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Digital India through Digital Literacy: Preparedness and Policy Recommendations

SANKHYA (संख्या)

"There cannot be a good plan for economic progress without adequate data and there cannot be adequate data without a good plan for collecting them…"

P.C Mahalanobis, Member, First Planning Commission of India & Scientist

DIGITAL INDIA: A HOLISTIC APPROACH

The Digital India Programme was launched in 2014 with the aim of transforming India into a *'Digitally Empowered Society and Knowledge Economy'*. The program lays special emphasis on creating digitally empowered citizens through digital literacy.

Digital India envisions three visions: making digital infrastructure a utility for every citizen, providing governance & services on demand, and achieving digital empowerment of citizens.

Universal digital literacy and accessibility to digital resources are recognized as pivotal components for achieving the vision of digital empowerment of citizens.

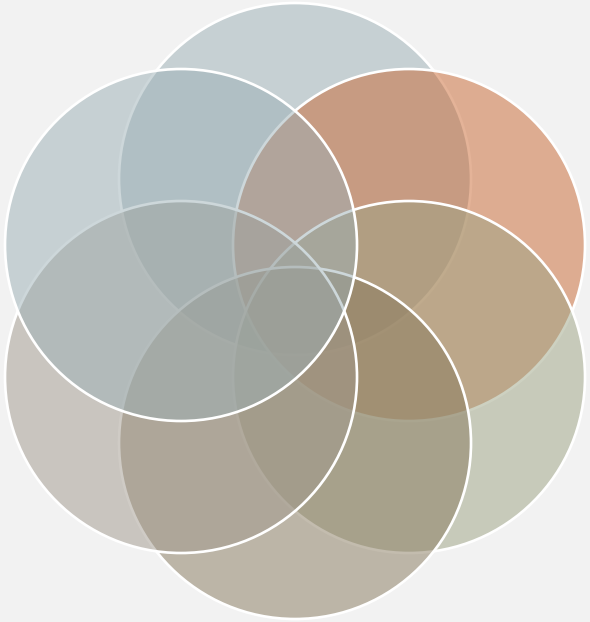
The e-Delivery of services, one of the 9 pillars of Digital India, emphasizes the use of technology in education, aiming to enhance digital connectivity in all schools through initiatives such as free WiFi and Massive Open Online Courses (MOOCs).

National Digital Literacy Mission (NDLM)

To impart IT training to citizens, including authorized ration dealers, Anganwadi & ASHA workers

National Digital Education Architecture (NDEAR)

To leverage technology to create inclusive & openly accessible education ecosystem



Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)

To enhance digital literacy in rural areas

Pradhan Mantri Schools for Rising India (PM-SHRI)

To upgrade select schools with modern digital infrastructure, supported by centralized funding

Samagra Shiksha Scheme

To promote smart classrooms, ICT labs and e-content for teaching in schools

Pradhan Mantri e-VIDYA

To provide a unified platform facilitating multi-modal access to e-education

Government Initiatives for Enhancing Digital Literacy

STATE OF DIGITAL LITERACY IN DIGITAL INDIA

DIGITAL LITERACY — *The ability of individuals and communities to understand and use digital technologies for meaningful actions within life situations. (NDLM)*

According to the National Sample Survey (NSS) Report 2020-21 released in March 2024, less than 50% of adults aged between 15 to 29 years in India possess basic ICT skills.

The NSSO survey also revealed that there is pervasive digital divide between urban and rural India in terms of the ability to perform ICT-related tasks.

While many rural participants could perform basic digital tasks such as moving files (33.8%) and sending emails (19.2%), only a few could perform certain other tasks involving prior knowledge such as using arithmetic formulae in spreadsheets (5.7%), and writing computer programs using a specialized programming language (1.3%).

The UNESCO Report on 'Digital Skills for Life and Work' examines challenges to digital equality that hinders individuals' ability to access and use digital technology, subsequently influencing the development of digital skills and competencies. Key factors identified to contribute to the digital divide includes socioeconomic status, race, gender, geography, age, educational background, and language.

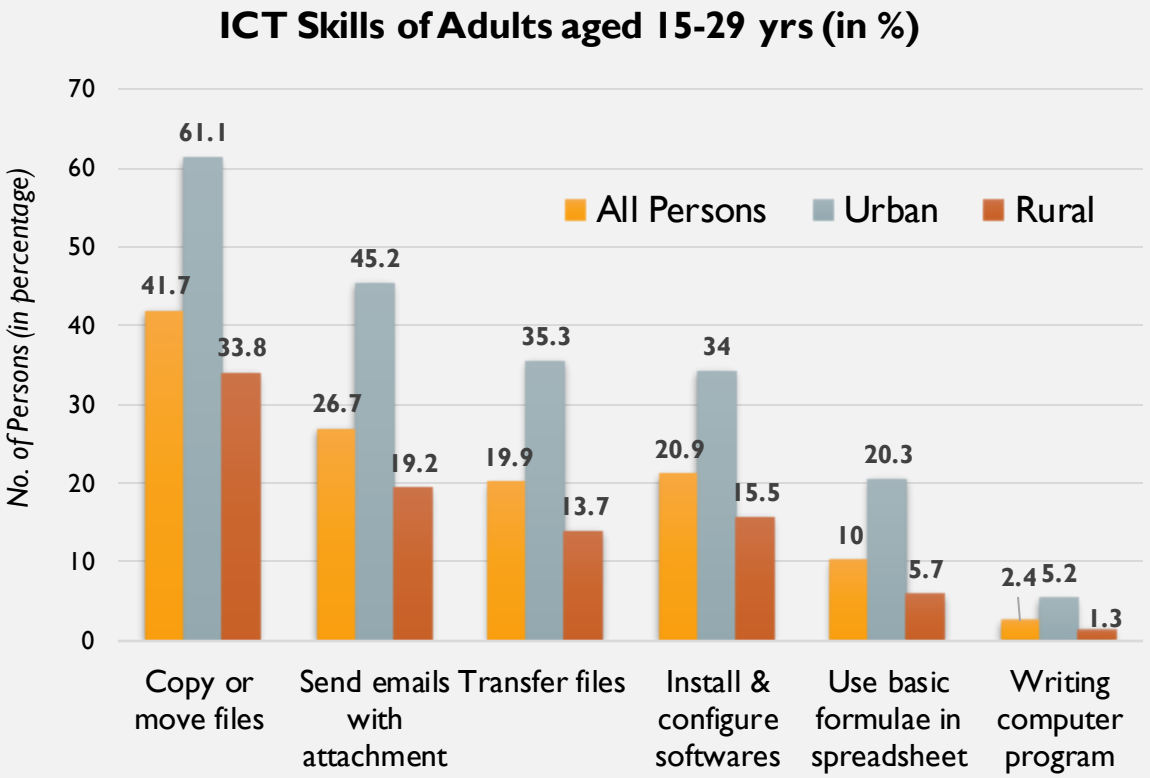
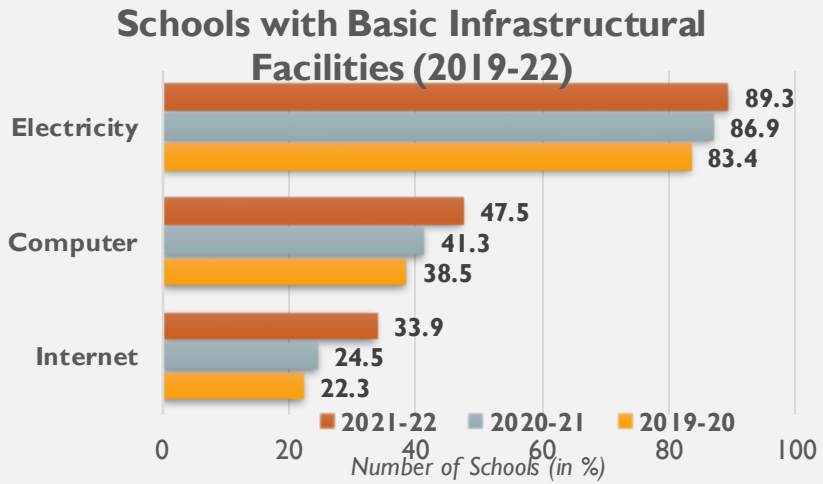
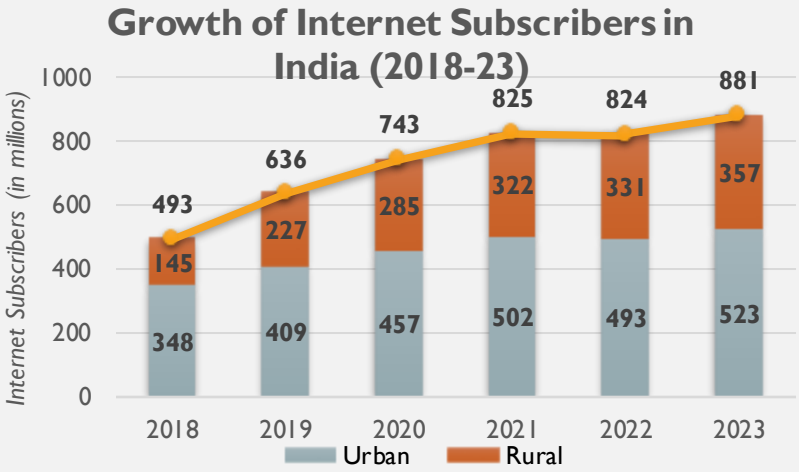


Illustration prepared by Bridge based on ***NSS Report 289, 78th Round (2020-21)***

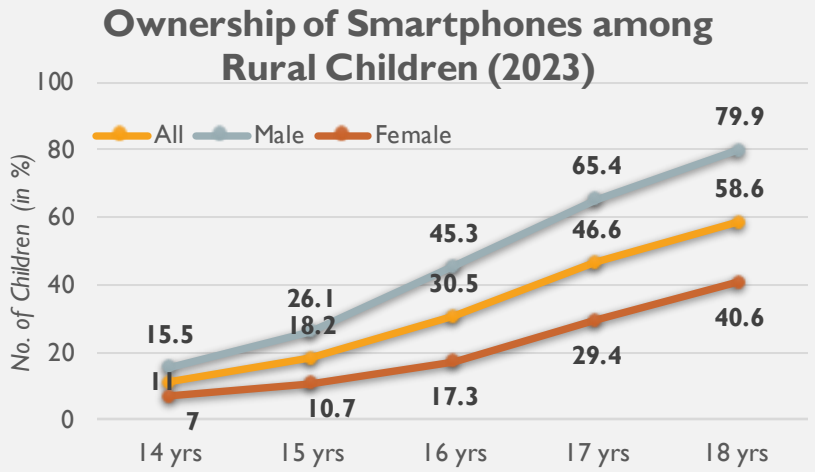
UNMASKING DIGITAL LITERACY HURDLES



Source: Unified District Information System for Education Plus (UDISE+) Flash Statistics Reports (2020-2022)



Source: Telecom Regulatory Authority of India (TRAI) Data (2018-23)



Source: Annual Status of Education Report (ASER) 2023

The three sets of data depicted above highlight the impediments to attaining digital literacy for Digital India.

Notably, the data released by the Department of School Education and Literacy under Ministry of Education indicates that the basic digital infrastructure in schools including electricity (from 83.4% of schools to 89.4%), computers (from 38.5% of schools to 47.5%), and internet facilities (from 22.3% of schools to 33.9%) has grown consistently over the past few years. Nevertheless, there remains ample room for improvement in providing basic infrastructural facilities, since only 33.9% and 47.5% of schools had internet and computer facilities in 2022.

Further, despite consistent growth in mobile (1.17 billion) and internet subscribers (881.2 million) in FY23, a substantial digital divide persists between urban and rural India. With 523 million urban and 357 million rural internet subscribers, this gap is noteworthy, especially considering the majority of the population resides in rural areas (approx. 65%, i.e., 898 million).

Lastly, in the latest ASER 2023 report, it was found that while 89% of rural households have smartphone access, 79% of surveyed children primarily use them for entertainment, with only 66% utilizing them for educational activities. The report highlights a significant gender gap in smartphone ownership, with 43.7% of males compared to 19.8% of females owning smartphones. The study also reveals that children with smartphones perform better in digital tasks, emphasizing an early gender gap impacting digital skill development.

POLICY CONSIDERATIONS AND SUGGESTIONS

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Minimum level of ICT infrastructure to be mandated for schools

It is recommended to mandate a minimum level of ICT infrastructure for schools. This includes ensuring access to computers and the internet, as these resources are integral to fostering digital literacy skills among students. By establishing a standardized level of technological infrastructure across educational institutions, India can provide students with essential tools to navigate the digital landscape and equip them for the challenges and opportunities of the digital age.

Clear and concrete definition for digital literacy

There is a need to formulate a clear and concrete definition of digital literacy, specifically tailored to the Indian context. The existing definition under the NLDM lacks clarity regarding how an individual is deemed digitally literate. Leveraging UNESCO's Digital Literacy Global Framework (DLGF), the recommended definition should incorporate seven essential components: the ability to access, manage, understand, integrate, communicate, evaluate, and create. Furthermore, it is crucial to consider factors such as user safety when establishing this definition.

Government run/ aided National Digital Centres

The absence of adequate infrastructural facilities has been recognized as a significant challenge affecting the digital upskilling of children in rural areas, as outlined in the National Curriculum Framework 2023. To address this issue, it is recommended to establish Government-run/aided National Digital Centers in unserved rural areas. These centers can be reserved and utilized by educational institutions and individuals, creating dedicated spaces for accessing ICT services, thereby fostering digital learning opportunities.

Enhancing digital literacy through periodic assessments

To effectively gauge the state of digital literacy across diverse demographics, it is recommended to conduct nationwide government surveys periodically. The insights gained will enable policymakers to identify regions and demographics requiring critical attention. Further, effective monitoring and evaluation framework should be established to track the progress and effectiveness of these initiatives for continuous improvement.

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** Sankhya means numbers and is also a school of rationalist Indian philosophy.According to Sankhya philosophy reliable knowledge comes from only three pramanas (proofs)- pratyakṣa ('perception'),anumāṇa ('inference') and śabda (āptavacana, meaning, 'word/testimony of reliable sources').*