Email   Saumyata Bhargava

Fwd: BIF Comments to TRAI Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies"

From : S.M.K. Chandra <ja-cadiv@trai.gov.in>   Mon, Jan 01, 2024 10:08 AM

Subject : Fwd: BIF Comments to TRAI Consultation Paper on "Digital Inclusion in the Era of   📎2 attachments
Emerging Technologies"

To : Saumyata Bhargava <Saumyata.bhargava@trai.gov.in>

From: tvr@broadbandindiaforum.in
To: "A.K Singh" <advisorit@trai.gov.in>
Cc: "S.M.K. Chandra" <ja-cadiv@trai.gov.in>
Sent: Friday, December 29, 2023 10:38:59 PM
Subject: BIF Comments to TRAI Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies"

Date: 29 December 2023

Shri Anand Kumar Singh,
Advisor (CA & IT),
Telecom Regulatory Authority of India,
Government of India.

Dear Sir,

Please find underlined enclosed BIF comments (Word and PDF copy) to the TRAI Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies" dated 14th September 2023.

We earnestly request your kind consideration and support in this regard.

Best Regards,

T.V. Ramachandran,

President,
Broadband India Forum
Suites - 215 & 216,DBS Office Business Centre,
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"*Where the mind is without fear and the head is held high...*

Where words come out from the depth of truth..

Where tireless striving stretches its arms towards perfection..."

BIF Response - TRAI CP on Digital inclusion_Final.doc
486 KB

BIF Response - TRAI CP on Digital inclusion_Final.pdf
522 KB

From : S.M.K. Chandra <ja-cadiv@trai.gov.in>	Mon, Jan 01, 2024 10:01 AM
Subject : Fwd: BIF Comments to TRAI Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies"	📎2 attachments
To : Saumyata Bhargava <Saumyata.bhargava@trai.gov.in>	

From: "A.K Singh" <advisorit@trai.gov.in>
To: "S.M.K. Chandra" <ja-cadiv@trai.gov.in>
Sent: Sunday, December 31, 2023 10:58:24 AM
Subject: Fwd: BIF Comments to TRAI Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies"

From: tvr@broadbandindiaforum.in
To: "A.K Singh" <advisorit@trai.gov.in>
Cc: "S.M.K. Chandra" <ja-cadiv@trai.gov.in>
Sent: Friday, December 29, 2023 10:38:59 PM
Subject: BIF Comments to TRAI Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies"

Date: 29 December 2023

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BIF Response to TRAI CP on Digital Inclusion in the Era of Emerging Technologies

Preamble

1. At the outset, BIF lauds the Authority for coming out with an important Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies". Digitalization of the economy and society has become irrevocable, and it is set to penetrate every sector of the economy and human life deeply. BIF concurs with TRAI when it says that "Digital Inclusion is the process of bridging Digital Divide" and there have been challenges in uniform adoption of digital ecosystem by all sections of society. These identified gaps are usage gap, gender gap, rural–urban gap and connectivity gap in schools, educational institutes and primary health care centres across the country. Some of the factors which are responsible for these gaps are issues related to digital literacy, connectivity, affordability, and the rapid rise of emerging technologies.

2. India has showcased that it is riding high on the wave of digitalization with a 200% increase in the rural internet subscriptions and a 158% increase in the urban internet subscriptions between 2015 and 2021 as per the Economic Survey 2023. The Economic Survey 2023 also states that in the financial year 2021-22 alone 8840 crores worth of digital financial transactions were carried out of which the share of UPI (Unified Payment Interface) was 52%. Delivery of citizen services is also increasingly getting digitalized, as access to Internet proliferates down to the rural and deep interiors of the country. Despite this, almost 40% of the citizens of the country still do not have access to the internet, majority of who are in rural areas.
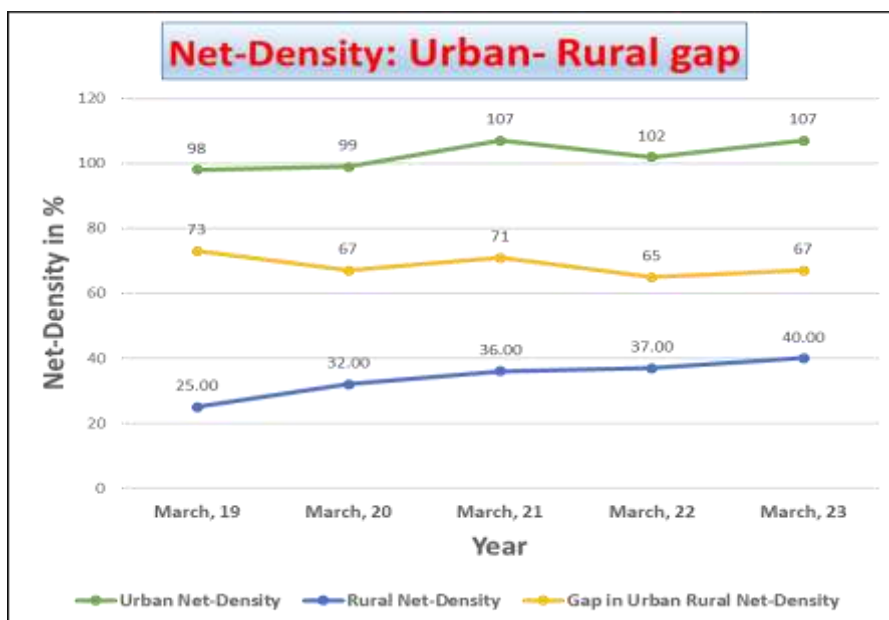
3. **Digital divide is stagnant** as seen from the above graph shows that while internet density in urban areas is 107% (average of more than 1 connection/subscriber), it is a paltry 40% in rural areas. There is, therefore, an urgent need to improve overall rural internet penetration. The net density gap has remained constant at almost 70% over the last 5 years. There have been disconnections of

urban mobile numbers due to KYC non-compliances. Thus, decline in urban mobile connections can not be attributed to decline in Urban – Rural gap. To bridge this gap, more efforts are required for proliferation of broadband connectivity everywhere particularly because Oxfam reports that the Digital India programme has benefitted the privileged society more than the underprivileged[1].

4. "During the course of the pandemic, as schools increasingly turned to online education to avoid exposure to the young children to the pandemic, the digital divide produced stark consequences. Children belonging to the economically weaker sections / disadvantaged groups had to suffer the consequence of not having to fully pursue their education or worse still drop out because of the lack of access to internet and computer", noted a three-judge Bench of the Supreme Court of India comprising of Justices D.Y. Chandrachud, Vikram Nath and B.V. Nagarathna[2]. The pandemic further exacerbated these inequalities. As per Oxfam India's policy brief on Educational Technology in School Education in India, more than half the children with disabilities (56.5 per cent) were struggling to attend classes.[3]

5. Penetration of Internet Connectivity is dependent on availability of reliable broadband service, digital literacy and affordability. More than 70% of the people in India live in rural areas and have limited capacity to pay.

6. Reliable broadband service is dependent on availability of robust Digital Communications Infrastructure (DCI). DCI is the bed-rock for driving economic growth and societal benefits. As per International Telecommunications Union (ITU), *"Digital infrastructure is the key to enabling the benefits of the digital economy and society. Digital infrastructure is the physical hardware and associated software that enables end-to-end information and communications systems to operate".* India is a mobile first nation with mobile accounting for 98% of overall connectivity. However, according to a 2021 study, digital payments transaction failure rates in the NE region are at 1.5- 2X the national average due to 3X higher network downtime and 50% slower internet speeds compared to other regions of the country.[4] Thus Digital connectivity is critical element for successful use of DPI.

7. Existence of Technological digital divide:

    a. Fixed Vs Mobile: Globally, the monthly average for data use was 257 GB per fixed-broadband subscription, compared to 11 GB per mobile-broadband subscription in 2022. Monthly fixed-broadband traffic in low-income countries averaged 161 GB compared to only 1 GB for mobile[5]. This means globally fixed broadband carries 21 time more traffic

[1] https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide

[2] https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide

[3] https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide

[4] https://www.defindia.org/wp-content/uploads/2023/07/The-State-of-Access-Digital-Connectivity-and-Inclusion-in-North-Eastern-Region-of-India-2023_PRINT-1.pdf

[5] https://www.itu.int/en/mediacentre/Pages/PR-2023-11-27-facts-and-figures-measuring-digital-development.aspx#:~:text=This%20edition%20shows%20that%20there,Luckyson%20Zavazava%2C%20Director%20of%20ITU's

than mobile broadband indicating technological digital divide between those who have fixed BB and who do not have.

b. <u>5G Vs others generation of mobile technologies</u>: Dr Cosmas Luckyson Zavazava, Director of ITU's Telecommunication Development Bureau said, "the new indicators on 5G network coverage and Internet traffic highlight ongoing disparities between high and low-income countries, deepening the digital divide[6]. The areas which is not covered under 5G gets deprived off higher speeds and low latencies and use cases of 5G while for telcos ii is difficult to monetize even the 5G network deployed in the cities itself.

8. Digital public infrastructure (DPI) will also form an integral part of DCI too. DPI is a collection of technological systems, platforms, and services that enable the Indian government, businesses, and citizens to interact digitally. Often referred to as the India Stack, it includes a number of building blocks such as BharatNet, Aadhaar (a biometric identification system), e-KYC (electronic know your customer), UPI (Unified Payments Interface), and DigiLocker (a cloud-based document storage system) among others.

Response to the Questions of the Consultation Paper

Please find below our detailed response to the questions of the Consultation Paper.

1.   What should be the definition of Digital Inclusion? What all parameters should it include to highlight disparities across different segments of society to have a realistic assessment from a policy perspective? Please provide your answer with suitable justification.

BIF Response:

1.1. BIF is of the view that definition of digital inclusion by UN is more appropriate. UN has defined Digital inclusion[7] as, "*equitable, meaningful and safe access to use, lead and design of digital technologies, services and associated opportunities for everyone, everywhere*".

1.2. The following parameters should be used to highlight disparities across different segments of society and for a realistic assessment from a policy perspective:

1.2.1. **Equal Access:** This is to ensure that all individuals, regardless of their background, status, or circumstances, should have equal access to the Internet, without any discrimination.

1.2.2. **Meaningful Use:** This parameter highlights the need for individuals to not only have access but also have the ability to use digital technologies meaningfully for various purposes such as education, work and communication. This parameter acknowledges

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[6] https://www.itu.int/en/mediacentre/Pages/PR-2023-11-27-facts-and-figures-measuring-digital-development.aspx#:~:text=This%20edition%20shows%20that%20there,Luckyson%20Zavazava%2C%20Director%20of%20ITU's

[7] https://www.un.org/techenvoy/sites/www.un.org.techenvoy/files/general/Definition_Digital-Inclusion.pdf

that access alone is insufficient and it's essential to have the necessary skillsets to utilize the Internet effectively.

1.2.3. **Safety:** This is to recognize the importance of safety in the digital environment, particularly for marginalized or vulnerable populations. This parameter addresses threats and risks such as online harassment, misinformation and cyberbullying, which can disproportionately affect certain groups, particularly women and children.

1.2.4. **Intersectionality:** This acknowledges that digital inclusion must consider multiple social identities and barriers faced by individuals. This parameter underscores the importance of understanding how factors like gender, age, ability, race and socio-economic status intersect to create unique challenges for different groups.

1.2.5. **Affordability:** Affordability of digital devices, data and services is a critical barrier to access. This parameter emphasizes the need for policies that ensure cost-effective access to digital technologies.

1.2.6. **Digital Literacy**: This parameter relates to the importance of digital literacy skills, which enable individuals to use digital devices and services effectively. This parameter recognizes that digital skills are essential for meaningful participation in today's digital age.

1.2.7. **Accessibility:** This parameter ensures that digital technologies, content and services are accessible to individuals with disabilities. This parameter underscores the need for inclusive design and accessible technology. To highlight, digital inclusion must help access by Persons with Disabilities (PWDs) in pursuing their daily activities, education, employment and access to basic human rights such as to information and health.

1.2.8. **Participation :** This is to bring focus on the ability of individuals to engage actively in digital spaces, including creating and influencing content. This parameter encourages active participation in the digital world, not just passive consumption, including online civic engagement and advocacy.

1.2.9. **Privacy:** This highlights the importance of privacy and data protection, particularly in the context of personal data usage online. This parameter underscores the need for individuals to have control over their data.

1.2.10. **Community Engagement:** This is to promote the involvement of marginalized communities in digital inclusion efforts. This parameter recognizes that the perspectives of excluded groups are essential for effective digital inclusion strategies.

1.2.11. **Availability of Infrastructure:** This parameter acknowledges the role of basic enabling infrastructure such as internet connectivity and digital devices, in digital inclusion. This parameter underscores the importance of infrastructure development.

1.2.12. **Data Disaggregation:** This emphasizes on the need for collecting and using disaggregated data to understand the intersectional nature of exclusion. This parameter ensures that policies are targeted and responsive to the specific needs of different groups.

1.2.13. **Equity:** This is to emphasize on the importance of equity in digital inclusion, where all individuals are provided with what they need to succeed. This parameter aims to prevent further inequalities in the digital world.

1.2.14. **Local Relevance:** Digital inclusion efforts should prioritize local relevance by offering content and services in local languages and addressing cultural and societal norms. This parameter acknowledges that one-size-fits-all approaches may not be effective.

1.2.15. **Human Rights-Based Approach:** A human rights-based approach ensures that digital inclusion efforts align with human rights principles and protect individuals' rights online as they are offline. This parameter emphasizes the need for a rights-centered perspective.

1.2.16. **Environmental Sustainability:** Acknowledging the environmental impact of digitalization is important. This parameter recognizes the need for digitalization to be environmentally sustainable considering future generations.

1.2.17. **Multi-Stakeholder Engagement:** Digital inclusion should be a collaborative effort involving multiple stakeholders including governments, businesses, civil society and marginalized communities. This parameter emphasizes the importance of involving those most affected by digital exclusion in the decision-making process.

1.3. **Incorporating** these parameters into the definition of digital inclusion provides a comprehensive framework that reflects the complex and multifaceted nature of digital disparities and helps policymakers develop more effective and inclusive policies. It also ensures that digital inclusion efforts are tailored to the diverse needs of various communities and individuals.

2.   Do you agree that the indices mentioned above and developed by various international organizations for assessment adequately represent the status of Digital Inclusion in the country? What other indices and factors need to be considered to identify the gaps in Digital Inclusion in the country?

BIF Response:

The indices mentioned in the Consultation Paper i.e. GSMA's Mobile Connectivity Index (MCI), Affordability Drivers Index by the Alliance for Affordable Internet (A4AI) and Network Readiness Index (NRI) 2022, provide valuable insights into digital inclusion. However, these indices are common for network readiness, connectivity and Internet affordability. Here too, there is a need to assess and measure how and to what extent networks providing affordable internet are being provided to the masses and in this respect indices related to extent and quality of Public Wi-Fi are important. As per UN's e-participation index

(2022) which is a composite measure of three important dimensions of e-government, namely provision of online services, telecommunication connectivity and human capacity, India ranks 105 out of 193 nations[8]. Thus India has lower e participation despite the fact that India became second largest country in terms of mobile connections in 2020 and second largest internet users in 2022.

2.1. Digital inclusion extends beyond mere connectivity and affordability. It encompasses addressing structural barriers, acknowledging the risks and threats in the online space, particularly for vulnerable populations. Inequalities can deepen when access to online platforms and services is unevenly distributed. Achieving meaningful access is crucial for social, political and economic empowerment. Digital spaces often reflect biases favoring privileged groups such as men over women and urban over rural. To ensure equitable digitalization, there must be a focus on intersectionality and the development of inclusive, gender-transformative technologies. Digital inclusion should also be environmentally sustainable and involve multiple stakeholders and marginalized communities to harness the full potential of technology. As the digital world evolves, our understanding of inclusion must continually adapt to address evolving challenges and barriers. It's important to consider additional indices that can provide a more comprehensive assessment of digital inclusion. As mentioned earlier, there is a need for collecting and using disaggregated data to understand the intersectional nature of exclusion. This parameter ensures that policies are targeted and responsive to the specific needs of different groups.

2.2. Some additional indices that may be considered are as follows:
   2.2.1. Public Wi-Fi Index: This index can measure both the extent of availability of Public Wi-Fi and their quality. It could also measure number of users and data accessed through public Wi-Fi. Scheme likes PM WANI Public Wi-Fi are instrumental in Digital Inclusion of the community being affordable and for providing access to reliable and high speed broadband.
   2.2.2. Digital Literacy Index: This index could measure the digital literacy levels of a population including their ability to use digital devices, navigate the internet and critically assess online information. It could help identify gaps in digital skills.
   2.2.3. E-Governance Index: This index could assess the extent to which government services are available online and user-friendly. It could include factors like the range of services available online, ease of access and the level of citizen engagement in digital government initiatives.
   2.2.4. Digital Health Inclusion Index: Given the increasing importance of digital health services, this index could measure the accessibility and utilization of digital health tools and services, especially among vulnerable populations.
   2.2.5. Digital Financial Inclusion Index: This index could evaluate access to and usage of digital financial services, including mobile banking, digital wallets and online payment systems. It could help identify barriers to financial inclusion.
   2.2.6. Data Privacy and Protection Index: This index could measure the effectiveness of data privacy regulations and the level of protection of individuals' personal information. It could also assess public awareness and trust in data privacy measures.

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[8] https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide

2.2.7. Digital Inclusion Policy Index: This index could evaluate the existence and effectiveness of government policies and initiatives aimed at promoting digital inclusion. It could include factors like the presence of a national digital inclusion strategy, funding for digital literacy programs and initiatives to bridge the urban-rural digital divide.

2.2.8. Digital Access to Education Index: The Consultation Paper deals with the aspect of Internet in schools. With the increasing importance of digital learning, especially during the COVID-19 pandemic, this index could assess the availability of digital educational resources, internet connectivity for students, and the inclusion of technology in the education system.

2.2.9. Digital Inclusion Impact Assessment Index: This index could focus on the actual social and economic impact of digital inclusion efforts. It could measure changes in employment rates, educational attainment, healthcare outcomes and overall quality of life attributable to improved digital inclusion.

2.2.10. Digital Inclusion Global Ranking: A composite index that combines multiple dimensions of digital inclusion, including access, affordability, digital literacy and the availability of online services. This ranking would provide an overall assessment of a country's digital inclusion efforts.

2.2.11. These additional indices can help provide a more holistic understanding of digital inclusion and guide policymakers and organizations in addressing specific challenges and opportunities in their efforts to bridge the digital divide.

3.   Are Digital Connectivity, Digital Affordability and Digital Literacy the main factors responsible for Digital Inclusion in the country? Do you agree that by addressing these, Digital Inclusion can be achieved in the country? If not, please suggest any other factors responsible for Digital Divide that need to be addressed to ensure Digital Inclusion?

BIF Response:

3.1. Yes, it is true that Digital Connectivity, Digital Affordability and Digital Literacy serve as foundational elements for digital inclusion. However, addressing the digital inclusion comprehensively requires a multi-dimensional approach.

3.2. Digital inclusion extends beyond mere connectivity and affordability. It acknowledges that simply providing access to the internet is not enough. As mentioned earlier, true digital inclusion recognizes and addresses structural barriers to access, as well as the risks associated with operating online, especially for vulnerable populations. It emphasizes the need to combat unequal opportunities, ensuring that the benefits of the digital world are equitably distributed. If good quality of service is not available then opportunity cost of accessing service is very high. It is clear from following examples:

3.2.1. As per report of Digital Empowerment Foundation, Dhani Poonia—a small hamlet in the Churu district of Rajasthan, India, has only one upper primary school, no hospital or eMitraKendra. While almost every popular Internet network is available in this village, connectivity and quality of the connection is low. This forces villagers to travel to the nearby towns of Rajgarh or Taranagar, at a transportation cost of INR 50, every time they want to access the Internet facility at one of these places. Those

offering digital services in these two towns charge INR 5 per printout, and INR 20 per hour for internet usage.

    3.2.2. A student who needs help to fill a form or apply online for admission has to pay a minimum of INR 70 (INR 50 for travel and INR 20 for using the internet service) (Manzar, 2016a).

    3.2.3. For a worker availing benefits from the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)2 and earning about INR 150 a day, the total cost of getting a photocopy of an Aadhaar card3 comes to INR 225 (opportunity cost of losing his day job INR 150, plus travel cost INR 50, plus Internet cost INR 20, and cost of printout INR 5)[9].

3.3. Moreover, digital inclusion involves challenging biases and preferences embedded in digital spaces, striving for intersectionality and promoting inclusivity in technology design and development. It also underscores the importance of environmentally sustainable digitalization and requires a multi-stakeholder, evidence-based approach that actively engages marginalized communities. In a constantly evolving digital landscape, achieving equitable digital inclusion necessitates ongoing reflection and adaptation to meet the needs of all individuals and societies.

3.4. For example, PM WANI Public Wi-Fi Scheme can be important for growth of Digital Inclusion, being affordable and providing access to reliable and high speed broadband. Another example of inclusivity is by enabling Internet access for Persons with Disabilities (PWDs) in pursuing their daily activities, education, employment and access to basic human rights such as to information, education and health.

4.   Apart from efforts made by the Government through various Projects for provisioning of broadband connectivity under NDCP 2018 and NBM 2019 and other schemes, what additional measures are required to fulfil the objectives of universal connectivity in India?

BIF Response:

4.1. As mentioned in the preamble that India is a vast country where ~70% of people live in rural areas and have limited avenues of surplus income. Hon'ble SC of India in its judgement in Anuradha Bhasin vs Union of India on 10 January, 2020 has declared that the right to freedom of speech and expression under Article 19(1)(a) and the right to carry on any trade or business under 19(1)(g), using the medium of internet are constitutionally protected. Thus, considering the importance of Internet as mentioned in the judgement, it is proposed that government must take measure to recognize Broadband as right of citizens on the lines of National Food Security Act, 2013.

4.2. Government has undertaken projects like BharatNet for bridging digital divide between urban and rural areas. But Internet density in rural areas is still a paltry 40% while that in urban areas is 107% as on March 2023.

4.3. Thus, the ongoing efforts needs to be augmented by making BharatNet fiber made available on revenue sharing basis to all the licensed service operators as well as VLEs PM WANI stakeholders needs handholding for proliferation of broad band in Rural areas (more details in response to question 6) .

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[9] https://www.defindia.org/wp-content/uploads/2017/09/India-Exclusive-Report_DEF-Chapter.pdf

5.   Whether connecting GPs/villages/village institutions through BharatNet has helped in improving digital connectivity in an effective manner? If not, what additional measures are required to ensure universal connectivity across all GPs/villages/village institutions in an efficient and time bound manner?

BIF Response:

5.1. BharatNet's contribution in improving the tele-density and Internet density in rural areas is not known due to non-availability of data related to number of eNodeB or gNodeB or base stations using BharatNet fiber for connectivity. However, there has been a growth in the Internet connections at much higher rates in rural areas than in urban areas. And we are sure that BharatNet would have played a significant role in this. Rural internet density has increased by 15% (40% in 2023 March from 25% in 2019 March) in last four years while in urban areas it has increased by 9% (from 98% in March 2019 to 107% in March 2023). Further, as mentioned in preamble also the gap is still around 70% in case of Internet density of Rural and Urban areas and hence digital divide is still persisting despite fiberisation of around 2 Lakh GPs.

5.2. Further, government has already sanctioned funds for providing 4G connectivity in 24,680 uncovered villages in remote and difficult areas and also allocated 1.39 lakh Crores for BharatNet phase

5.3. Government must look forward for alternate technologies like LEO based satellite communication for making the unserved and underserved areas feasible to meet the target dates envisioned in NDCP-18.

5.4. Exploitation of existing Bharatnet also needs attention of Government by mitigating demand side constraints also.

5.5. TRAI must in its quarterly publication include data related to Mobile BTS, Public Wi-Fi hotspots, FTTH, connections provided using BharatNet fiber.

5.6. Further, there is a need to provide applications and services in local/vernacular languages and local content for increasing data usage. All Primary health centers may be provided with Tele-medicine facilities using BharatNet.

6.   Will the schemes supported by USOF other than BharatNet suffice the need of universal connectivity in the country? If not, what additional measures or changes in strategy are required to ensure universal connectivity to all unconnected areas? Please provide your answer with suitable justification.

BIF Response:

6.1. No. There is need to adopt additional measures for universal connectivity in India eg PM WANI to be funded from USOF (Digital Bharat Nidhi). Rationale and challenges of the PMWANI are as under:

6.2. Union Cabinet Approved the PM-WANI Public Wi-Fi Program on December 9th, 2020. NDCP-2018 envisaged creation of 10 Mn Public Wi-Fi hotspots by 2022. PM-WANI framework was expected to create micro employment opportunities in the villages in the form of VLEs (up-to 3

jobs per hotspot), thereby helping in creation of 100-150 Mn additional jobs by 2030 and also enhancing disposable incomes in the hands of these small and medium entrepreneurs.

6.3. Keeping in view the importance of Public Wi-Fi hotspots in the overall broadband penetration scenario and particularly its role in complementing 4G and 5G in rural India through availability of affordable and ubiquitous broadband in the rural areas, Government of India has expanded the target of Public Wi-Fi hotspots to 50Mn by 2030 in its "Bharat 6G Vision Document". In view of the fact that we have barely half a million hotspots today, we have to grow at a steady rate of atleast 7 Mn hotspots per year for the next 7 years to be able to achieve the Bharat 6G Vision of 50 Mn by 2030. The advantage of PM WANI is to ensure and enable seamless access to the internet in a multi-operator Public Wi-Fi hotspot network as we move, akin to a cellular roaming network. Since most of these hotspots are required to come up in the rural areas where there are economic viability challenges for the PDOs and PDOAs, who are essentially small startups and entrepreneurs and do not have deep pockets like Class "A" Telcos/ISPs, hence suitable Government assistance in the form of support from USOF from seeding to handholding for the first few years is required, till they are in a position to sustain themselves. This is essential not just for the benefit of the consumers but also for overall socio-economic growth of our nation and help in achieving the national priority, G20 goal and one of the most prominent UN SDGs as well as that of the ITU to 'Bridge the Digital Divide'.

6.4. Mass awareness about the PM-WANI program is one of the critical requirements as otherwise its benefits to the common man are not accessible. Hence, we wish to suggest a package of economic support and structural reforms which shall include a combination of fiscal and non-fiscal measures be provided to these entrepreneurs. This can consist of the following:

    6.4.1. Bandwidth costs are a very significant component of the overall cost structure of these PDO/PDOAs, for which they are completely dependent on the ISP/TSPs. A special tariff package (with a ceiling/cap) should be recommended by the Government along the lines of Home Broadband Tariffs for secured and reliable bandwidth costs especially for such PDO/PDOAs.

    6.4.2. Since a large percentage of the PMWANI hotspots will be required for the Semi Urban and Rural areas, USOF funds should be utilised to create a series of awareness building campaigns about PM-WANI –in print, electronic & digital media. This will not only generate demand for PM-WANI but also help improve data revenues for the TSP/ISPs.

    6.4.3. Though telecom tariffs are under forbearance, this special package should be permitted as these are not customer/retail tariffs but are meant for a fledgling/micro-business as a special B2B case and these micro entrepreneurs need to be nurtured.

7.   What steps should be taken to encourage service providers for effective utilisation of the BharatNet infrastructure in provisioning of connectivity to Institutions/households/ individuals?

BIF Response:

7.1. BSNL/BBNL must tie up with communication service providers (CSPs) and incentivize them to use their large pool of fiber network including BharatNet to provide new services & applications to individuals, households and institutions in these Rural Areas.

7.2. As mentioned in response to question 5 there is need to explore possibilities of creating Tele-medicine centers, local content in vernaculars and services for increasing data consumption in rural areas using BharatNet.

8.   Is there any need to take steps to make satellite internet a viable option for providing connectivity to remote/ inaccessible areas? If yes, please provide your answer with suitable justification. If not, what are the other alternatives for provision of connectivity in these areas?

BIF Response:

8.1. BIF has time and again emphasized that DCI is the bed-rock for driving economic growth and societal benefits. As per International Telecommunications Union (ITU), "*Digital infrastructure is the key to enabling the benefits of the digital economy and society. Digital infrastructure is the physical hardware and associated software that enables end-to-end information and communications systems to operate*". India is a mobile first nation with mobile accounting for 98% of overall connectivity. However, according to a 2021 study, digital payments transaction failure rates in the NE region are at 1.5- 2X the national average due to 3X higher network downtime and 50% slower internet speeds compared to other regions of the country.[10]

8.2. While mobile and fiber will continue to be primary DCI, fixed/cable infrastructure, Public Wi-Fi, E band, V band and Satellite Communications (Satcom) will be important elements of digital infrastructure. We agree that there is a need to make Satellite a viable option for providing connectivity to remote areas.

8.3. India has vast stretches of undulated and difficult to reach terrain in remote and inaccessible areas where traditional modes of broadband infrastructure are techno-economically unfeasible. It is in these areas where Satcom becomes extremely important and viable to help connect the unconnected and under connected.

8.4. The areas where Satcom can be extremely potent are the hilly terrains of the NE, the border areas of J & K, the dense forests of Chhattisgarh and Orissa and the islands of Andaman, Nicobar & Lakshadweep Islands. With the advent of the new satellite constellations the data capacity of the Satellites would increase manifold thereby reducing the cost of Satellite BW connectivity and would become a viable and potent means of connectivity to the remote/ inaccessible areas.

9.   What measures are required for adopting a collaborative approach to utilise Digital Connectivity Infrastructure created by the service providers or through government-aided schemes to extend connectivity to the people in unserved areas? Please provide your answer with suitable justification.

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[10] https://www.defindia.org/wp-content/uploads/2023/07/The-State-of-Access-Digital-Connectivity-and-Inclusion-in-North-Eastern-Region-of-India-2023_PRINT-1.pdf

BIF Response:

9.1. Sharing of DCI helps bring down the cost of providing broadband services and should be encouraged and promoted everywhere. To save cost of duplication of resources, existing capacity and infrastructure of Bharat Net should be shared amongst multiple service providers.

9.2. Government should also think of unbundling of optical fiber assets of BSNL and other public sector companies for use of providing Broadband services by all licensees.

9.3. Incremental fiber connectivity to each mobile tower should be done using government aided schemes viz. USOF. This will ensure that a combination of fixed and mobile broadband will help cover a vast majority of rural areas.

10.   Please suggest the best practices being followed internationally that can be adopted in the country to provide universal connectivity to all individuals, households, and communities?

BIF Response:

10.1. For universal digital connectivity most of the efforts are directed towards meeting supply side constraints while demand side constraints are equally important. In this regard, Italy has planned it universal connectivity as detailed under:

   10.1.1. Italy's National Ultra-broadband (UBB) Plan utilizes a combination of supply-side measures drawing on a combination of local, national and European funds and demand-side measures including take-up vouchers to meet ambitious goals for broadband connectivity in remote areas.

   10.1.2. Development objectives - The Italian Broadband Strategy was launched in 2015 with the aim of supporting the deployment of broadband digital infrastructures over the Italian territory, according to the connectivity targets set by the European Digital Agenda (EDA) of the European Commission. In particular, the connectivity targets of the EDA, to be addressed by 2020, were:

      10.1.2.1.   over 30 Mbps connectivity subscriptions for 100 percent of the population,

      10.1.2.2.   over 100 Mbps connectivity subscriptions for 50 percent of the population.

   10.1.3. **Interventions** - The support interventions were split in two lines of action:

      10.1.3.1.   support to the broadband infrastructure deployment (supply-side)

      10.1.3.2.   Support to the demand for broadband connectivity (demand-side).

10.1.4. **Supply-side Phase -** Phase I addressed "white areas", those which were neglected by the deployment investment plans of telecom operators. It focused on building out wholesale ultra broadband networks that retail telco operators could then utilize to offer services. In these areas of market failure, the Italian Government used several instruments to make UBB networks available:

10.1.4.1. Subsidies, with conditions: The telco operators invested in market failure areas and the State supported part of the capital expenses. The operators remain the owners of the built networks, but offer wholesale access to the network at subsidized rates.

10.1.4.2. Concession: The public institutions (national and local) charged a private entity, following a tender process, with building the UBB networks in market failure areas and to manage the networks for a period of 20 years. The public institutions remain the owners of the built networks, with the private entities managing them.

10.1.4.3. Direct construction: The state built and manages the access network but in wholesale only to the retail operator and does not offer access to retail customers.

10.1.5. **Demand-side vouchers -** Concerning the support to the demand for broadband connectivity subscriptions, a voucher-based intervention was planned. Offer and demand are two faces of the same coin, and without sufficient ongoing demand, supply-side interventions would have either failed or involved unsustainable costs. There can be a market failure regarding demand if there are lumpy costs involved in establishing a connection that certain households cannot afford, or if lack of familiarity with the utility and opportunities afforded by digital services means that latent demand does not materialize. Vouchers limited to initial installation and the first months of subscription fees may then help to overcome such barriers. The vouchers in this case targeted families with a gross income per year lower than EUR20,000, and provided for a contribution of up to EUR500 to upgrade fixed lines or to activate a new line with an over 30 Mbps connectivity speed.

10.2. Broadband universal service, also known as "universal service obligation" (USO) or "universal broadband service", refers to government efforts to ensure all citizens have access to the internet. Universal voice service obligations have been expanded to include broadband service obligations in Switzerland, Finland, Spain and the UK.

10.3. Universal service obligations are required because of the technical limitations of data transport in traditional telephone lines, particularly for connections located miles away from exchanges. FTTH deployment is increasingly a component of meeting universal service obligations. Switzerland was the first country in the world to provide broadband universal service in January 2008, followed by Spain and Finland each guaranteeing 1 Mbit/s. The UK

followed by announcing a universal service obligation of 10 Mbit/s in 2020 for every home in Britain. Taiwan started broadband universal service in 2007

10.4. Even Nordic countries have taken up initiatives to fund the broadband. Ambitious broadband connectivity targets had been set across the Nordic Region, with most countries working towards universal access to download speeds of >100 Mbps for all households. The deadline for reaching this target varies between countries, from 2020 (Denmark) to 2023 (Iceland) to 2025 (Finland & Sweden). Norway aims to provide access to download speeds of >100 Mbps for 90% of households by 2020.

10.5. There is also need of supporting Broadband services in the urban areas of India as part of the USO funding as has been done in many developing countries. This would help in dramatically increasing the households connected directly by fibre. However, such a support must be on non-duplication basis.

10.6. Government may take up initiatives wherein first installation of Broadband is made free of charges and provide subsidies on monthly rentals for 6 months for families having income less than per capita GDP or any other suitable criteria.

11.   Whether various measures taken by the Government such as focussing on local manufacturing are sufficient to bring down the prices of smartphones in India? If not, what additional measures are required to be taken to make it more affordable? Please explain your answer with suitable justification.

BIF Response:

11.1. BIF feels that the following additional measures need to be taken:

11.2. Focus on local manufacturing is largely based on import of electronic components including CHIPS and thus there is need to focus on local manufacturing of the components as well. There is need to give tax incentives for local manufacturing of electronic components and CHIPS in India.

11.3. Government must also waive off import duty on SMT lines which is ranging from 18.8% to 23.55% which needs to be waived off for atleast few years or till critical mass production of devices is achieved in India.

11.4. There is need to focus on low cost high volume components or parts of devices to be made in India, for egg. casings or plastic parts. Further, there is also need to have facilities for designing of phones and developing software through policy initiatives, Tax concessions, PLI, and export promotions.

11.5. There is also need to promote full stack development of mobile software in India. This will result into lowering of cost of handsets.

12.   Whether market for second-hand smartphones is a viable strategy for increasing the affordability of smartphones to the people? Please indicate the opportunities and challenges that may arise due to this strategy.

BIF Response:

12.1. Second hand smartphone is a huge opportunity waiting to be tapped. Second hand handset market is proliferating as two out of three secondhand handset buyers bought their first smartphone, as per IDC survey[11]. As most of the OEMs are brining handsets with newer features every two to three times in a year and thus customers are upgrading their handsets through replacement offers. Organized marketers are also coming up in the refurbished market. With availability of the refurbished or second hand smart phones, it has become a cheaper option for users migrating to smart phone or first time data users and should be encouraged. While affordability of smartphone is a big plus in this case, challenges could arise in terms of end of life (EoL), maintenance and sustainability. Apart from this there may be certification agencies for certifying quality of refurbished handsets for creating trust in refurbished handset market. And policy interventions must be there to ensure atleast 6 months warranty on refurbished handset as well with atleast 12 months repair support.

13.   Whether schemes undertaken by various States for distribution of smartphones and laptops to students and support for the connectivity are effective mechanisms to increase Digital Affordability in the country? If yes, what are the measurable parameters to assess the effectiveness of such schemes? If not, what could be the alternative policy interventions/ schemes with measurable outcomes that can support affordability of the devices? Please support your answers with suitable information.

BIF Response:

13.1. Yes, such initiatives help in making the smart phones & laptops reach amongst the marginalized sections of the society which otherwise find it difficult to afford these devices. However, long term sustainability of such Govt schemes is going to be a challenge. Again, there is a need to have policies around maintenance, repairs and quality of such products being distributed.

14.   Is there any need for policy interventions to increase Digital Affordability (digital devices and digital connectivity) among specific sections of society, for example, women, students, farmers, fishermen, the economically weak, etc.? Please respond with suitable justification.

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[11] https://retail.economictimes.indiatimes.com/blog/why-secondhand-smartphones-are-a-top-choice-for-customers-today/97793635

BIF Response:

14.1. Different sections of society have different issues related to need and affordability of the devices. Though affordability of smartphone handset is major concern for students and other weaker section of society, for others a different need for technology/device may be there. For example, for fisherman there is a need to provide them satellite phones as mobile phones do not operate in waters where they do fishing.

14.2. A large number of marginalized sections of the society can ill afford to buy smartphones. Close to 40 per cent of mobile subscribers in India still do not have smartphones[12]. To increase penetration and inclusivity, either the cost of the smartphones would have to be reduced substantially or the Government would need to subsidize them for such people. Suitable policy interventions would be required to deal with the situation accordingly.

14.3. As per world inequality report[13], "The average national income of the Indian adult population is €PPP7,400 (or INR204,200).[10] While the bottom 50% earns €PPP2 000 (INR53,610), the top 10% earns more than 20 times more (€PPP42 500 or INR1,166,520). While the top 10% and top 1% hold respectively 57% and 22% of total national income, the bottom 50% share has gone down to 13%. India stands out as a poor and very unequal country, with an affluent elite".

14.4. ITU Global Connectivity report[14] target price for entry level broadband plan be 2% of gross national income per capita. Therefore, for bottom 50% of Indians having income of INR 53610/- per annum entry level broadband plan must be INR 89.35. This indicates that the Govt needs to provide subsidy to the needy people so that the cost of a reasonable data package is less than Rs 89/.

14.5. Further, BIF supports TRAI's pilot for the DBT as mentioned in para 3.59 on page 72 of the CP.

15.   What measures should be taken to make digital devices and digital connectivity affordable to the citizens for empowering them to maximize the benefits of an inclusive digital society? Please provide your answer with best practices being followed internationally in this regard.

BIF Response:

15.1. Please refer response to question 12-14.

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[12] https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide
[13] https://wir2022.wid.world/www-site/uploads/2022/01/Summary_WorldInequalityReport2022_English.pdf (page 200)
[14] https://www.itu.int/itu-d/reports/statistics/global-connectivity-report-2022/ (Page 20)

16.   What measures should be taken to engage the industry and academia in promoting Digital Literacy in India? Please provide your answers with suitable justification.

BIF Response:

16.1. In 2021, India had a rank of 73 out of 120 countries for internet literacy. Internet literacy, according to research, assessed the level of education and preparedness to use the internet. In terms of sub-indices, web accessibility ranked highest. The Ministry of Electronics and Information Technology defines digital literacy as "the ability of individuals and communities to understand and use digital technologies for meaningful actions within life situations. Any individual who can operate computer/ laptop/ tablet/ smartphone and use other IT related tools is being considered as digitally literate.[15]" In India only 38 per cent of households are digitally literate. In urban areas, digital literacy is relatively higher (61 per cent) than in rural areas (25 per cent)[16].

16.2. Digital literacy is an important life skill since the world is quickly transitioning into an Artificial Intelligence (AI) world. These digital skills allow one to find, use & create information online in a productive and useful manner. Both informal, community-driven education and formal, individualized training must be combined to produce an effective learning process. Digital literacy is an individual's ability to find, evaluate and communicate information by utilizing typing or digital media platforms. It is a combination of both technical and cognitive abilities in using information and communication technologies to create, evaluate and share information.

16.3. Some of the steps that can be taken to enhance the digital literacy rate in India are:

  i.Boost free digital education from primary level itself.
 ii.Organize internet awareness programs.
iii.Computer literacy should be promoted.
 iv.Teach students how to evaluate the information they find online.
  v.Discuss online privacy and online harms with students.
 vi.Help students understand online etiquettes.
vii.Teach digital writing.
viii.Discuss AI tools and academic integrity.

17.   How can the digital literacy toolkits developed by multiple industry players already available in the market be utilised to improve digital literacy levels in the country, especially for the rural citizens of the country?

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[15]

https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide (page 23)

[16]

https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide

BIF Response:

17.1. Readymade digital literacy toolkits should be utilized for this and need to strive to develop new one with additional features in vernacular languages also. . In India START is one such toolkit available in the market. There is need to promote development of more of such tool kits in India. Central & State governments must come together and collaborate to push Digital literacy campaign in all the parts of the country in local vernacular.

18.   Please suggest the best practices followed internationally that can be adopted in the country to promote mass digital literacy for different segments of society.

BIF Response:

18.1. European Commission published Guidelines for teachers and educators in primary and secondary schools, on how to address disinformation and promote digital literacy in their classrooms. The guidelines provide practical support for teachers and educators and include definitions of technical concepts, class-exercises and how to encourage healthy online habits. This toolkit covers three main topics: building digital literacy, tackling disinformation and assessing and evaluating digital literacy.

18.2. Currently in Europe, one in three 13-year-old students lack basic digital skills when directly tested, and according to the OECD, only a little over half of 15-year-olds in the EU reported being taught how to detect whether information is subjective or biased. Thus, EU felt clear need to strengthen the role of education and training in tackling disinformation and promoting digital literacy as well as media literacy to increase resiliency and the possibility to fight the impact of online disinformation more effectively.

18.3. "Strategic Project Management Tool-Kit for Creating Digital Literacy Initiatives" (SPreaD 2) aimed at assisting European public administrations and organisations in developing and managing large scale digital literacy initiatives with a lasting impact. SPreaD is the tool kit prepared and used in European Union for spreading digital literacy. Steps must also be taken to filter dis-information.

18.4. Government must take up solutions like SPreaD in India as well which target not only digital literacy but also target filtering of dis-information.

18.5. While some international practices have been indicated above, the level of digital literacy in India is much lower as compared to the developed countries. Hence, we would need to create our own initiatives which are more relevant to our diverse population.

19.   What steps should be taken to monitor the impact of DPIs on underserved and vulnerable segments of the society? Kindly indicate the key parameters that need to be

monitored to assess such impact and actions required to promote adoption citizen centric services by these segments of the society.

BIF Response:

19.1. India is a frontrunner in developing and scaling digital public infrastructures (DPIs). Its digital identity system, Aadhaar, a part of the India Stack. It provides a population-scale biometric-based authentication service that is the foundation for people to access government welfare schemes. However, the process of institutionalizing and implementing such DPIs has witnessed many gaps that have violated the fundamental rights of citizens, especially those from marginalised and vulnerable contexts. This includes cases of unfair exclusion from welfare benefits, exploitation through fraudulent transactions, ambiguity in placing accountability, and unreliability in grievance redressal, among others[17]. Steps proposed are as under:

  i.   Ensure that DPIs are conceptualised to solve valid problems that are framed by participatory citizen bodies.
  ii. Do not scale DPIs without prior evaluations through pilot studies.
  iii. Put responsive management structures into place to react to emergent issues with use and scaling of DPIs.
  iv. Build a multi-level governance body to ensure that DPIs adhere to these above principles.
  v.   Ensure transparency and public scrutiny at all steps.

20.   How can emerging technology be leveraged to enhance the digital literacy programmes of the Government? Please give your input with reasons. Best practices being followed by other countries and private sector may also be referred to.

BIF Response:

20.1. To live a full life in the modern world, one must be digitally literate. According to the Indian National Statistical Office, a digitally literate person is defined as being at least five years old and can navigate the Internet via a web browser, use e-mail and find, evaluate and communicate information using social media tools. The office's statistics show that while over 55 per cent of Indians have access to broadband, only 20 per cent had the ability to use the Internet.

20.2. But the digital divide in India – as elsewhere – exists in different degrees and extends beyond access to technologies and infrastructure. Digital inclusion also depends on the ability to use technologies meaningfully.

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[17] https://www.defindia.org/wp-content/uploads/2023/07/T20_PB_TF2_205_DPI-Indian-Experience.pdf

20.3. As per a suggested model - the Technology Acceptance Model (TAM), three factors that motivate people to accept and adopt any technology are:

a) perceived usefulness;
b) perceived ease of use; and
c) attitude towards usage.

20.4. A 2019 study which focused on the experiences of first-year students at a private university, found a strong correlation between digital literacy and perceptions of tech usability. Degree of digital literacy in India varied significantly depending on whether they routinely had access to the Internet. Two distinct yet related concepts, Internet access and digital literacy, are clearly worth comparing.

20.5. The *Digital in India 2019 report* revealed that 99.9 per cent of Internet users in the country use a mobile device to access the web. Age, gender, occupation, geography, caste, and other variables have also been shown to shape the diffusion of technology in India.

20.6. But despite these indicators, existing digital literacy initiatives often do not distinguish between the usage patterns and specific conditions of different citizens.

20.7. Both informal, community-driven education and formal, individualized training must be combined to produce an effective learning process. 2013 research conducted in the USA shows that leveraging spaces like school libraries or community halls as places for informal community learning can reinforce digital literacy programmes and learning outcomes, as well as bypassing individual access issues.

20.8. A case study conducted by the Internet Society, similarly, demonstrated how the combination of Internet access and capacity-building initiatives boosted both digital skills and access to educational information for a community of students.

20.9. India's state-run digital literacy programme is one of the largest in the world. Still, there is room for improvement in terms of design, capacity and implementation. Digital literacy initiatives need to track different levels of online proficiency, as well as who has access to the Internet. When assessing the influence and effectiveness of such initiatives, factors like age, gender, education, and technology experience should all be taken into account.

20.10. The Technology Acceptance Framework would be applicable to any data-gathering project examining how, why and under what circumstances people choose to connect with technologies.

20.11. In India, moreover, the need to improve digital literacy is increasingly urgent with the increasing prevalence of e-governance.

20.12. With emerging technologies, need for digital literacy shall continue to be there. Thus, digital literacy and its tool kits is not a static phenomenon and there is need to update the tool kit with emergence of new technologies. Thus, information or literacy of all current technologies including AI/ML is required to be disseminated.

20.13. MOOCs (Massive Open Online Courses) are being used for education. In case of digital literacy, there is need to provide practical knowledge as well thus there would be need do have a physical training courses particularly in rural and underserved areas. In this case, courses like faculty administered MOOCs may be developed by educators for supporting the students for digital literacy. It may not be practically possible to reach out target audience using online tools for such training which involve practicals. In most of the cases, there will not be personal device available with candidates.

21.   What steps should be taken to ensure that AI and new technologies do not result into further digital divide and every section of the society has access to the new technologies and resultant economic opportunities?

BIF Response:

21.1. Please refer response to question 20.

22.   What should be key performance indicators to measure, monitor and track the progress of the key factors of digital inclusion in the country mentioned below?
a)   Digital Connectivity
b)   Digital Affordability
c)   Digital Literacy

BIF Response:

22.1. For Digital connectivity, Rural Urban Broadband density gap, Actual growth of Rural Broadband subscribers, Rural Internet density and number of Smart Phone users in rural areas must be included in tracking. Similar tracking mechanisms with monitoring of parameters would have to include other marginalized sections of the society, women, students, farmers, fishermen, the economically weak and persons with disabilities (PwD).

22.2. Average cost of Data using Mobile Broadband, Fixed Broadband and using Public Wi-Fi must be measured and monitored on month on month basis.

22.3. For digital literacy PMGDISHA certification may be taken as indicators for Digital Literacy

23.   What measures should be taken to provide high-speed broadband connectivity to schools in the country, especially in states with low number of schools having internet connectivity?

BIF Response:

23.1. India has set itself a target that every school across the country will be able to access high speed internet by 2025. Access to secure, reliable, and affordable high-speed broadband services is a clear and urgent priority for every Indian citizen.

23.2. To meet this objective, Wireline and Wireless Broadband Infrastructure must be provided mandatorily with or without government support across all schools in both urban and rural areas. Government policies may require to be modified to meet these requirements. Government support in terms of encouraging Service Providers to lay OFC close to all schools in towns/cities, USO support for building connectivity in rural and backward areas using the Bharat Net are some of the measures that would require Government intervention. In addition, for schools in remote and inaccessible areas, satellite links through State Government subsidy or through USOF funding should be considered.

24.   How effective is a dashboard as a measure for evaluating and tracking the progress made in respect of the various indicators of the three key areas of digital inclusion? What are the critical parameters and at what level (i.e., at state or district or towns/cities or block or Gram Panchayat levels), such parameters should be captured in the dashboard?

BIF Response:

24.1. x BIF is of the view that maintaining and monitoring the dashboard tracking the progress of the parameters and indices mentioned in response to Q 22 and parameters based on Q2 would help in a big way to track the progress of the three key areas of Digital Inclusion.

24.1.1. Dashboard must be maintained at the Central and the State as the minimum. But for real effective monitoring the dashboard need to be maintained at the District, Block and GP levels too.

24.1.2. Ensure that there is Broadband growth in all parts of the country.

24.1.3. Monitor the depth of the digital inclusion achieved so as to focus on areas which are lagging behind based on an analysis of the reasons for slow inclusion

24.2. Following are some of the parameters that should be captured viz. Rural Urban Broadband density gap, Actual growth of Rural Broadband subscribers, Rural Internet density and number of Smart Phone users in rural areas in the tracker. Besides, a few others may also be included viz. ICT skills such as copying/moving file, browsing, emailing, and using social media.

24.3. There is need to monitor and publish the following data :

- State targets achieved by the PMGDISHA program

- Percentage of broadband connected schools and hospitals
- State's score on e-governance services

25.   Who should be responsible to evaluate and track the progress of digital inclusion including development and management of the dashboard?

BIF Response:

25.1. This should be tracked at the level of Ministry of Education as end objective is to achieve digital literacy. Litracy is core domain of Ministry of Education.

26.   What efforts are required to provide reliable digital connectivity to MSMEs at affordable costs to empower them through new technologies for effective participation in the digital economic activities?

BIF Response:

26.1. All MSMEs may not be able to afford a dedicated broadband connection. Hence, we recommend that all MSMEs may be provided one subsidized broadband connection with registration as MSME. Use of DBT for the same would also be an effective way.

27.   Whether the schemes of fibre connectivity in villages and rural areas such as BharatNet can be leveraged to provide the digital connectivity to MSMEs at affordable costs? If yes, please suggest the steps to be taken to extend such connectivity?

BIF Response:

27.1. Yes, it is possible to use BharatNet project. Please refer response to question number 7 for proliferation of BB using BharatNet at affordable cost.

28.   How DPIs can be used to allow the marginalised communities and MSMEs to access new technologies?

BIF Response:

28.1. Digital public infrastructure like BharatNet and PM WANI Public Wi-Fi can be used by all the economically weaker and marginalized sections of society. Provision of Public WiFi using PM WANI or any other application at all eSewa Kendras would help people around that area to access internet and new technologies through that. A number of central and state government schemes are available from time to time to help encourage and incentivize MSME to do so.

28.2.   As it is mandatory for all the MSMEs to have GST number and file income tax returns, therefore, self-serving Kiosks may be set up at public places for e-filings at various places such as banks, courts and tax offices, etc., to augment the facilities being provided by CSCs currently.

29.   What efforts can be made to increase awareness and digital literacy levels, especially in 5G, Big Data and AI/ ML, to the business owners and employees of the MSMEs? What kind of framework is needed in this regard? Please provide your answers with suitable justification

BIF Response:

29.1.   Training is the only solution to such initiatives. It is proposed to train MSME employees and other stakeholders in new technologies viz. Big data, AI/ML, etc. through industrial training centers and issue certificates. Skill India infrastructure can also be used extensively for training all the entrepreneurs of MSME in such domains. To that extent, if the charter of Skill Development Centres needs to be changed, it should be done.

30.   Stakeholders may also suggest any other measures not covered in the consultation document to improve Digital Inclusion in the country with suitable justification.

BIF Response:

30.1.   Involvement of NGOs:

30.1.1. A large number of NGOs are working in the field of educating and providing healthcare in the rural areas as well as in economically weaker pockets inside urban cities. These NGOs can play important role in this initiative if they are also provided subsidized broadband connections e.g. CIRCs are digital hubs created by Digital Empowerment Foundation to help rural residents access information related to education, skill development, government schemes, citizen entitlements, farm inputs, farm produce rates and the like. DEF has close to 180 CIRCs in 22 states, covering 80 districts[18].

30.2.   Focus on accessibility for differently abled people:

30.2.1. Government should train the people by offering courses like those offered by organizations like Level Access, G3ict, and IAAP and create pool of certified Accessibility professionals particularly so as to understand accessibility issues of disabled peoples[19].

30.3.   Focus on Reducing Gender Digital Divide:

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[18] https://www.socialworkindia.in/images/PDFS/Osama-Manzar.pdf
[19] https://g3ict.org/publication/the-2021-state-of-digital-accessibility-report-for-public-sector-organizations

30.3.1. Another important aspect of digital inclusion that needs to be looked into is the Gender gap. As per GSMA mobile gender gap report 2023[20] which is based on survey in 12 Low and Middle income countries (including India, Pakistan, and Bangladesh) the gender gap GSMA research has found that closing the gender gap in mobile internet use in LMICs could deliver an additional $700 billion in GDP growth over five years while additional revenues of $230 Billion to mobile industry by 2030.

30.3.2. The gender gap according to the GSMA report 2023 in mobile internet remains relatively unchanged – women in low- and middle-income countries are 19% less likely than men to use it, which translates into around 310 million fewer women than men while in India gender gap in mobile ownership is 11% and 40% each for smartphone ownership and mobile internet.

30.3.3. In India mobile internet adoption among women is stagnant at 30% for last three years while the same has stalled for men in 2022 first time after 2017. Thus, this has stagnated the gender divide which was continuously widening as of 2022 due to stagnant adoption of internet by women and increased adoption by men.

30.3.4. Digital Literacy, Affordability, and safety & security are top three barriers in top to bottom order in adoption of internet in India per the GSMA report.

30.3.5. Government must focus on tax cuts or other incentives on purchase of mobile phones for female.

******************************End of Response*************************************

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20 https://www.gsma.com/r/wp-content/uploads/2023/07/The-Mobile-Gender-Gap-Report-2023.pdf