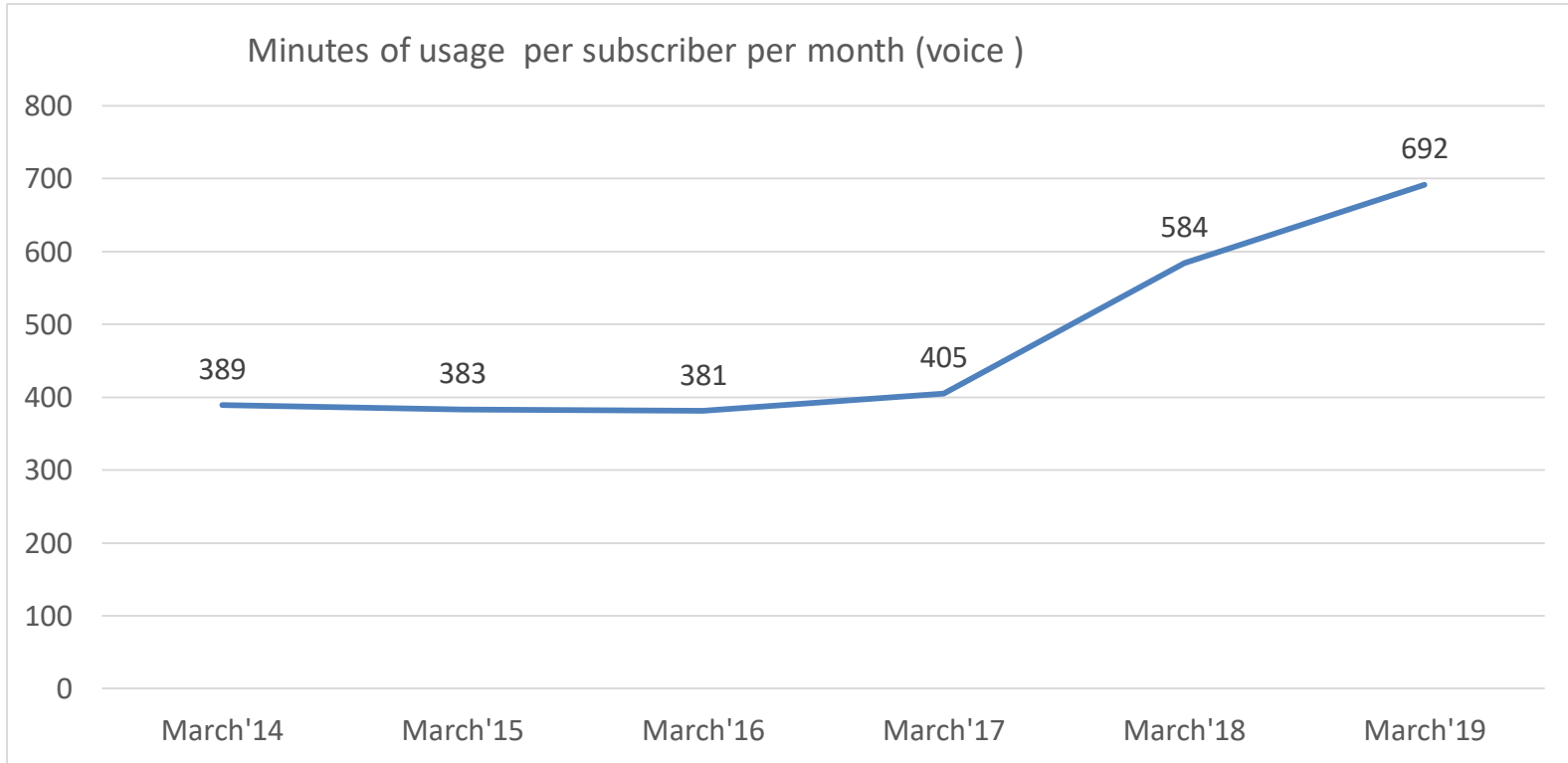
Data tariff per connections



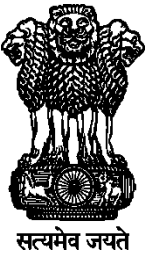
Source: TRAI



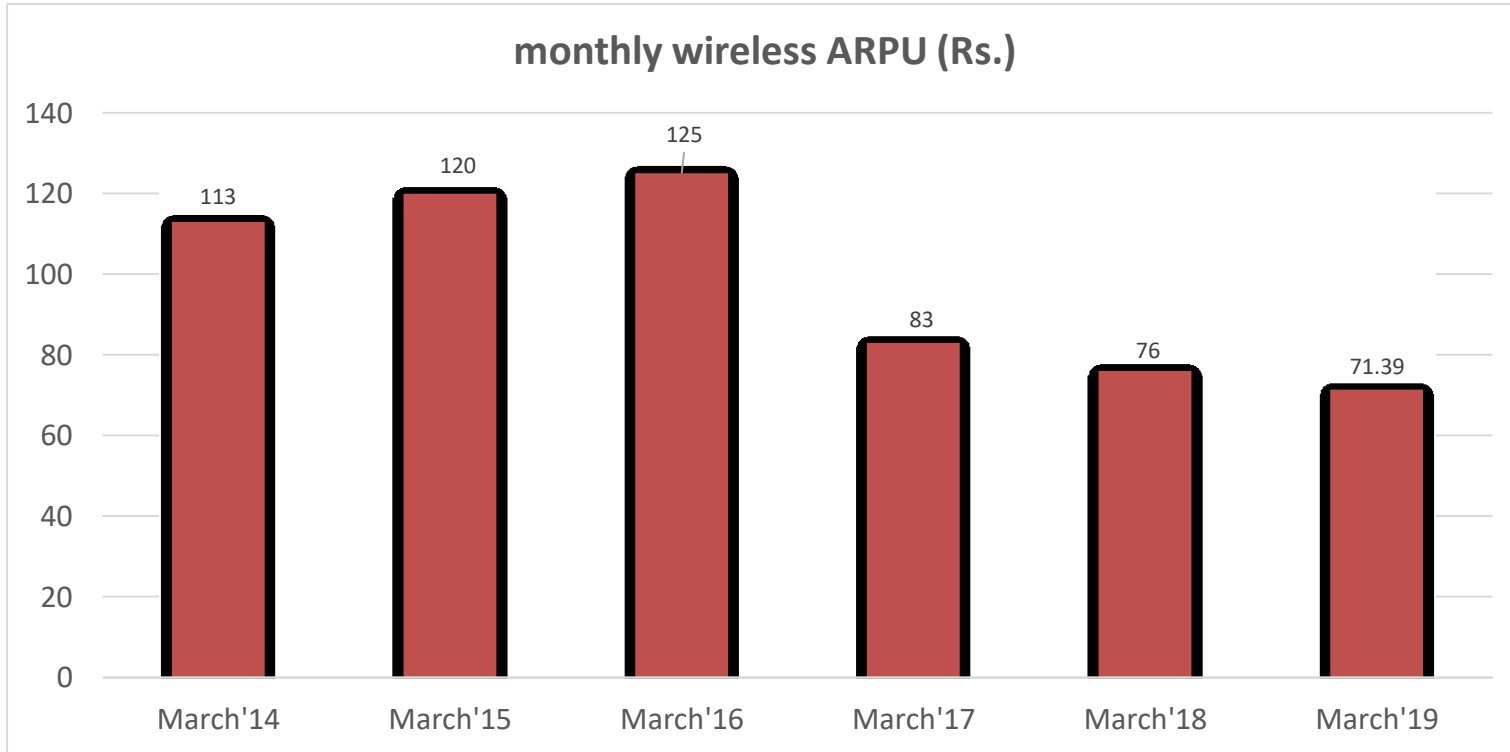
Minutes of Usage (MoU)



Source: TRAI



Wireless ARPU



ARPU: Average Revenue Per User
Source: TRAI



Telecom Coverage

- Number of Towers – 560,162
- Number of BTS (Base Trans-receiver Station) – 2,180,224
 - 2G- 521,650 (23.92%)
 - 3G- 358,158 (15.42%)
 - 4G- 1,300,416 (59.64%)

(As on 12-07-2019)

Percentage of population covered with at least 2G - 97%

Percentage of population covered with at least 3G- 94 %

Percentage of population covered with at least 4G – 94%

ICT in India - Stakeholders



- **Ministry of Communications**
 - Telecom Service Providers, Industry Associations-COAI, TEMA, ISPAI, IAMAI, NASSCOM, etc.
- **Regulatory and Appellate Bodies**
- **National Statistical Office (MoSPI)**
- **Ministry of Human Resource Development (MHRD)**



Ministry of Communications

- **National Telecom Policy**
- **Issue of Licenses**
 - Access service
 - National Long Distance & International Long Distance
 - Internet services
 - Infrastructure Provider , VSAT service etc.
- **Allotment of Spectrum**
- **Universal Service Obligation**
 - BharatNet, NFS, Hilly Areas, Islands

Ministry of Communications



S.N.	Service Area	S.N.	Service Area
1	Andhra Pradesh	12	North East
2	Assam	13	Odisha
3	Bihar	14	Punjab
4	Gujarat	15	Rajasthan
5	Haryana	16	Tamil Nadu
6	Himachal Pradesh	17	Uttar Pradesh (East)
7	Jammu & Kashmir	18	Uttar Pradesh (West)
8	Karnataka	19	West Bengal
9	Kerala	20	Kolkata
10	Madhya Pradesh	21	Delhi
11	Maharashtra	22	Mumbai

Regulatory and Appellate Bodies



- **Telecom Regulatory Authority of India (TRAI)**
 - Recommendation to Ministry on policy issues
 - Interconnect Agreement between TSPs
 - Tariff-Regulation and Directions
- **Telecom Dispute Settlement and Appellate Tribunal (TDSAT)-**
 - Adjudicate matter involving Licensor, Licensee, Regulator and Group of consumers

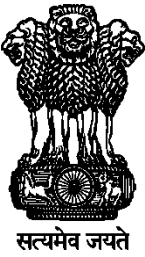
Ministry of Statistics and Program Implementation- (MoSPI)



Lays down and maintains norms and standards in the field of statistics, involving concepts and definitions, methodology of data collection, processing of data and dissemination of results;

- **Central Statistical Office (CSO)**
 - National Account
 - Social Statistical Division
 - Economic Statistical Division
- **National Sample Survey Office (NSSO)**
 - Survey design
 - Data collection
 - Data processing
 - Publication

Ministry of Human Resource Development (MHRD)



Collects data on various indicators on education for Policy making on primary, secondary and tertiary education and sending statistics to UNESCO. ITU takes data directly from UNESCO website.



Measurement of ICT Data

- ❑ **Individual access and Use collected by MoC & TRAI from Telecom operators and Industry Associations**
 - Subscription data- wireline, wireless, internet, Broadband
 - Teledensity-Urban, Rural
 - Telecom financial data
 - Usage and Revenue
 - Data usage of mobile users
 - Cable and Broadcasting data
 - Quality of Service indicators

- ❑ **Trade in ICT goods by DGCI&S - Import , Export**

- ❑ **Trade in ICT services by RBI- Import, Export**

Measurement of ICT Data



□ Household Surveys – conducted by NSSO

- Access to computers, internet by households; Use of internet by individual; ICT Skill etc.
- Latest data–2014(71st round): 75th round just completed in 2019

□ Annual Survey of Industries & Economic Censuses conducted by CSO

- Use, Access and Skill of computers, internet by establishments



Measurement of ICT Data

MHRD Collects data on various indicators on education for Policy making on primary, secondary and tertiary education and sending statistics to UNESCO. ITU takes data directly from UNESCO website. Data for IDI skill (proxy indicators) are as under:

- Mean years of Schooling
- Gross secondary enrolment ratio
- Gross tertiary enrolment ratio
- ICT skill

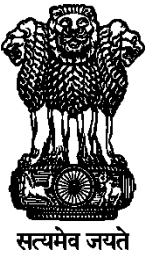


Coordination

Ministry of Communication, being nodal agency for ICT indicators, coordinates with

- Telecom Regulatory Authority of India
- Telecom service Providers and their Associations
- National Statistical Office –household data
- Ministry of Human Resource Development- skill data
- Inter-ministerial task force is set up for coordination on ICT data

Legal Framework



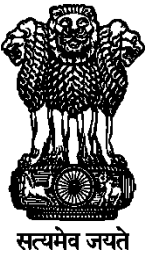
- **The Indian Telegraph Act 1885**
 - **License Terms and Conditions, Audit of TSPs**
- **Telecom Regulatory Authority of India Act 1997**
- **The Collection of Statistics Act 1953**
- **Various Acts under MHRD**



Issues and Challenges

- **Size - Population, Geographical Area**
- **Difficult terrains- Mountains & Deserts**
- **Diversity - Language, Culture**
- **Digital Divide – Urban vs Rural**
- **Lack of dedicated surveys and Periodicity**
- **Decentralized systems – not integrated**

Way Forward



- **Technology based solution for survey so as to get timely and good quality data**
- **Core group on various futuristic indicators like Cyber security, Artificial Intelligence, M2M/ IoTs, OTT, Spectrum, 5G etc.**



सत्यमेव जयते



Thank You