

Rural Broadband & Bridging the Digital Divide in India

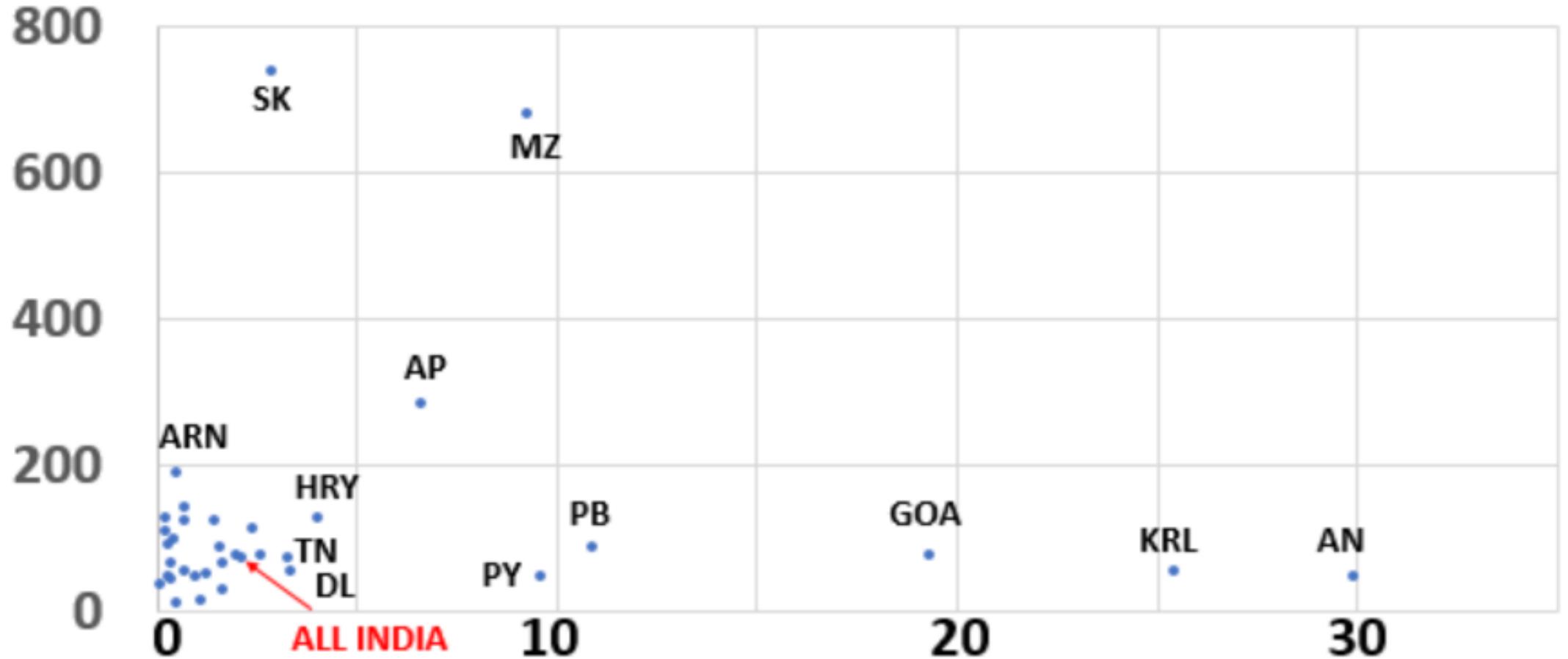
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Growth in FTTH Connections in Last Two Years

Area	No of connections in Dec 2022 in Lakhs	No of connections in Dec 2024 in Lakhs	Growth in Lakhs	% Growth
Rural	29	51	22	75%
Urban	230	326	96	42%
Overall	259	377	118	45%

Growth Rate of Rural FTTH Vs Rural FTTH Density

% Growth Rate since Dec 2022



Rural FTTH connections per 100 Households in December 2024

Definitions

DOT Notification dated 25.1.23

Broadband is a data connection that is able to support interactive services including Internet access and has the capability of the minimum download speed of 2 Mbps to an individual subscriber

Narrow band connections provide data speeds less than 2 Mbps

ITU (2022) - Broadband access is considered affordable if it costs less than 2% of the average monthly income of an individual

No of counties meeting this benchmark in 2022 :

Mobile broadband: 103

Fixed broadband : 71

Average income /rural household / month (2022 - NABARD)

➤ Income > Rs. 18000 (2% of 18000 = 360 Rs.)

State / UT	Av. Rural Monthly Income in INR (2% =Rs.)	Rural FTTH Density / 100 Household	Growth Rate in Rural FTTH in 2 Yrs
Punjab	21,842 (Rs. 437)	10.86	87%
Haryana	21,752 (Rs. 435)	4.05	126%
J&K	18,993 (Rs. 380)	0.48	12%
Goa	18,680 (Rs. 373)	19.34	77%

Average income /rural household / month (2022 data of NABARD)

➤ > Between Rs. 18 K & 10K (2% of 10000 = 200 Rs.)

State / UT	Av. Rural Monthly Income in INR (2% =Rs.)	Rural FTTH Density / 100 Household	Growth Rate in Rural FTTH in 2 Yrs
Ladakh	17407 (Rs. 348)	0.72	143%
Kerala	16,788 (Rs. 336)	25.44	56%
Tamil Nadu	16,487 (Rs. 330)	3.38	55%
Maharashtra	16,238 (Rs. 325)	1.24	51%
Gujarat	15,957 (Rs. 319)	1.64	65%

Average income /rural household / month (2022 data of NABARD)

State / UT	Av. Rural Monthly Income in INR (2% =Rs.)	Rural FTTH Density / 100 Household	Growth Rate in Rural FTTH in 2 Yrs
Manipur	15,398 (Rs. 308)	1.25	124%
Mizoram	15,143 (Rs. 303)	9.28	681%
Himachal Pradesh	14,997 (Rs. 300)	2.63	73%
Meghalaya	14,448 (Rs. 289)	0.23	110%
Sikkim	13,883 (Rs. 278)	2.89	737%
Arunachal	12,730 (Rs. 255)	0.48	190%

Average income /rural household / month (2022 data of NABARD)

- ▶ States / UT namely – Karnataka, Rajasthan, Uttarakhand, Assam, MP, Chattisgarh, Nagaland, Telangana, UP, West Bengal have FTTH / 100 house hold less varies from 1.9 % to 0.2% (UP – 0.2%)
- ▶ Av. Rural monthly income per house hold varies from 13700 to Rs 10000 from state to state.
- ▶ At least 5 % of the population in rural areas of these states would have average house hold income close to Rs. 20,000/- or above (2% of 20000 = 400 Rs.)
- ▶ **As such there is scope to enhance FTTH density to 5 % in these states i.e. around 35 lakh additional FTTH connections in these 10 states.**

As in Dec 2024, there were 52 Lakh rural FTTH connections, Pan India

Average income /rural household / month (2022 data of NABARD)

➤ > Between Rs. 18 K & 10K (2% of 10000 = 200 Rs.)

State	Av. Rural Monthly Income in INR (2% =Rs.)	Rural FTTH Density / 100 Household	Growth Rate in Rural FTTH in 2 Yrs
Pondicherry	-	9.63	49%
Andaman & Nicobar	-	29.89	48%
Andhra Pradesh	11,037 (Rs. 221)	6.62	283%
All India	12,698 (Rs. 254)	2.15	75%

Average income /rural household / month

(2022 data of NABARD)

- Income < Rs. 10K (2% of Rs. 8878 (min) = 178 Rs.) Jharkhand, Odisha, Tripura, Bihar

State	Av. Rural Monthly Income in INR	Rural FTTH Density / 100 Household	Growth Rate in Rural FTTH in 2 Yrs
Tripura	9,708 (Rs. 194)	0.95	47%
Jharkhand	9,085 (Rs. 182)	0.39	45%
Odisha	8,924 (Rs. 178)	0.68	53%
Bihar	8,878 (Rs. 177)	0.29	92%

Reasons for Digital Divide

Prices depend on:

- **Market size**
- **Infrastructure**
- **Institutional framework conditions**
- **Degree of competition and taxes**

Rural area:

- **Less population density and less average income**
- **Higher CAPEX and OPEX per capita**
- **Even if Govt. meets CAPEX, OPEX should be met from revenue for sustainability**

Measures to bridge the Digital Divide

- Enablers to boost demand of Broadband in villages:
- Infrastructure – Electricity, Road, Public transport
- Deploy Internet to enhance efficiency, quality and promptness of **supply chain management from / to the village**
- Digital literacy and awareness
- Role of NGOs / self help groups / cooperatives

Measures to bridge the Digital Divide

- **Enhance crop productivity using Artificial intelligence (AI)**
- **Availability of Banking Services and use of electronic payments.**
- **High Data applications - Study Centres / Photographers**
- **Peer pressure**
- **Use of Internet to in Governance**
- **Multi utility platforms**

Why FTTH ?

S.N.	Parameter	Status as on 31.12.2024
1.	Average Wireless Data Usage per subscriber per month FTTH (Fiber to the Home) data usage per rural subscriber home per month	21.52 GB Around 9 times of Mobile
2.	Revenue from wireless data per GB per month Revenue FTTH per GB per month (approx.)	Rs. 9.34 Rs. 4.00

Statistics

S.N.	Parameter	Status as on 30.9.2024
(i)	Broadband subscribers (Total 94.5 Crores)	Rural - 42% / Urban - 58% Wired – 5% / Wireless - 95%
(ii)	Internet Subscribers per 100 population	Urban - 111.64 / Rural – 44.99 All India – 68.86

Statistics

S.N.	Parameter	
(iii)	Total No. of Villages in India	6.48 Lakhs
(iv)	Villages having at least 1 FTTH connection	Around 1 Lakh
(v)	Villages having Internet connections via satellite	0.05 lakhs
(vi)	Villages having 4G coverage	6.24 Lakhs
(vii)	FTTH Connections (Total-3.8 Crores)	Urban – 3.26 Crores Rural – 0.54 Crores
(viii)	No. of Internet Service providers in India	2600

Questions ??

Thanks !

Impact of Bridging the Digital Divide

- **A 10% increase in both mobile and fixed broadband in middle-income countries can yield 1.8% and 0.5% increases in GDP, respectively. (as per Report of Horasis)**
- **Digital inclusion results in enhanced productivity, job opportunities, entrepreneurship, access to better health, education, financial services, quality of life, governance and transparency.**
- **India's digital economy accounted for 11.74% of the GDP (INR 31.64 lakh crore or USD 402 billion) in 2022-23 (PIB release dated 1.2.25)**

Trend of Mobile Data Consumption vs Cost

Year	Av. Wireless data usage per user in GB per month	Cost of Data per GB in INR
2014	0.30	269
2015	0.40	226
2016	1.10	75.60
2017	4.10	19.40
2018	7.70	11.80
2019	9.90	7.80
2020	11.80	10.90
2021	14.00	10.00
2022	15.80	10.50
2023	17.36	9.94
2024	19.30	9.12