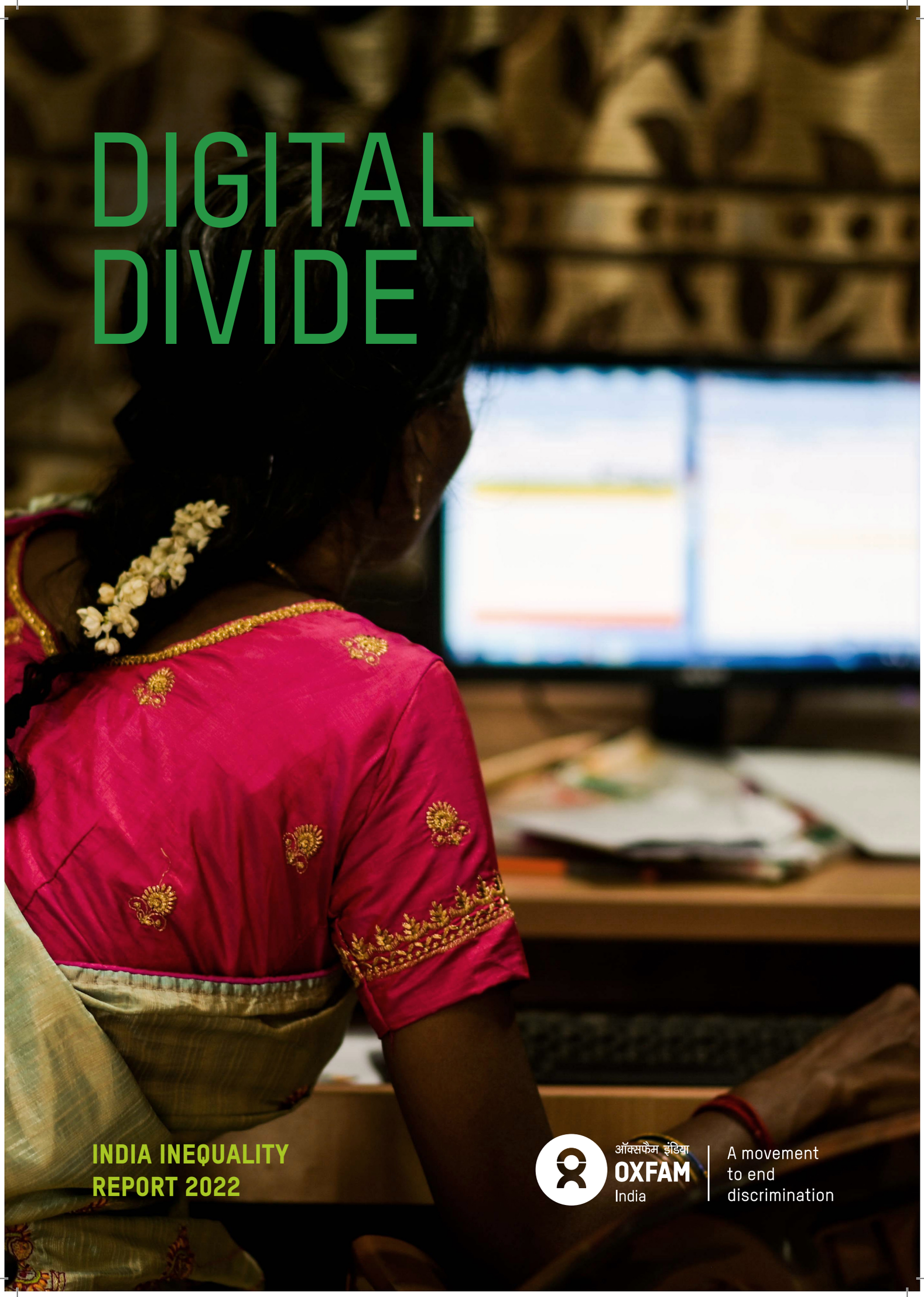
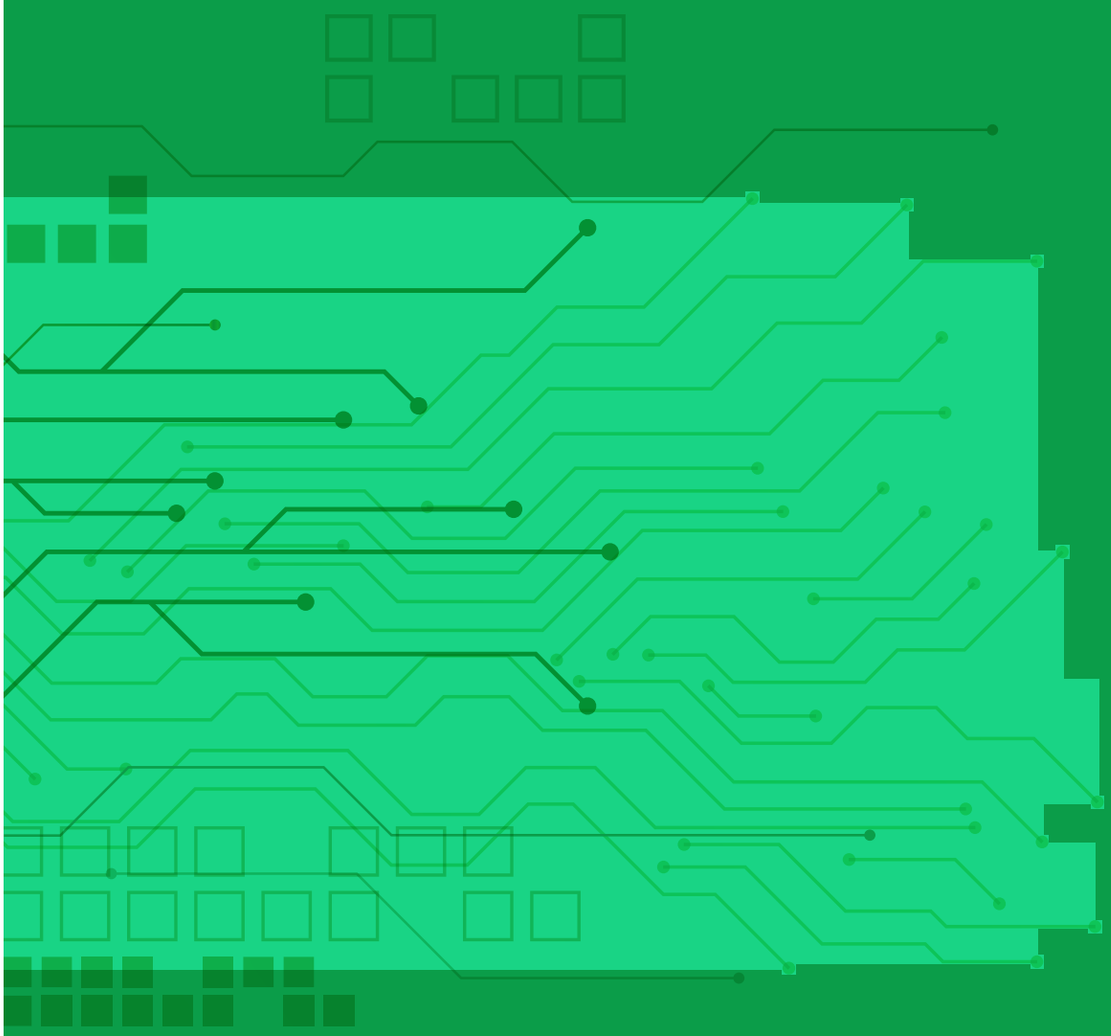
DIGITAL DIVIDE



INDIA INEQUALITY REPORT 2022

ऑक्सफैम इंडिया
OXFAM India

A movement to end discrimination



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Pankaj Anand
Commissioning Editor

BOXES

ABBREVIATIONS

CCI	Competition Commission of India
CMIE	Centre for Monitoring Indian Economy
DISHA	Digital Saksharta Abhiyan
EHR	Electronic Health Records
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IFC	International Finance Corporation
IoMT	Internet of Medical Things
IT/ ITes	Information Technology/ Information Technology Enabled Services
mHealth	mobile Health
NDHM	National Digital Health Mission
NEP	National Education Policy
NSS	National Sample Survey
OBC	Other Backward Classes
PDS	Public Distribution System
SC	Schedules Castes
ST	Scheduled Tribes
TRAI	Telecom Regulatory Authority of India
UN	United Nations

THE WORLD IS RAPIDLY UNDERGOING A DIGITAL TRANSFORMATION. INDIA TOO HAS BEEN CATCHING PACE. THE PROGRESS OF DIGITALIZATION, HOWEVER, HAS BEEN UNEQUAL. THERE IS A NOTABLE DIGITAL DIVIDE IN THE COUNTRY AND IT MIRRORS THE EXISTING SOCIOECONOMIC INEQUALITIES OF THE COUNTRY.

FOREWORD

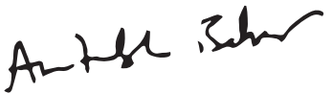
The world is rapidly undergoing a digital transformation. India too has been catching pace. There have been growing efforts to make the country "digital" under a flagship programme of the Government of India called "Digital India". Launched in 2015, its vision has been to transform India into a digitally empowered society and knowledge economy.

The progress of digitalization, however, has been unequal. There is a notable digital divide in the country and it mirrors the existing socioeconomic inequalities of the country. The digitally disconnected are often also the most marginalized communities, who have been excluded from reaping the benefits of digitalization. The growing "digital divide" has the potential to further exacerbate inequalities by hindering the access of the marginalized groups to the most basic of the essential services such as education, health and financial inclusion.

The objective of this year's Inequality Report, therefore, has been to assess the extent of the digital divide in India. It does so by analysing relevant data from the Center for Monitoring Indian Economy (CMIE) and the National Sample Survey (NSS) databases. The report examines the impact of the digital divide in the universal provisioning of education, health and financial inclusion. It also highlights that who owns and uses the digital devices is determined by socioeconomic factors such as gendered social norms, affordability, caste and geographical location.

Equality is the foundation of the Indian Constitution. Articles 14 to 18 of the Constitution direct the government to ensure equality in all spheres of life. Therefore, to continue the fight against inequality and to imagine a world that is truly equal, digital transformation cannot be posited as a solution for the structural inequalities of socio-economic realities. It is imperative to address the structural challenges in the universal provisioning of education, health and financial inclusion. Digital transformation will then follow.

Oxfam India is committed in its fight against inequality. Through this report, I am looking forward to the active engagement and dialogue among government and political parties, policymakers and civil societies, and all other stakeholders that are in pursuit of a society that is just and equal.



Amitabh Behar
CEO, Oxfam India

EXECUTIVE SUMMARY

Oxfam India's flagship publication—The India Inequality Report—is produced yearly to bring the attention of the public, policy makers and the government to the ongoing inequality crises in the country. The 2022 issue of the inequality report highlights the extent of the digital divide in India and its impact on essential services such as education, health and financial inclusion.

With the pandemic, the digital space became an inescapable part of everyone's lives. Technology has enabled knowledge and information sharing, has brought markets to the palm of our hands and increased access to basic services. Yet this is just one side of the story—of the privileged who have gadgets and uninterrupted internet connection at their homes and on their smartphones to reap the benefits of being online. The other side of the story is those of the marginalized—of those who are not digitally connected. This group of the technologically disconnected remain cut off from the benefits of this revolution and remain further behind. Technology and digitalization have benefitted the privileged but have also been the cause of inequalities creating a digital divide.

This divide largely stems from unequal access to and use of Information and Communication Technologies (ICTs). Socioeconomic factors such as gendered social norms, affordability, geographical location and levels of digital literacy determine who owns and gets to use the available gadgets. For example, gendered social norms often dictate appropriate behaviour for men and women. This has resulted in comparatively lesser levels of assimilation of women in digital transformation than men. There is also a rural-urban divide. Despite a significant growth rate of 13 per cent in a year's time,

ONLY 31 PER CENT OF THE RURAL POPULATION USES THE INTERNET WHEREAS 67 PER CENT OF INDIA'S URBAN POPULATION USES THE INTERNET.

Researchers have also found an income-based digital divide between households and found that a population with better income has better chances of adopting ICT.

The digital divide in the access and usage of ICTs and the internet has also led to an exclusionary consequence in three sectors of utmost significance, namely education, health and finance.

The thrust towards online classes and emphasizing on the use of digital technology in primary, secondary and higher education predates the pandemic but it has garnered greater public attention due to pandemic-induced curbs on physical meetings and spaces. The "Digital Divide" among different castes and income groups of students is evident as per the National Sample Survey Office (2017-18)—

ONLY ABOUT 9 PER CENT OF THE STUDENTS WHO WERE ENROLLED IN ANY COURSE HAD ACCESS TO A COMPUTER WITH INTERNET AND 25 PER CENT OF ENROLLED STUDENTS HAD ACCESS TO THE INTERNET THROUGH ANY KIND OF DEVICES.

Digital education has also failed to consider the provisioning of mid-day meals and textbooks during the pandemic.

Internet access is also increasingly being considered an important public health issue. Health experts now insist that broadband internet access must be recognized as a social determinant of health. Considering the digital revolution that the health sector has undergone, lack of access to the internet means being excluded from vital health information and resources.

The digital revolution of the finance sector has kept the digitally disconnected away from its benefits. The likelihood of a digital payment by the richest 60 per cent is 4 times more than the poorest 40 per cent in India. In rural India, the tendency to use

THE LIKELIHOOD OF A DIGITAL PAYMENT BY THE RICHEST 60 PER CENT IS 4 TIMES MORE THAN THE POOREST 40 PER CENT IN INDIA.

formal financial services is lowest for ST households, second lowest for SC households and third lowest for OBC households.

In a country plagued by high socioeconomic inequality, the process of digitalization in itself cannot be posited as the panacea for the inherent challenges of the physical world. It becomes particularly problematic when half of the population neither has access to gadgets and the internet or the technological know-how to move to a digital environment. In such circumstances, the process of digitalization becomes unequal, favouring the digitally connected while excluding the rest, and in certain cases, exacerbating the already existing inequalities. Digital technology brings with itself a lot of hurdles and challenges, which need to be addressed for an inclusive, resilient and a sustainable digital environment.

1. The report highlights economic inequality as a key driver of the digital divide. To this end, the government's efforts to bridge India's current income inequality by improving the income of the poor becomes pertinent and can go a long way. This can be done by setting a decent minimum living wage, easing the indirect tax burden on citizens and provisioning of universal health and education services.

2. The most basic step toward bridging the digital divide is **availability**. In rural and hard-to-reach areas, internet availability is either intermittent, poor or non-existent. Service providers need to ensure its availability through community networks and public WiFi/ internet access points. Community networks are a subset of crowdsourced networks, designed to be open, free, and neutral, and often reliant on shared infrastructure as a common resource. They are usually built, used, and managed with a bottom-up approach by communities. Such networks should also have good-quality upload and download speeds, sufficient for the local needs of internet users.

3. To ensure universal access to internet connectivity, it has to be **affordable** for the masses.
   a. To drive down prices, the government can invest in digital infrastructure to not only make internet affordable, but also push for greater accessibility to smartphones.
   b. The government has to be a strong regulatory figure in this regard, ensuring that data and broadband services are not monopolized by private players.
   c. Additionally, the government can lower taxes on computers and phones that are often prohibitively high.

4. Conduct **digital literacy** camps, especially in rural India, to teach the use of technology in schools, and digitize panchayats and schools.

5. Establish a responsive and accountable **grievance redressal** mechanism to handle EdTech and Healthtech related complaints by parents, children and other consumers.

6. Acknowledge that tech-based solutions are not always the right answers. Even in times of crises like pandemics, the governments also need to consider **low- or no-tech solutions**.

INTRODUCTION

" 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, which warned that the digital divide will defeat the fundamental right of every poor child to education.[1] It is not just the poor. India's remote and hard-to-reach areas have remained digitally disconnected. Emphasizing on this gap in digitalization between the urban and rural areas, the Bench also noted the higher dropout rates of children living in rural areas.

The digital space has evolved in leaps and bounds in the last two decades. After the pandemic, the digital space became an inescapable part of everyone's lives. From many urban businesses being Google listed[2] to online shopping, buying groceries and online banking, the presence of the internet has been prominent. This has resulted in India experiencing the largest number of real-time transactions in 2021 (48.6 billion).[3] Technology has therefore enabled knowledge and information sharing, has brought markets to our fingertips and increased access to basic services. Yet this is just one side of the story—of the privileged who have gadgets and uninterrupted internet connection at their homes and on their smartphones to reap the benefits of being online.

The other side of the story is those of the marginalized—of those who are not digitally connected. This is the side which comprises of young children who have to lose out on lessons because they do not have a phone, as noted by the Supreme Court and other groups of people who do not have adequate technological knowledge and equipment. This group of the technologically disconnected remain cut off from the benefits of this revolution and remain further behind, notes the UN. It states, "[many] of the people left behind are women, the elderly, persons with disabilities or from ethnic or linguistic minorities, indigenous groups and residents of poor or remote areas. The pace of connectivity is slowing, even reversing, among some constituencies."[4]

Technology and digitalization have benefitted the privileged but has also been the cause of inequalities. To say that digital technology was able to replicate real-life interactions during the pandemic and reduce the problems that arose because of the nationwide lockdown would be to ignore the reality of many Indian citizens whom the digital landscape has failed to cater to. Digital technology essentialism therefore is not always the best way to deliver public services but requires higher public investments in human resources and infrastructure development.

WHAT IS THE DIGITAL DIVIDE?

The growth of digital technology has been accompanied by growing concerns of inequality of access and information to the technology. Therefore, it is important to understand the concept of the digital divide. As defined by the OECD, the digital divide refers to "the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to

both their opportunities to access information and communication technologies (ICTs) and to their use of the internet for a wide variety of activities." It reflects various differences among and within countries. To further this definition, Singh adds, "[it] is not just about people who have access and those that do not; it is not just about haves and have-nots. It is about people becoming knowers and know-nots; and doers and do-nots; those who can communicate with the rest of the world and those that cannot."[5]

There are two contrasting theoretical perspectives on the digital divide.[6] The technological diffusion normalization model expects that technological expansion might be slow but eventually follow a normalization pathway and ICTs will take root in all countries and segments of society. The stratification model of diffusion of technologies, in contrast, posits that privileged social groups and developed countries will maintain their edge in the digital economy even as the digital uptake increases worldwide, thereby maintaining digital disparities. The UN Deputy Secretary-General Amina Mohammed has even claimed that the digital divide has the potential to be the "new face of inequality".

The risk of exacerbating inequalities, as a result of the digital divide, runs the most in the least developed countries which have not been able to build technological capabilities and are lagging behind. In a world that is digitizing at a fast pace, the growing digital divide in the access and use of technologies demands critical attention. Therefore, it is important to pay attention to real "access" and effective "use" that the definition of digital divide entails. Without addressing the issues of access and usage, the presence of digital technology infrastructure solely is not enough to bridge the digital divide.

THE INDIAN STORY

There is evidence of a palpable digital divide between the rich and the poor, the urban areas and rural areas, men and women and among different caste and religious groups. This divide mirrors the existing socioeconomic inequalities—it means that often the most marginalized groups have been the least digitalized whereas the privileged groups reap the benefits of digitalization. The digital divide is also prominent between rural and urban India.

> THE METROPOLITAN CITIES ARE AT PAR WITH SOME OF THE MOST DEVELOPED COUNTRIES, BUT RURAL AREAS IN STATES LIKE BIHAR AND ORISSA ARE WORSE OFF THAN SEVERAL OF THE LEAST-DEVELOPED COUNTRIES.[7]

The inequality in digitalization, soon enough, did not remain limited to who could use ICTs and who could not but seeped into real-time use of services and amenities that had become intricately tied to digital technologies.

The government of India has been promoting its flagship programme, Digital India, with a vision to transform India into a digitally empowered society and knowledge economy. In the process, the government has been deploying emerging technologies to enhance the delivery of its services to the citizens. 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] The report says that India is at a fairly high level in terms of human capital development and online services provision, courtesy of Digital India, but is held back by relatively lower levels of infrastructure development.

It has the scope to benefit people who have the technological know-how and access to ICTs but has the risk of being exclusionary to the digitally disconnected population. Available scholarship too underscores that the

> DIGITAL INDIA PROGRAMME HAS BENEFITTED THE PRIVILEGED SOCIETY MORE THAN THE UNDERPRIVILEGED.[9]

One of the recent examples of this can be the introduction of the biometric-authenticated PDS. Under this system, *The Hindu* reported, "fingerprint scanners are used to read and verify thumb impressions of family cardholders at fair price shops when they draw commodities eligible to them. Any family member above

18 years age and listed in smart cards linked to Aadhaar can draw the rations after biometric authentication on a device kept at ration shops."[10]

The idea behind the automation of fair price shops was to ensure a more efficient process of transaction and biometric authentication to identify beneficiaries.[11] However, this system was adopted without testing the waters. The system, as such, failed the beneficiaries at multiple junctures—biometric authentication failure, lack of knowledge regarding operating Point of Sale devices, inaccuracy in records among other factors, thereby making the PDS restrictive. The local officials were seen to be helpless over the centralization and inflexible nature of the PDS. A report by CIS India states, "even when they know clearly a person deserves the ration support the most and also a genuine one but until the machine approves it, they can't help."[12]

The beneficiaries of PDS are the economically backward groups with the lack of technological know-how. Therefore, the direct impact of automating PDS was felt by the poor whereas the rich remained unaffected by it. A bigger question arises: how pertinent is the digital authentication of beneficiaries to the service delivery of PDS to supply minimum quantities of food grains—a basic human right to food and survival—at an affordable price to low-income groups? At one end, accessing public services and entitlements through the digital medium remains a challenge for the marginalized while the rich can use it to order food/ groceries at home without any requirement of authentication or biometric systems.

Similar instances of digital disparities exacerbating lived inequalities became evident, particularly with the COVID-19 pandemic. Large number of students without computers and access to the internet could not participate in online education thereby increasing the existing educational inequality between the digital-privileged and digital-marginalized. With programmes such as Digital Health, Indian has been increasing the use of ICTs in providing health services. However, studies have found that lack of access to digital technology among the marginalized groups can further increase health inequalities.[13] They also note that the digital divide can widen consumption inequality between households.[14]

Niti Aayog, the union government's policy think tank, while announcing its plan to study digital literacy in the country, said in a communication made on their website, "[most] of the internet users are in urban educated classes. This situation reflects that majority of the Indians still remain unfazed by the information technology revolution. With such a disparity in digital access and literacy, it is hard to aspire for inclusion and equity..."[15]

RESEARCH ON THE DIGITAL DIVIDE

From the above sections, it is apparent that the digital divide in India demands undivided attention. However, before any solutions are posited, it is important to understand the three different ways in which the research on the digital divide has been collated.[16] This is because "digital divide" as a term in itself is multifaceted and making generalized statements without distinguishing between the facets being referred to would be misleading.

First, the digital divide can be researched along the lines of the study's focus—is it a single-country based or are multiple countries involved? Second, it can be discussed in terms of a specific technology or a group of technologies. This could take the shape of separate discussions on ICTs, Information Technology (IT), telecommunications, and internet access among others. Third, a study of the digital divide can be conducted in the context of whether the divide is growing or shrinking. These processes are not necessarily mutually exclusive and could be happening simultaneously. When considering the growth rate, some researchers have concluded that the gap is bridging and that the developing nations are leapfrogging.

A logical extension of the group of digital divide studies discussed above is needed to answer such questions as: What factors contribute to the digital divide and inequalities arising from it? Are the current divide gaps in different nation and regions of the world the same or different? Does the digital divide change over time? These are some of the questions that need to be empirically investigated and addressed, as has already been pointed out by some scholars.

RESEARCH QUESTIONS

The objective of this year's report is to examine the levels of inequality in digitalization in the country. The report therefore has two sections. The first section is on the determinants of the digital divide, which attempts to highlight the inadequacy of accessibility to digital devices in solving the issue

of the digital divide. It also analyses socio-economic issues contributing to the existing divide in access and usage. This section is guided by the following research questions:

- What is the state of inequality in accessing ICT by different population sub-groups?
- What are the other determinants that affects access and usage of digital mediums?

The second section analyses the impact of the inequality in digitalization on the three drivers of human development, namely education, health and financial inclusion. It also examines issues of profiteering and privatization in digitalization. This section is guided by the following questions:

- What has been the impact of the digital divide in the sectors of education, health and financial inclusion
- Has the massive digital intervention due to pandemic led to unequal increase in the wealth of billionaires?
- What is the extent of privatization in technology and how has this impacted the existing divide?

In line with the above mentioned stratification hypothesis, we argue that inequalities in access to and use of technology are reproducing themselves, which in turn are exacerbating inequalities in the real world. This has restricted the ability of the digitally disadvantaged to access resources and reap the benefits of the virtual world.

DATA SOURCE AND METHODOLOGY

The report uses a mix of quantitative and textual analysis to explore the impact of digital divide on inequality. The CMIE database has been used to analyse inequality. The section, "State of Inequality in India" looks at access to digital devices by different sub-groups under the following heads: caste, region, religion, income, gender, employment[17] and education. The analysis is based on the household survey by CMIE from January 2018 to December 2021. It is important to note that the data for access to mobile devices by gender, education and occupation refer to the individual respondents whereas the household head's gender, education and occupation have been taken as the household's characteristic for rest of the variables.

The data collected is in waves, each wave comprising of 4 months. To assess the pandemic's impact on access, waves 1 to 6 (January 2018 to December 2019) have been compared with waves 7 to 12 (January 2020 to December 2021), termed pre-pandemic and post-pandemic,[18] respectively. One limitation of this analysis is that it is not intersectional. We are looking separately at access to technology by caste, religion, income, etc. However we do not look at, say, access of a religion by income or gender. For instance, our analysis finds that Sikhs have better access to technology than other religious groups. However, it does not look at a comparison of access of Sikh men and women to Hindu men and women. We hope to address this limitation in future editions of our report.

DETERMINANTS OF THE DIGITAL DIVIDE

There is a common consensus among researchers and policy experts on the idea that the digital divide is not merely a gap between those who have access to ICTs and the internet and those who do not. It was true at the beginning of the research when the digital divide was novel—a disproportionate significance was given to access. In their paper "Statistical Analyses of Digital Divide Factors", Varallyai et al. present the definitional uncertainty of the term digital divide in the early years, which was mainly used to explain the disparity between people in their access to ICTs and the internet.[19] However, as research progressed, the term was extended to define digital inequality in terms of access and usage. This is evident in the pool of literature on the digital divide.

The Internet Society—a nonprofit specializing in the development of the internet as a global technical infrastructure—compiled a list of factors that lead to disparities in digitization:[20]

- **Availability:** Is there available access to the internet in your area? Is there a nearby point of connection to the internet? Such availability is just the first step to internet access.
- **Affordability:** Is that access affordable? How does the cost compare to other essential goods? What percentage of your income do you need to pay for access?
- **Quality of service:** Are the upload and download speeds sufficient for the local needs of internet users?
- **Relevance:** Does the connected community have the necessary skills and technologies? Is there local interest and understanding of the relevance of internet access? Are there locally available mobile apps? Is there content in the local language and is it relevant to the people in the community?
- **Additional divides:** Other areas that can create digital inequality include security, interconnectivity, digital literacy, social norms and access to equipment.

Dewan and Riggings classify the digital divide into two groups—inequality among those who have access to technology or the first-order effects, and inequality in the ability to use the technology among those who have access or the second-order effects.[21] It is similar to Helbig et al.'s classification of access divide and multi-dimensional divide respectively.[22] The digital divide encompassing differences in both access (first-level digital divide) and usage (second-level digital divide) of computers and the internet gets manifested between (1) industrialized and developing countries (global divide), (2) various socioeconomic groups within single nation-states (social divide), and (3) different kinds of users about their political engagement on the Internet (democratic divide).

ACCESS DIVIDE

Pro-technology arguments used in digital divide research emphasize the inequality between those who have access to technology and those who do not have access to technology. Helbig et al. write,

> SCHOLARS TEND TO FRAME THE ACCESS DIVIDE AS ONLY AN 'ACCESS TO TECHNOLOGY PROBLEM' SUGGESTING THAT AN INHERENT DELAY IN THE DIFFUSION OF TECHNOLOGY AMONG DIFFERENT GEOGRAPHIC AREAS AND SOCIAL GROUPS IS WHAT CAUSES A TEMPORARY DIVIDE. THE POPULAR VIEW IS THAT 'ONCE ONLINE, THERE IS NO GAP' AND THAT EVERYONE USES THE INTERNET FOR THE SAME PURPOSES.[23]

An implicit belief behind this argument is that once everyone has access to technology and the internet, everyone has the same level of potential to use technology and draw benefits from it. Technological arguments are often used, for example in e-governance. Governments bring attention to the transformative potential of ICTs to bring forth efficiency and even democratic benefits.

STATE OF INEQUALITY IN DIGITAL ACCESS IN INDIA

The role of technology in bridging inequality is questioned due to factors like affordability, the purpose of use and reliability of broadband services.[24] There is a noticeable difference in access to computers and the internet between the advantaged and disadvantaged groups.[25] Access to technology has been largely in the hands of the privileged, allowing them ease of access to services, which further exacerbates inequality.

As per NSSO, only one-fifth of the population can operate a computer or use the internet.[26] While the number of internet subscribers has been going up, and over 34 per cent of the population accessed the internet in 2017, only 17 per cent had used the internet in the previous month as per NSSO. Among the poorest 20 per cent households, only 2.7 per cent have access to a computer and 8.9 per cent to internet facilities, while the proportions are 27.6 per cent and 50.5 per cent, respectively, among the top 20 per cent households.[27]

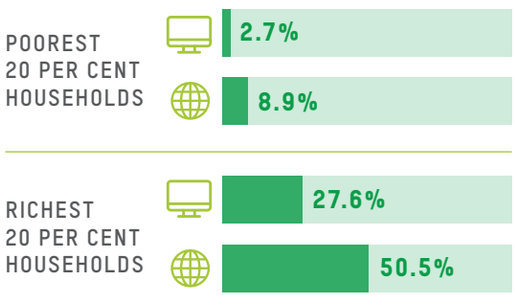
The pandemic further exacerbated these inequalities. As per Oxfam India's policy brief on Educational Technology in School Education in India,[28] more than half the children with disabilities (56.5 per cent) were struggling to attend classes, only 4 per cent of SC/ST households were reported to be studying online regularly (contrasted with 15 per cent among other castes), and 57.6 per cent of adolescent girls felt that boys get easier access to digital facilities in schools and colleges. The following sections will further examine the privileged and marginalized in India to understand the digital divide at the individual and household level.

COMPUTER

The total percentage of respondents without a computer or laptop was 93.5 per cent in January-April 2018 and increased to 96.6 per cent by the end of 2021. These statistics are alarming because the country experienced a sudden move to digital mediums for essential services such as education, health and financial transactions due to the digital revolution, and then further due to the pandemic. While mobile phones with internet connection can also serve the purpose of attending online classes, etc., and would be convenient for apps, having a laptop or computer would be more convenient for carrying out assignments.[29]

Caste: A majority of the population does not have access to computers. However, the likelihood of access to a computer is more for the general and OBC groups than for the SC and ST populations. The difference between the general category and ST is as high as 7 to 8 per cent between 2018 and 2021. The percentage of SC and ST with no computers has mostly not changed but the percentage of General and OBC with no computers has increased slightly during the pandemic.

Education: The chances of having a computer are higher with higher levels of education. Estimates suggest that the likelihood of having a computer is more if one has completed secondary education or above.



AMONG THE POOREST 20 PER CENT HOUSEHOLDS, ONLY 2.7 PER CENT HAVE ACCESS TO A COMPUTER AND 8.9 PER CENT TO INTERNET FACILITIES, WHILE THE PROPORTIONS ARE 27.6 PER CENT AND 50.5 PER CENT, RESPECTIVELY, AMONG THE RICHEST 20 PER CENT HOUSEHOLDS.

A PERSON WITH A POST-GRADUATE OR A PHD DEGREE IS 40 PER CENT MORE LIKELY TO HAVE A COMPUTER THAN A PERSON WITH NO EDUCATION.

Employment: The group of permanent salaried employees has the most computers. The difference between the percentage of permanent salaried and daily wage workers having a computer was as high as 22 per cent from January to April of 2018 and was still 15 per cent by the end of 2021.

Region: Estimates suggest that the urban population is 7 to 8 per cent more likely to have a computer than the rural population. Comparing the pre- and post-pandemic data, 99 per cent of the rural population did not have a computer post the pandemic—an increase of 2 per cent—while the urban population witnessed an increase of 7 per cent to 91 per cent.

Religion: Among all religions, the likelihood of having a computer is highest for Sikhs and Christians, followed by Hindus and Muslims, respectively. Among Sikhs, 88 per cent did not have a computer by the end of 2021, as compared to 98 per cent Muslims.

Income: Those with lower levels of income are less likely to have a computer. As the level of income increases, the likelihood of having a computer increases. During January to April of 2018, there was a difference of 26 per cent between the first and last decile in access to a computer, which dropped to 16 per cent by the end of 2021, still maintaining a significant difference.

THE TOP 10% INCOME BRACKET IS 16% MORE LIKELY TO HAVE A COMPUTER THAN BOTTOM 10%.

MOBILE

This section looks at the percentage of respondents without mobile phones in various sub-groups. India had 1.2 billion mobile subscribers in 2021, of which about 750 million were smartphone users.[30]

CLOSE TO 40 PER CENT OF MOBILE SUBSCRIBERS IN INDIA STILL DO NOT HAVE SMARTPHONES.

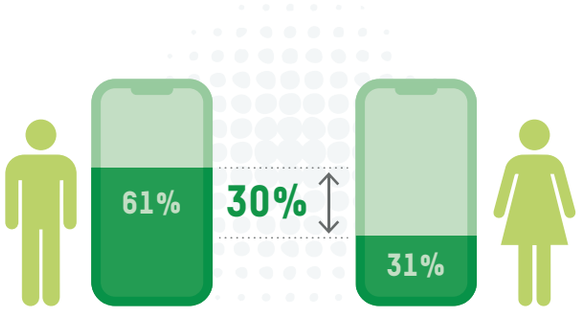
The section also looks at monthly expenditure incurred on mobile charges. The expenditure has been divided into spending less than INR 100, between INR 100 and 400 and more than INR 400. This will give us an idea of the spending ability and willingness to spend of various sub-groups.

For reference, the cheapest monthly prepaid plan for Airtel and VI is of INR 149 each, BSNL is INR 187, and Reliance Jio is INR 199.[31] This means that to have monthly unlimited calls and some amount of data per month, a user has to pay a minimum of INR 149. We can, thus, assume that those spending less than INR 100 are not purchasing these monthly plans, while those who spend more than INR 400 have access to more monthly data, unlimited calls, and even some subscriptions as part of the service provider's recharge plans.

Caste: On average, the general category is 10 per cent more likely to have a phone than STs from January to April of 2018. This gap dropped to 3 per cent by the end of 2021. Regarding monthly expenditure on cell phones, general and OBC are more likely than SC and ST to spend more than INR 400 on cell phone charges. SC, ST and OBC were more likely to spend less than INR 100 pre-pandemic. However, post-pandemic, they are more likely to spend more than INR 400. The general category is, on average, 10 per cent more likely to spend over INR 400 than SC.

Gender: The percentage of men with phones is more than women, with as many as 61 per cent of them having a mobile by the end of 2021 as compared to 31 per cent females, a gap of 30 per cent. While some research suggests that ownership of a mobile phone may not aid women's empowerment,[32] the broader research

points to mobile phones reducing women's information poverty, strengthening independent decision making, expanding support networks and providing easy access to health services, among others.[33]



GAP OF 30% BETWEEN MEN AND WOMEN HAVING PHONES.

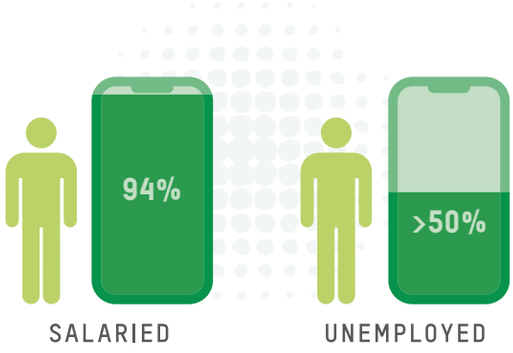
Education: The percentage of respondents having a phone increases as the level of education rises. A person with a PhD is 60 per cent more likely to have a phone as compared to someone with no education. As for mobile charges, spending more than INR 400 is more likely for those with higher levels of education. Pre-pandemic, the probability of spending between INR 100 and 400 on mobile charges was higher than the probability of spending over INR 400. However, post-pandemic spending over INR 400 per month is more likely with the increase in level of education, while spending between INR 100 and 400 declines with the increase in education.

Employment: Those that are unemployed and not willing or looking for a job have the highest percentage of respondents without a phone, over 60 per cent across the entire time period (2018-2021). Salaried permanent workers have the greatest number of respondents with a phone, close to 94 per cent, and less than 50 per cent of unemployed are with a phone. In terms of expenditure on mobile, salaried permanent are more likely to spend over INR 400 than other employment categories, implying that stability and formality of labour play a huge role in access to devices and usage.

Region: Percentage of urban population having a phone is more than the rural population by 12-14 per cent. The urban population is also more likely to spend more than INR 400 on mobile charges.

Religion: Sikhs have greater access to mobile phones, while Muslims have half of theirs, throughout 2018 to 2021. Regarding mobile charges, Christians and Sikhs are more likely to spend over INR 400 on mobile charges. Hindus and Muslims were more likely to spend over INR 400 than less than INR 100 pre-pandemic, while post pandemic, they were more likely to spend less than INR 100 than more than INR 400. This indicates a diminished capacity to spend, possibly due to the pandemic.

Income: Percentage of respondents with a phone increases with the rise in income; those with no phones in decile 10 are half of those in decile 1. Those with higher incomes are also more likely to spend more than INR 400 on phone charges than those with lower income. Of those in decile 10, 35 per cent spend more than INR 400, as compared to 8 per cent in decile 1. Deciles 1 to 7 are more likely to spend less than INR 100 than more than INR 400 pre-pandemic. Post that, only deciles 1 to 4 are more likely to spend less than INR 100 than more than INR 400, which shows an increase in spending capacity or an increase in demand for phones.



SALARIED PERMANENT WORKERS HAVE THE GREATEST NUMBER OF RESPONDENTS WITH A PHONE, CLOSE TO 94 PER CENT, AND LESS THAN 50 PER CENT OF UNEMPLOYED ARE WITH A PHONE.

TELEVISION

Between January to April of 2018, and September to December of 2021, percentage with TV has doubled and the difference between urban and rural areas has become negligible. There is also no difference between income deciles 8, 9 and 10. During the pandemic, due to a lack of computers and smartphones, various governments across the country leveraged educational television programmes for remote learning.[34]

We also look at monthly cable charges of less than INR 100, between INR 100 and INR 400, and more than INR 400. In 2020, the Telecom Regulatory Authority of India (TRAI) mandated Distribution Platform Operators not to charge more than INR 160 a month, for giving all channels available on their platform,[35] while some channels are excluded from this bouquet. However, with TRAI's New Tariff Order 2.0, consumers can expect a 20 per cent increase in prices.[36] Hence, access to channels for those spending less than INR 100 is limited as compared to those spending more.

Caste:

GENERAL AND OBC ARE 4 TO 6 PER CENT MORE LIKELY TO HAVE A TV (97 PER CENT) BY THE END OF 2021 THAN SC (93 PER CENT) AND ST (91 PER CENT).

Education: As education increases, access to TV also increases. In terms of monthly expenditure on cable, those with lower levels of education are most likely to spend less than INR 100. The likelihood of spending between INR 100 and 400 increases with the increase in the level of education.

Employment: Almost a 100 per cent of permanent salaried employees have a TV, as compared to 93 per cent daily wage workers, a difference of 7 per cent. Permanent salaried are also least likely to spend less than INR 100 on cable charges and more likely to spend between INR 100 and 400.

Region: Close to 100 per cent of households in urban areas have a TV, as compared to 94 per cent in rural areas, a difference of six per cent. Out of the 3 expenditure categories oncable, rural is most likely to spend less than INR 100 and urban is most likely to spend between INR 100 and 400.

Religion: Sikhs have the highest percentage of households with a TV at 99 percent, while Hindus are at 96 per cent, and Muslims have the least at 93 per cent. Sikhs and Christians also more likely to spend between INR 100 and 400 on cable charges than Hindus and Muslims, and less likely than them to spend less than INR 100.

Income: Percentage having TV increases with the rise in income. Deciles 2 and 3 are least likely to have a TV at close to 92 per cent while decile 10 is 7 per cent more at 99 per cent. As income increases, likelihood of spending between INR 100 and 400 on cable charges also increases.

ELECTRICITY

Access to electricity is crucial for digital access, both to charge devices and to access the internet. While

THE GOVERNMENT'S EFFORTS FOR ELECTRIFICATION HAVE LED TO 99.9 PER CENT OF HOUSEHOLDS GAINING ACCESS TO ELECTRICITY,[37]

the picture is different regarding the number of hours households get electricity in a day.

According to Mission Antyodaya, a nationwide survey of villages conducted by the Ministry of Rural Development

IN 2017-18, 16 PER CENT OF INDIA'S HOUSEHOLDS RECEIVED 1 TO 8 HOURS OF ELECTRICITY DAILY, 33 PER CENT RECEIVED 9-12 HOURS, AND ONLY 47 PER CENT RECEIVED MORE THAN 12 HOURS A DAY.[38]

We analysed CMIE data, which suggested that percentage with electricity has reached close to

100 per cent by the end of 2021. Between 2018 and 2021, households with less than 8 hours of power in a day has dropped to almost zero.

Caste: General are most likely to have electricity, while SC are least. SC have the highest percentage of households receiving less than 8 hours of power in a day, while the general category is the lowest.

Education: Those who have completed secondary education or more are more likely to have electricity. Education level is also inversely related to getting less than 8 hours of power in a day; households with lower levels of education are also more likely to have less than 8 hours of power in a day.

Employment: Salaried permanent are most likely to have electricity, while daily wage workers are least likely. Self-employed are more likely to have electricity as time progresses. Daily wage workers are most likely to have less than 8 hours of power in a day, while permanent salaried are least likely. In terms of monthly electricity expenditure, there were no notable differences except for permanent salaried who are more likely to spend more than INR 2000 per month and less likely to spend less than INR 100 as compared to others.

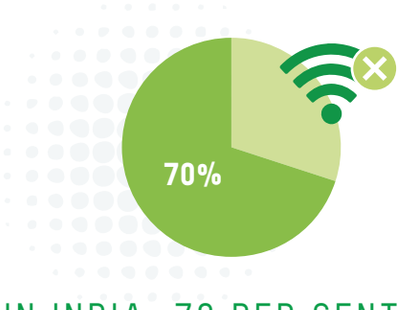
Region: Urban areas have close to 100 percentage of households with electricity while rural areas are more likely to have less than 8 hours of power in a day.

Religion: Sikhs have the most access to electricity and are least likely to have less than 8 hours of power in a day. Muslims and Hindus are most likely to not have electricity. In some time periods, Hindus with no electricity is higher than Muslims, but mostly Muslims have been the highest. Muslims are also most likely to have less than 8 hours of power in a day, followed by Hindus.

Income: Higher income deciles have higher percentage of households with electricity while lower income households are more likely to have less than 8hours of power in a day. Deciles 9 and 10 are more likely to spend more than INR 2000 on electricity in a month and less likely to spend less than INR 100 as compared to other deciles.

INTERNET CHARGES

We also looked at monthly expenditure on internet incurred by household, a factor that could contribute to an aversion to digital devices due to the additional cost.



IN INDIA, 70 PER CENT OF THE POPULATION HAS POOR OR NO CONNECTIVITY TO DIGITAL SERVICES.

Globally, 3.7 billion people have no internet access.[39] In India, 70 per cent of the population has poor or no connectivity to digital services.[40] As per the NSSO, only 24 per cent of Indian households had an internet connection in 2017-18. What is more alarming is that

ONLY 8 PER CENT OF HOUSEHOLDS WITH MEMBERS AGED BETWEEN 5 AND 24 HAD BOTH A COMPUTER AND AN INTERNET CONNECTION.

While 66 per cent of India's population lives in villages, only a little over 15 per cent of rural households had access to internet services in 2017-18,[41] which grew to 31 per cent by 2022.[42]

Even with the mass movement towards digital mediums, especially since 2020, reports suggest that 25,067 villages (4 per cent) in India lack mobile and internet connectivity.[43] Moreover, less than half of the 2.5 lakh village panchayats targeted by the flagship BharatNet rural broadband project have Wi-Fi hotspots,[44] and only 65,000 of those provide service.

Even with increasing number of internet subscribers in India, the quality and speed of internet connection is questionable. As per a survey by LocalCircles, 56 per cent respondents experience 3 or more disruptions in their connection each month, while 33 per cent said the connection speed "received is much lower than what we are paying for."[45]

The majority of the population (over 90 per cent) spends less than INR 100 per month on internet charges. Between the pre and post pandemic era, percentage spending less than INR 100 has increased.

56 PER CENT RESPONDENTS EXPERIENCE 3 OR MORE DISRUPTIONS IN THEIR CONNECTION EACH MONTH, WHILE 33 PER CENT SAID THE CONNECTION SPEED "RECEIVED IS MUCH LOWER THAN WHAT WE ARE PAYING FOR".

The price per gigabyte of data was INR 9.53 in July-September 2021, while the average Wireless Data Usage per wireless data subscriber per month was 14.73 GB.[46] Hence, the total average cost of internet charges was approximately INR 140 per month. In spite of this, close to 94 per cent of respondents were spending less than INR 100 on internet charges, indicating low consumption of internet.

Education: No notable differences on internet expenditure till graduation. After that, likelihood of spending over INR 100 increases and under INR 100 decreases.

Employment: No notable differences among different categories except for permanent salaried who are more likely to spend over INR 100 and less likely to spend less than INR 100 as compared to others.

Region: Rural areas are more likely to spend less than INR 100 than urban areas.

Income: The likelihood of spending less than INR 100 on internet expenditure declines after decile 8 and spending more than INR 100 increases.

LOOKING BEYOND ACCESS: A MULTIDIMENSIONAL DIVIDE

The preceding section has demonstrated that the first level of digital divide in India is palpable. Access to ICTs remains unequal between the privileged and the marginalized communities. However, as research suggests, the second-level divide, which is the inequality in the usage of ICTs is a fact of the matter among those who have access to them.

The multi-dimensional approach, however, challenges the simplistic outlook of technological determinism, which views digital divide as a temporary gap between those who have access to ICTs and those who do not. The literature on this approach acknowledges that social, political and environmental factors impact who goes online and for how long and who would not. This group considers access to technology as a basic building block and treats access and use as two different issues for investigation.

Helbig et al. write, "[access] is treated as one more dimension of the digital divide equally as important to other factors such as race/ ethnicity, income, skills, geography, cultural content, education, and training."[47] Studies that undertook comparisons between educational and occupational groups, income brackets, age groups, and genders revealed systematic variation in both internet access and the frequency of its use.[48] Economic or other resource gaps, differences in cultural tastes and preferences of different social classes are factors contributing to disparities in digitization.[49]

Therefore, the underlying idea common to the digital divide literature in the ambit of multi-dimensional argument is that it mirrors other patterns of socioeconomic inequality. Tewathia et al. also write that the digital divide "demands a more profound understanding, not merely in terms of access to devices or the internet, but also through appreciating differentials in levels of access and usage of digital services which aggravate the already existing complex social divisions".[50] They critique the body of works that suggests technological access as a solution for digital inequality. For example, state-led initiatives such as the National Digital Literacy Mission in India, which promotes improving access to technological artefacts believe that access is the main issue at hand. Policy and practical initiatives often overlook the causes and consequences of digital inequality.

The authors note that inequitable opportunities (based on income, education, and caste) in developing ICT-related skills have been overlooked, as is also the way ICT penetration ends up reinforcing and accelerating gender, race, caste, and occupational inequalities. Dimaggio et al. give an example of this inequality.[51]

THEY OBSERVE THAT INDIVIDUALS WITH FEW YEARS OF EDUCATION AND LOW INCOMES ARE STILL LESS LIKELY TO BE ONLINE THAN INDIVIDUALS WITH THE MOST EDUCATION AND THE HIGHEST LEVELS OF INCOME.

They also note that women and the elderly are usually slower technology adopters for various constraints than men and the young, but both groups ordinarily catch up. This section, therefore, goes beyond access to ICTs to see other determinants impacting digital usage.

GENDERED DIVIDE

Chowdhury and Binder state that the gender gap in digital access is accompanied by a gender gap in meaningful digital use.[52] Reviewing relevant literature, they deduce that

WOMEN TEND TO USE MOBILES AND THE INTERNET DIFFERENTLY THAN MEN. FOR EXAMPLE, LIMITED BY LESS EXPENSIVE AND SOPHISTICATED HANDSETS, WOMEN USE A SMALLER RANGE OF DIGITAL SERVICES (OFTEN PRIMARILY VOICE AND SMS). WOMEN ALSO USE DIGITAL SERVICES LESS OFTEN AND LESS INTENSIVELY, AND THEY ACCESS THE INTERNET LESS FREQUENTLY, FOR FEWER REASONS.

India accounts for half of the world's gendered digital divide. A mere one-third of its internet users are women. Indian women are 15 per cent less likely to own a mobile phone, and 33 percent less likely to use mobile internet services than men.[53]

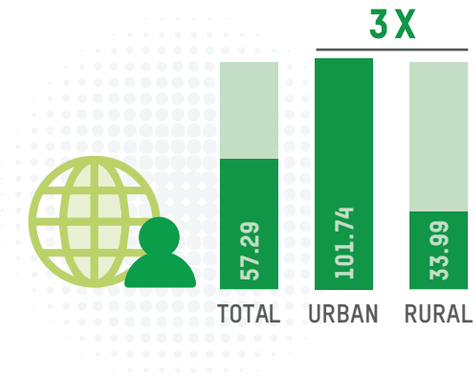
WITHIN THE ASIA-PACIFIC, INDIA FARES THE WORST WITH THE WIDEST GENDER GAP OF 40.4 PER CENT.[54]

Gendered social norms often dictate appropriate behaviour for men and women. This has resulted in comparatively lesser levels of assimilation of women in digital transformation than men. Owning and using of a digital device is a household decision decided by the man. Chowdhury and Binder write, "[the] internet is often perceived as a risk to the traditional social order or seen as unsafe for women and girls. Male (or family/community) gatekeepers control or restrict access to devices and the internet for many women and girls."[55] The gendered digital divide gets further accentuated in rural areas.

Some rural communities in northern India have banned women's mobile phone use altogether, and other communities have decrees declaring internet use "immoral" for women. This can be corroborated from another report by C3India and Digital Empowerment Foundation, which found that 611 girls out of the 2,600 indicated that the "protective nature" of the family limited their free access to the phone. Parents offered reasons such as "phones are not safe", "waste of time", "may harm her eyes", or that the daughter "may misuse it".[56] Girls were allowed the phone only to attend online classes whereas no such restrictions were imposed on the boys.

LOCATION

The number of active internet users in India is expected to increase by 45 per cent in the next 5 years and touch 900 million by 2025 from around 622 million in 2020, according to the IAMAI-Kantar report.[57] Despite a significant growth rate of 13 per cent in a year's time, only 31 per cent of the rural population uses the internet. On the other hand, 67 per cent of India's urban population uses the internet. Overall, 9 in 10 active users access the Internet daily and spend an average of 107 minutes on it per day. However,



THE TOTAL NUMBER OF INTERNET SUBSCRIBERS PER 100 PEOPLE IN INDIA STANDS AT 57.29, WITH THIS NUMBER BEING AROUND 3 TIMES HIGHER FOR URBAN INDIA (101.74) COMPARED TO RURAL INDIA (33.99).

urban internet users spend about 17 per cent more time per day online than active users in rural India. At a state level, Maharashtra has the highest internet penetration, followed by Goa and Kerala, while Bihar has the lowest, followed by Chhattisgarh and Jharkhand. The report noted that the increase in active Internet users has slowed down over the years and is currently the lowest in 4 years.

According to Guha and Mukherjee, the National IT Policy of 1998 gave a nationwide common framework, which was adapted and implemented by different states as per their capabilities and priorities.[58] Thus, "some states like Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu and Kerala with better institutional, infrastructural and human capital could take [the] lead in developing robust and competitive IT/ITeS [Information Technology Enabled Services] industry through appropriate environment and incentives."[59] However, even in high penetration states, the spread of the IT/ITeS sector in terms of economic opportunities was limited to specific districts or geographical areas. The intra-state digital divide also manifested in the form of rural-urban divide, with urban areas having higher access and usage of computers and internet.

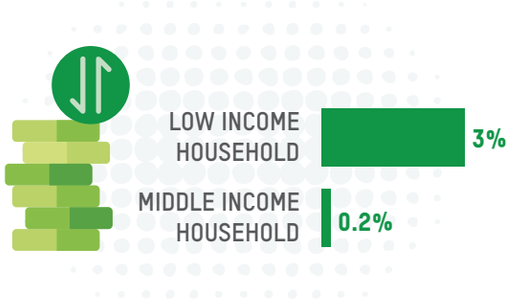
As per the Indian Telecom Services Performance Indicators for July-September 2020, on 30 September 2020, the total number of internet subscribers per 100 people in India stands at 57.29, with this number being around 3 times higher for urban India (101.74) compared to rural India (33.99).[60]

AFFORDABILITY

Affordable connectivity is essential to derive the benefits of digital technology, when it comes to attending online classes, using social networking, availing opportunities, and conveniently accessing information and admission results.[61]

INDIA RANKS 47TH ON INTERNET AFFORDABILITY, ACCORDING TO A GLOBAL INDEX ON DIGITAL QUALITY OF LIFE IN 110 COUNTRIES.

Nikore and Uppadhayay found an income-based digital divide between households.[62] The average price for data in India is US $0.68/GB. Their estimates show that each GB of data costs low-income households (earning less than US$2/day) 3 per cent of their monthly income versus 0.2 per cent for middle-income households (earning US $10–$20 per day). Asrani, too, found that population with better incomes has better chances of adopting ICT.[63] She used the monthly household consumer expenditure as a proxy for income. Her calculations show that at lower income levels, the gap between rural and urban sector home ICT adoption is about 10 per cent and at highest level of income, rural-urban household ICT adoption gap



EACH GB OF DATA COSTS LOW-INCOME HOUSEHOLDS (EARNING LESS THAN US$2/DAY) 3 PER CENT OF THEIR MONTHLY INCOME VERSUS 0.2 PER CENT FOR MIDDLE-INCOME HOUSEHOLDS (EARNING US $10–$20 PER DAY).

increases to about 50 per cent, with cohorts in urban area more likely to have ICT access. A similar pattern is observed in case of ICT use capabilities, at lower income levels gap between rural and urban sector ICT skill know-how is about 10 per cent and at the highest level of income the rural-urban digital literacy gap increases to about 35 per cent, with individuals in urban area more likely to know the basic digital skills.

Dimaggio et al. make another important observation.[64] Newer adopters of technological use are often of lower socioeconomic status than long-time users. However, they may not stay online. They write, "...loss of income during hard times may make consumers less able to pay ongoing monthly connection fees. Many people adopt the technology only to give it up later, and these Internet drop-outs come disproportionately from groups with lower probabilities of going online in the first place".[65] Long-term users of the internet are, therefore, often the rich.

DIGITAL LITERACY

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."[66] Digital literacy is one of the factors that determines the level of usage when one has access to ICT. Emphasizing the importance of building digital skills, Mothkoor and Mumtaz examined digital literacy in India.[67]

THEY FOUND THAT ONLY 38 PER CENT OF HOUSEHOLDS IN INDIA ARE DIGITALLY LITERATE.

In urban areas, digital literacy is relatively higher (61 per cent) than in rural areas (25 per cent).

STs have the lowest overall digital literacy at the household level at 21 per cent. The rural-urban divide is evident across social groups. They also found that the bottom quartile has the lowest percentage of digitally literate households, at 17 per cent as compared to 77 per cent in the top quartile. Recent studies, however, indicate that the socio-economically disadvantaged who have low education levels use ICT more for entertainment purposes than utilitarian purposes.[68]

Nikore and Uppadhayay found anecdotal evidence, which revealed that digital illiteracy and unfamiliarity with digital platforms deterred women entrepreneurs from moving to online marketplaces post COVID-19.[69] They write, "Jhuri-makers (bamboo artisans) in West Bengal were reluctant to move to online platforms due to limited knowledge of social media and digital marketing channels, combined with high data costs. Women Self-Help Group (SHG) members across states like Maharashtra, Telangana, Andhra Pradesh, and Gujarat shared that even though women in their community were using phones for personal use, they were unable to make financial transactions online, and did not use phones for their businesses."[70]

BOX 1: EXCLUSIONARY TECHNOLOGY LEAVES OUT THE MARGINALIZED

The determinants discussed above make the digital space unattainable and as such irrelevant for many. Therefore, e-governance, which the Government of India has been actively promoting without considering what determines an individual's long-term presence online, risks excluding people from government entitlements. The story of Tala Murmu and Sarojini Kisku is such an example.[71] With the digitalization of PDS and linking it to Aadhar's biometric verification of beneficiaries has created newer problems for the women. Both the women had not been getting their entitlements, particularly food grains since the introduction of biometric authentication in October 2016. Murmu used to receive 5 kilograms of rice and 1 litre of kerosene every month prior to that. She says, "The dealer says my name does not show in the record after I punch in the biometric machine."[72] She is now forced to buy food grain from the market. She told me that she still received subsidized kerosene oil, but her ration card showed allocation of both food grains and kerosene till the month of May. Both of these women could not read, did not have any digital skills, were not aware of their legal rights, and did not have any familial support. Singh writes, "The irregularities are manifold. From the deletion of ration cards to the problems in linking ration cards to Aadhaar, the system seems to create more problems than it solves, excluding many families rather than including them."[73] There are also documented concerns with internet connectivity which is a must to run Electronic Point of Sale (EPOS) machines.

Often the beneficiaries of the government belong to the economically backward and socially marginalized sections of the society. Evidence suggests that they have remained digitally disconnected. As such, when compulsory digital methods are used to provide government benefits and services, it fails the very people it intends to serve.

Larson explains it aptly, "If governments digitalize based on the goal of being more accessible to most people, it would be problematic if those left behind were those that needed government services the most. Digital government has seen the reduction in street-level bureaucracy in favour of screen- and system-level bureaucracy... If citizens who are most reliant in the street-level bureaucracy are also excluded from the automated systems, the burdens of digitalization are increased on those who are least able to carry them."[74]

DIGITAL DIVIDE IN EDUCATION, HEALTH AND FINANCIAL INCLUSION

This section explores the impact of the digital divide in three sectors of significance—education, health and financial inclusion.

EDUCATION

The thrust towards online classes and the emphasis on the use of digital technology in primary, secondary and higher education predates the pandemic, but it has garnered greater public attention due to pandemic-induced curbs on physical meetings and spaces. There has been a fundamental shift in the nature of education through adopting technology-based online distance learning in which the students will learn whenever they wish to and shall be evaluated when they feel they are reasonably ready to be evaluated.[75] On the flip-side, it is argued that making students sovereign is neoliberal in its approach and would recast the teacher-student relationship.[76] Second, in a country where a majority of students, at any given level of education, lack access to either digital devices such as smartphones or laptops or to internet connectivity or to both, online education becomes unviable. In India, characterized by multifarious diversity and constraints in terms of availability of resources (ICT infrastructure, electricity, budget, skilled human resource), switching to digital modes of education is a humongous task, as well as full of challenges.[77]

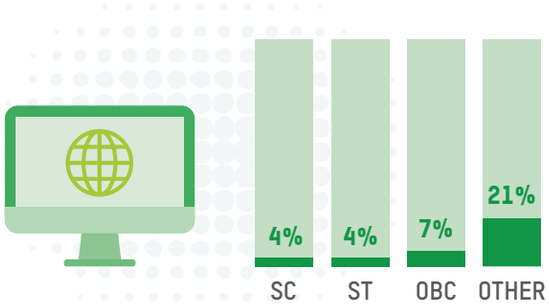
"Availability" of digital devices with the students is one of the determinants of access to digital education. "Digital Divide" among different castes, income groups of students is evident as per the National Sample Survey Office (social consumption of education (2017-18). Only about 9 per cent of students who were enrolled in any course had access to a computer with internet and 25 per cent of enrolled students had access to the internet through any kind of devices.

The survey also found that such meagre access is entangled with huge socio-economic and spatial disparities. The proportion of students having access to a computer with internet was higher in urban (21 per cent) than rural (4 per cent) India. Similarly, access to the internet through any kind of device was much better in urban India (44 per cent) than in rural India (17 per cent). The currently enrolled students from advantaged socio-economic groups have relatively better access to digital infrastructure. The access to computer with internet is the highest among students from the top income decile (richest 10 per cent).

AMONG THE TOP INCOME DECILE, 41 PERCENT (RICHEST 10 PER CENT), 16 PER CENT FROM 2ND HIGHEST INCOME DECILE AND 10 PER CENT OF STUDENTS FROM 3RD HIGHEST INCOME DECILE HAVE ACCESS TO COMPUTER WITH INTERNET FACILITY WHEREAS ONLY 2 PER CENT OF THE STUDENTS OF LOWEST INCOME DECILE (POOREST 10 PER CENT), 2 PER CENT OF SECOND LOWEST INCOME DECILE, 3 PER CENT OF THIRD LOWEST INCOME DECILE HAVE ACCESS TO COMPUTER WITH INTERNET.

Further, the data also reveals that 44 per cent of top income decile, 33 per cent of second highest income decile and 26 per cent of students from third highest income decile have access to internet facility whereas only 10 per cent of lowest income decile, 9 per cent of second lowest income decile and 13 per cent of the students from the third lowest income decile have access to internet facility. Thus, inequality in access to digital infrastructure is worse across different income groups.

Inequality in access to digital infrastructure is also evident for the students across different caste groups. Only 4 per cent of the students from ST and 4 per cent of the students from SC have access to



ONLY 4 PER CENT OF THE STUDENTS FROM ST AND 4 PER CENT OF THE STUDENTS FROM SC HAVE ACCESS TO COMPUTER WITH INTERNET FACILITY. ON THE OTHER HAND, AS HIGH AS 7 PER CENT OF THE STUDENTS FROM OBCS AND 21 PER CENT OF THE STUDENTS FROM "OTHERS" CASTE GROUP HAVE COMPUTER WITH INTERNET FACILITY.

computer with internet facility. On the other hand, as high as 7 per cent of the students from OBCs and 21 per cent of the students from the "Others" caste group have computer with internet facility. The data also shows that the percentage of students from "Others" who have access to internet is 3 times more than the percentage from ST groups. However, a recent online survey found that above 50 per cent of Indian students including both urban and rural areas do not have access to the internet for online studies.[78] With this severe inequality in digital divide, government, as well as private schools, opted for massive online platform to provide education during COVID 19.

During the first year of the pandemic, Oxfam India's survey conducted (May-June 2020) in 5 states of India shows that over 75 per cent parents faced a host of challenges in supporting children to access education digitally. They faced challenges with regard to internet connectivity and affordability. While these challenges were common across surveyed states, in Jharkhand specifically, over 40 per cent parents did not have the right device to access digital education. 84 per cent teachers reported facing challenges in delivering education digitally with close to half the teachers facing issues related to signal issues and data expenses. Two out of every 5 teachers lack the necessary devices to deliver education digitally. There was also lack of preparedness among the teachers as it is found that less than 20 per cent teachers reported receiving orientation on delivering education digitally. Digital education has also failed to consider the provisioning of the mid-day meals and text books during the pandemic. Thirty-five per cent of the parents expressed that their children did not get mid-day meal and 80 per cent of the parents said that their children had no textbooks to support online classes. A similar study conducted by Oxfam India in the second year (2021) of pandemic found that the issues with digital learning are not restricted to access alone but also with pedagogy. One-fifth of the students struggled to ask questions in online classes.

Besides the stresses of access and affordability, a daunting task for a student is to keep up with their studies and peers. Unlike an active classroom setting, e-learning does not accommodate one-to-one discussions or problem solving with tutors. Reports emphasize that the receivers (students) are not the only ones struggling—teachers are too.[79]

Digital divide is also exacerbated by prohibitive cost of EdTech products. An EdTech product on the Indian market is equivalent to 77.5 per cent of the per capita income for its lowest wealth quintile.

THE AVERAGE COST OF PRODUCTS IS ESTIMATED TO BE RS 20,000 PER YEAR[80] WHILE THE INCOME OF THE BOTTOM 20 PER CENT OF INDIAN HOUSEHOLDS IS INR 25,825 PER YEAR PER CAPITA.[81]

Though there has been much emphasis given for use of technology in the education, very little attempt has been made to address the digital divide in education. the Government of India has launched a comprehensive initiative called PM eVIDYA on 17 May 2020, which unifies all efforts related to digital/online/on-air education to enable multi-mode access to education.[82] The Indian national educational policy of 1986, which was subsequently modified in 1992, stressed the need for using Educational Technology to improve access, quality and governance of education. The National Education Policy (NEP), 2020 also emphasizes the

effective use of innovation to improve teaching and learning for students through the use of technology.[83] NEP, 2020 envisions creating an autonomous body, the National Educational Technology Forum, which will be the vehicle for integrating technology into different aspects of school education and higher education. The National Digital Education Architecture, under the Ministry of Education also has as its vision the creation of a "unified national digital infrastructure to energize and catalyze the education ecosystem."[84] Essentially, this is a technological framework that aims to enable existing systems to upgrade and become interoperable, while making available, the common building blocks and services for the creation of new tools and solutions.[85]

HEALTH

As digitalization percolates every imaginable aspect of people's lives in current times, the health sector undergoes transformation too. How does health go digital? As per the US Food and Drug Administration, the broad scope of digital health includes categories such as mobile health (mHealth), health IT, wearable devices, telehealth and telemedicine, and personalized medicine.[86] But when half of the population in India does not have access to ICTs, when a multitude of factors restrict its usage, and when digital literacy is exceptionally low, the question remains: Does digital health cater only to the privileged sections of the society, thereby deserting those who need it the most attention?

Internet access is increasingly being considered an important public health issue. Health experts now insist that broadband internet access must be recognized as a social determinant of health. Considering the digital revolution that the health sector has undergone, lack of access to the internet means being excluded from vital health information and resources. The existing digital divide has exacerbated health inequality by creating "barriers to health care delivery and well-being."[87]

New technological developments such as the Internet of Medical Things (IoMT) combines medical devices and applications to connect the IT systems of healthcare by using various networking technologies. It includes remote patient monitoring of people with chronic or long-term conditions; tracking patient medication orders and the location of patients admitted to hospitals; and patients' wearable mHealth devices, which can send information to caregivers.[88] In their paper, Saher and Anjum found that persons who could afford services that can be categorized as belonging to IoMT had better chances of making a quick recovery from COVID-19.[89] This is a jarring contrast as compared to persons who had to only rely on governmental provisions to tackle COVID-19. These provisions often failed them as happened in cases such as the one of oxygen shortage in Gorakhpur hospitals[90].

In line with global digital health strategy, India too has been on the path of digitizing healthcare. Under the National Health Authority, the National Digital Health Mission (NDHM), now known as the Ayushman Bharat Digital Mission, aims to build a digital health ecosystem in the country. However, with concerns over inadequate digital infrastructure, challenges remain for its seamless implementation. "[A] digital infrastructure (hardware and software to access the NDHM)...a stable digital connectivity to ensure the real-time operation and updates and digital literacy (such as knowledge to operate the digital health ID) for both the individuals as well as the entities authorised to access the digitised health platform" are the prerequisites.[91] An integral part of the NDHM is the maintenance of electronic health records (EHR). Its major characteristics include electronic medical records of individual patients, arrangement of these records in a time series, and inter-operable linkages of the Electronic Medical Records across various healthcare settings.[92] According to Rathi, underserved settings such as rural and hard-to-reach areas lack the digital infrastructure needed to support EHRs.[93] Digitizing records, in such a setting, is more of an afterthought. Citing an example, Rathi writes, "...health workers who already report significant existing impediments in their delivery of routine care in these settings do not necessarily see EHRs as being useful in catering to the specific needs of their patient population."[94]

Another challenge has been the concerns of exclusion due to varying rates of digital access and literacy among users—both patients and health service providers—of the NDHM. Basic infrastructure and services such as a smartphone or computer and the internet are necessary to manage patient records and to access other tools such as e-Sanjeevani, the telemedicine[95] platform, the goal of which is to connect rural areas with quality health care providers. Considering the lack of universal access to the internet, sporadic availability of electricity and unequal access to digital devices, Ganesan posits an important question, "it is unclear how telemedicine, rather than brick-and-mortar hospitals, will address the problem of access to health care in the remotest parts of India and in conflict areas... where internet shutdowns are routine."[96]

BOX 2: THE COWIN EXPERIENCE

The vaccination programme during the pandemic was revelatory of the bottlenecks that the use of technology to reach the masses can have. Anecdotal evidence has shown that poor people—typically belonging to the marginalized communities—were the last ones to receive the vaccinations for particularly three reasons:

i. They did not have smartphones with internet to register for slots;
ii. They did not have the digital know-how and English language skills to use the CoWIN app;
iii. Circulation of information about available vaccine slots was still mostly happening online—on social media sites and in the app—even after online registration was no longer mandatory, thereby excluding a large section of people who were not on these sites.

The result was delayed vaccination for many. Vaccination certificates were also mostly available online. Therefore, people without a smartphone and the internet had to either miss out on vaccination or depend on altruistic individuals to assist them through the entire vaccination process.

Ganesan writes,

BY DISTRIBUTING VACCINES THROUGH COWIN, EQUITY WAS NO LONGER THE PRIMARY GOAL, AND AN EFFECTIVE HIERARCHY OF WHO COULD RECEIVE VACCINES WAS CREATED—FIRST WOULD BE THOSE WHO ARE DIGITALLY LITERATE, CONVERSANT IN ENGLISH, AND ABLE TO PAY FOR THEIR VACCINES; AFTER THEM WOULD BE POOR PEOPLE, WOMEN, MIGRANTS, PERSONS WITH DISABILITIES, AND OTHER VULNERABLE POPULATIONS.[97]

Another concern in terms of digitizing healthcare is the issue of informed consent.[98] At numerous points in the digital health management system, informed consent is sought as the primary method of ensuring the confidentiality of personal information. The concept of informed consent presupposes that

AN INDIVIDUAL HAS ALL THE RELEVANT INFORMATION TO MAKE A RATIONAL DETERMINATION AND THAT THIS INFORMATION WAS COMMUNICATED TO THEM IN AN UNDERSTANDABLE LANGUAGE; AND IN THE CASE OF THE NDHM, IT ALSO PRESUPPOSES THAT AN INDIVIDUAL HAS EASY ACCESS TO A SCREEN AND INTERNET.[99]

Considering the fact that the NDHM caters to people of various socioeconomic backgrounds, the requirements of free, informed consent will not be fulfilled if it's standardized and technical. Given the existing divide in digital literacy, access to the internet, and access to smartphones, obtaining informed consent for many would take place in the presence of medical staff—a challenge which "does not address the coercive conditions around which consent is typically sought in India."[100] The alternative to refusing consent to share information is the refusal of medical care or the settlement of claims. Digital

illiteracy, in this case, would therefore result in lack of access to healthcare.

The pandemic also accelerated internet use to avail healthcare-related information and services. With it, the Indian market has witnessed a steady rise in healthcare mobile apps such as 1mg, Practo, Cultfit, Flo, etc.

THE MEDICAL APPS MARKET IS ESTIMATED TO REACH INR 337.89 BILLION BY 2026, EXPANDING AT A CAGR OF 39.37 PER CENT DURING THE 2021-2026 PERIOD.[101]

However, they cater to a specific group of people—digitally literate, English-speaking people with a smartphone and the internet. The apps are not designed keeping in mind the health literacy and accessibility needs of communities. This was seen with CoWIN too. As such, when affected communities are not included as part of the process, "this can lead to 'Exclusion by Design' that contributes to higher rates of attrition in minority communities in mhealth interventions, unequal adoption of mhealth innovations by underserved populations and exacerbate existing health disparities."[102]

Oxfam India's 2021 report on health inequality underscored the importance of primary health services to reach out to the most vulnerable sections of the society. The plan to digitally revolutionize the health system in India when the most basic of public healthcare service is in shackles reveals misplaced government priorities.

ACCORDING TO GOVERNMENT STATISTICS, THERE IS A SHORTFALL OF 8503 SUB-CENTRES, 1464 PRIMARY HEALTH CENTRES AND 347 COMMUNITY HEALTH CENTRES.[103]

There are also infrastructural challenges of the functioning hospitals. With inherent flaws and challenges that the healthcare sector in India faces—low access to affordable, quality healthcare, shortage of human resources and infrastructure—and when more than half of the population does not have access to technology—digital health has the potential of increasing the already prominent health inequalities in India.

FINANCIAL INCLUSION

The Rangarajan Committee on Financial Inclusion, set up by the RBI, gave the following definition[104] of Financial Inclusion:

"Financial Inclusion is the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost."

Financial inclusion can be connected to the diminishing poverty rates across countries[105]. As a result, organizations like the World Bank have identified financial inclusion as a crucial enabler for lowering both severe poverty and inequality.

The extent of financial inclusion is determined by a set of levels.[106] The first level defines the availability of product (say, bank branches in an area), the second is about the actual ownership of that product (how many people have a bank account in the area), the third is the frequency with which the product is used (how many times the account has been used in the last 30 days) and last is the degree to which the product is used (say, of all monetary activities, how many were through a bank account over cash). For instance, while 10.5 per cent have a mobile money account in India, only 5 per cent can use it without someone else's help.[107]

In order to make the formal system more user-friendly and accessible, the Indian government introduced a system called Jan Dhan-Aadhar-Mobile to inculcate fintech (financial technology). The Pradhan Mantri Jan Dhan Yojana is aimed at spreading access of financial services through bank accounts, credit, insurance, pensions and remittances. About 78 per cent of India's population is now banked.[108] However, over one-fourth of these accounts are inactive.[109] So, even though people have access to the accounts, they have not inculcated a habit of using them. Additionally, the Unified Payment Interface (UPI) and cashless/electronic transactions are other developments that have enhanced India's tread towards an inclusive

society. However, the affiliated risk factor attached to the fintech revolution in the form of cyber security and identity theft need to be addressed to reaffirm people's trust in these tools.[110]

The RBI recently issued digital lending norms to curb malpractices.[111] Digital lending businesses can often be predatory in nature and hence, the RBI's framework prohibits automatic increases in credit limits without the explicit consent of the borrower. It includes other regulations like all loan disbursals and repayments are required to be executed only between the bank accounts of the borrower and the RBI Regulated Entities, without any pass-through/ pool account of the Lending Service Providers or any third party. It seeks to address concerns primarily around mis-selling, breach of data privacy, unfair business conduct, charging of exorbitant interest rates, and unethical recovery practices.

Digital technologies can enable the economically excluded to save for education, pay bills, obtain loans, and prepare for adversities. It serves as a gateway to other financial instruments, and allows the marginalized, especially women, to effectively control their financial lives. In fact,

COUNTRIES WITH HIGH MOBILE MONEY ACCOUNT OWNERSHIP HAVE LESS GENDER INEQUALITY.[112]

Also, 78 per cent of the world's unbanked have a mobile phone.[113] This means that mobile money payments can really fuel financial inclusion by reaching the unbanked and can help reduce financial exclusion.[114]

The pandemic has highlighted the importance of digital financial inclusion. Globally, 1.4 billion were still unbanked or financially excluded in 2021, according to the latest Findex data.[115]

DESPITE HAVING RELATIVELY HIGH RATES OF ACCOUNT OWNERSHIP, CHINA AND INDIA CLAIM A LARGE SHARE OF THE UNBANKED POPULATION OF THE WORLD (130 MILLION AND 230 MILLION, RESPECTIVELY) BECAUSE OF THEIR SIZE.

India's share of digital payments is only less than 1 per cent.[116] Moreover, the likelihood of a digital payment by the richest 60 per cent is 4 times more than the poorest 40 per cent in India.[117] These large gaps need to be addressed.

Digital finance could also serve as a catalyst for inclusive growth and add $3.7 trillion to the Gross Domestic Product (GDP) of emerging economies within a decade, which could create up to 95 million jobs across all sectors, according to a report by the McKinsey Global Institute.[118] It could give 1.6 billion individuals access to a financial account for the first time (880 million would be women), 45 per cent of whom would come from the poorest 2 quintiles of income

COUNTRIES SUCH AS ETHIOPIA, INDIA, AND NIGERIA COULD ADD UP TO 10 TO 12 PER CENT TO THEIR GDP THROUGH DIGITAL FINANCE,

given low levels of financial inclusion and digital payments today. If social programmes are also shifted from cash to digital payments, it could help governments improve the targeting of services and subsidies to the poor.

THE LIKELIHOOD OF A DIGITAL PAYMENT BY THE RICHEST 60 PER CENT IS 4 TIMES MORE THAN THE POOREST 40 PER CENT IN INDIA.

Marginalized groups—which typically include poor people, women, youth, and people living in remote rural areas and ethnic minorities—require special attention.[119] In rural India, the tendency to use formal financial services is lowest for ST households, second lowest for SC households and third lowest for OBC households.[120] Additionally, as per the RBI, only 41 per cent of small and marginal farmers have been covered by public and private sector banks.[121] The transgender community also suffers greatly when it comes to making financial transactions. This is because most of them lack legal credentials like Aadhar, PAN, ration card or voter card, making it hard for them to access bank accounts and other financial systems.[122] Without access to the formal financial system, women, poor people, small businesses, and otherwise excluded people must rely on their own savings and borrowings to finance educational and entrepreneurial investments. This further exacerbates income inequality and hinders economic growth.

Additionally, some excluded and vulnerable groups may not have access to digital financial services or may be hesitant to use them and hence, digital literacy can play a key role in helping households adopt digital technology. The NITI Aayog Report, Strategy for New India @75 inter-alia indicates that India needs to eliminate the Digital Divide by 2022-23.[123] In the years 2014 to 2016, two schemes—the National Digital Literacy Mission and the Digital Saksharta Abhiyan were implemented by the government, under which 53.67 lakh beneficiaries were certified. In 2017, the Pradhan Mantri Gramin Digital Saksharta Abhiyan was launched in rural India to usher in digital literacy by covering 6 crore rural households (1 person per household). So far, a total of around 5.78 crore candidates have been enrolled and 4.90 crore have been trained, out of which around 3.62 crore candidates have been certified under this scheme.

India as a developing country cannot ignore the role of financial inclusion and digital literacy in its growth and development and needs to actively increase the digital penetration in the country in an inclusive manner.

PRIVATIZATION IN THE TECH SPACE

On the 75th Independence Day, Prime Minister Narendra Modi declared from the Red Fort, "India's techade is here. With 5G, semiconductor manufacturing, and optical fibres in villages, we are bringing a revolution through Digital India to the grassroots level."[124] He stated that this will revolutionize the education and healthcare sector and bring about a noticeable change in the lives of the citizens. India launched its indigenously-built 5G services for mobiles phones in October of 2022, and aims to cover the entire nation by 2024.[125] A survey conducted by LocalCircles found that

ONLY 20 PER CENT RESPONDENTS HAD A DEVICE THAT SUPPORTS 5G,

so only those who can afford to buy 5G-compatible devices will be able to access these services.

The government of India launched the Digital India programme 7 years ago in 2015 with "a vision to transform India into a digitally empowered society and knowledge economy."[126] The programme has a clearly outlined approach and methodology, which mentions that public-private partnerships (PPP) would be preferred wherever feasible to implement e-governance projects with adequate management and strategic control. Moving beyond PPP in e-governance, there is an overall inclination towards dependence on private players to expand internet connectivity.

The model of internet connectivity in India, too, is such that private companies have rooted themselves as the foremost providers. For example, performance indicator reports of TRAI show that

RELIANCE JIO HAS THE HIGHEST NUMBER OF INTERNET SUBSCRIBERS (388 M), WHICH ACCOUNTS FOR 52 PER CENT OF THE MARKET SHARE. THERE IS A WIDE GAP BETWEEN JIO AND BHARTI AIRTEL WHICH HAS THE SECOND HIGHEST NUMBER OF INTERNET SUBSCRIBERS (175 M). THE LATTER ACCOUNTS FOR MERELY 23 PER CENT OF THE MARKET SHARE. VODAFONE OCCUPIES THIRD PLACE (139 M) AND GOVERNMENT-OWNED BSNL OCCUPIES FOURTH PLACE WITH JUST 3M INTERNET SUBSCRIBERS AND ACCOUNTS FOR ONLY 4 PER CENT OF THE MARKET SHARE.

The government sector has failed to find its footing in this arena. The flagship scheme, BharatNet, with its aims to provide internet connectivity in rural India, by connecting all the 2.50 lakh gram panchayats by 2025 is faltering. In some states, the centre is providing partial funding of the project with the responsibility of roll out of projects on the states, whereas in Tamil Nadu, not all works have been sanctioned. In Maharashtra the progress of work is slow and connectivity has been impacted due to permissions from Forest Department, etc.[127] The government also said that the tender for village connectivity through a PPP model has had no response. This raises questions of rise in inequality, especially the urban-rural divide wherein giants like Jio and Airtel have started disseminating their 5G services in metropolitan cities while villages struggle with internet connectivity due to bureaucracy and lack of incentives for private players to intervene.

The extremely low penetration of government-owned internet services has far-reaching implications that lead to inequalities in internet accessibility and affordability. One of the major goals of private companies is profit maximization. In the Indian neoliberal context, this has been successful in driving fast-paced infrastructure creation in urban spaces that provide incentives to them in return. On the other hand, the lack of incentives, in the form of purchasing power that can be derived from the rural population is not comparable to the urban counterparts. This has led to comparatively lower internet coverage in rural areas.

There is a sense of techno-capitalism where one private player accounts for half of the total market share of internet services whereas government provisioning of the same remains negligible, leading to the exclusion of the rural population in the race towards digitization. Jio, with over 50 per cent of market share in the subscriber base, is inching towards a monopoly. This is a cause for concern since normally, competition authorities ensure that this sort of thing does not happen. Due to Jio being backed up by the financial strength of its parent company, it is able to sustain low prices. However, it is highly unlikely that Jio would continue to do so once it drives away its competition. While Jio has now been able to increase affordability and access, concerns of rise in prices loom over the future.[128]

BOX 3: INTERNET MONOPOLIES IN INDIA

There are dedicated discourses that critique inequalities arising out of information technology. For example, technology colonialism or techno-capitalism focuses on corporate power and examines how capitalist companies capture market shares and form monopolies for their data needs and eliminate competition.[129]

The Competition Commission of India (CCI) has now begun scrutinizing the existing monopolies of giants like Google, Facebook, WhatsApp, more so around the antitrust regulations. Of the digital advertising, 85 per cent in India is controlled by Google and Facebook, 85 per cent of consumer e-commerce market space by Walmart-owned Flipkart and Amazon India, and 90 per cent of digital cab hailing market by Ola and Uber.[130] WhatsApp recently received flak over its privacy data sharing policies.[131] Similarly, Google has come under CCI's radar for its alleged "abuse" of its dominant position in the market.

Antitrust law is just one component in an interlinked, seemingly overlapping world of internet regulation where matters of data privacy, sovereignty-related matters, smartphone addiction all converge.[132] Along with the dominance of internet platforms, Jio with RIL's media business and its fast-expanding digital presence may in the future test the ability of competition regulation to cope with the challenges of the internet era.[133]

While countries like the US are now talking about regulating internet firms, in a country like India it is difficult to apply such an approach since issues of internet companies are overshadowed by the primary objective of adoption of internet among the masses.

Moreover, for those who are on the better side of the divide, the digital space has become a money-earning machine.

ACCORDING TO FORBES,[134] TECH IS THE THIRD-MOST LUCRATIVE INDUSTRY FOR BILLIONAIRES WORLDWIDE AND AN ESTIMATED 332 BILLIONAIRES MADE THEIR FORTUNES IN THE TECH INDUSTRY—WORTH $2.1 TRILLION.

Byju Raveendran, ranked 52 in India by Forbes, is among the top 5 richest tech billionaires in India. In 2020, he promoted the online learning app Byju's and acquired another ed-tech startup WhiteHat Jr for USD300 million. While there has been a huge movement towards digital mediums during the pandemic, which is also yielding high profits for companies like Byju's, this process has led to an undeniable commodification of education. Children from low-income families continue to be left out, while those enrolled with such startups fear for the data privacy of their children.[135]

BYJU'S WAS VALUED AT USD 10.8 BILLION DURING THE PANDEMIC,[136] EQUIVALENT TO THE COMBINED ANNUAL INCOME OF 2.5 CRORE INDIANS AT THE TIME.[137]

Oxfam India's study[138] on International Finance Corporation's (IFC) investments in the education sector, particularly EdTech found that these investments are muddled with issues of lack of transparency on investments, inadequate disclosures on project performance, inadequate monitoring and

assessment of social risks, etc. There are serious gaps between the work of these venture capitalists, and the priorities of the Indian education system, particularly with respect to access, affordability and inclusion, adherence to labour, environment and child protection standards, and quality of services. Even the health-tech space in India lacks strong data protection regulations, which can result in breach of data privacy.[139]

Evidence suggests that the power and influence of the private players is likely to increase,[140] which calls for a deep dive into existing regulations and finding policy pathways to protect consumers and disseminate digital technology in an inclusive and more responsible manner.

THE WAY FORWARD AND RECOMMENDATIONS

In a country plagued by high socioeconomic inequality, the process of digitalization in itself can not be posited as the panacea for the inherent challenges of the physical world. It becomes particularly problematic when half of the population neither has access to gadgets and the internet or the technological know-how to move to a digital environment. In such circumstances, the process of digitalization becomes unequal, which favours the digitally connected while excluding the rest and in certain cases exacerbates the already existing inequalities. Digital technology brings with itself a lot of hurdles and challenges, which need to be addressed for an inclusive, resilient and a sustainable digital environment.

1. The report highlights economic inequality as a key driver of the digital divide. To this end, the government's efforts to bridge India's current income inequality by improving the income of the poor becomes pertinent and can go a long way. This can be done by setting a decent minimum living wage, easing the indirect tax burden on citizens and provision of universal health and education services.

2. The most basic step toward bridging the digital divide is **availability**. In rural and hard-to-reach areas, internet availability is either intermittent, poor or non-existent. Service providers need to ensure its availability through community networks and public WiFi/ internet access points.
   Community networks are a subset of crowdsourced networks, designed to be open, free, and neutral, and often reliant on shared infrastructure as a common resource. They are generally built, used, and managed with a bottom-up approach by communities. Such networks should also have good-quality upload and download speeds sufficient for the local needs of internet users.

3. To ensure universal access to internet connectivity, it has to be **affordable** for the masses.
   a. To drive down prices, the government can invest in digital infrastructure to not only make internet affordable, but also push for greater accessibility to smartphones.
   b. The government has to be a strong regulatory figure in this regard, ensuring that the data and broadband services are not monopolized by private players.
   c. Additionally, the government can lower taxes on computers and phones that are often prohibitively high.

4. Conduct **Digital Literacy** camps,[141] especially in rural India, to teach the use of technology in schools, and digitize panchayats and schools.

5. Establish a responsive and accountable **grievance redressal** mechanism[142] to handle EdTech and Healthtech related complaints by parents, children and other consumers.

6. Acknowledge that tech-based solutions are not always the right answers. People need to have multiple ways to access public services and their entitlements. Digital means should not be the only way to access these. Even in times of crises like pandemics, governments also need to consider **low- or no-tech solutions.**[143]

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ANNEXURE

"Primary School" = 4th standard.
"Middle School"= 7th standard.
"Lower Secondary"= 9th standard.
"Higher Secondary"= 11th standard.
"Finished Secondary School"= completed 12th standard.

ACCESS TO COMPUTER

Table 1: Percentage of respondents with no computer or laptop by caste

CASTE	GENERAL	OBC	SC	ST	OTHERS	NOT STATED	OVERALL TOTAL
Jan-Apr 2018	86.44	94.81	97.2	98.6	91.7	84.28	93.54
May-Aug 2018	85.09	94.35	97	98.38	91.1	84.1	93
Sep-Dec 2018	84.64	93.93	96.46	98.57	90.48	84.42	92.59
Jan-Apr 2019	84.33	93.73	96.33	98.45	89.52	86.3	92.32
May-Aug 2019	83.74	93.58	96.38	98.27	89.73	85.44	92.14
Sep-Dec 2019	83.29	92.98	95.99	98.15	88.58	82.17	91.61
Jan-Apr 2020	87.26	95.69	97.58	98.84	92.77	89.19	94.33
May-Aug 2020	90.54	96.99	97.79	99.1	95.84	94.55	95.97
Sep-Dec 2020	90.68	96.67	97.79	98.9	95.56	92.01	95.76
Jan-Apr 2021	89.17	95.97	97.63	98.79	93.45	88.73	94.89
May-Aug 2021	91.51	97.2	97.76	98.39	95.05	95.54	96.09
Sep-Dec 2021	91.84	97.68	98.34	99.05	95.38	95.41	96.57

Source: CMIE data, retrieved by APU

Table 2: Percentage of respondents with no computer by education

EDUCATION LEVEL	NO EDUCATION	UPTO PRIMARY SCHOOL	UPTO MIDDLE SCHOOL	UPTO LOWER SECONDARY SCHOOL	UPTO HIGHER SECONDARY SCHOOL	FINISHED SECONDARY SCHOOL	GRADUATE	POST GRADUATE	PH.D/M. PHIL
Jan-Apr 2018	99.51	98.78	97.48	96.79	92.27	89.07	75.19	61.15	52.47
May-Aug 2018	99.61	98.84	97.3	96.46	91.9	87.92	74.52	55.45	56.31
Sep-Dec 2018	99.55	98.65	97.14	96.23	91.18	87.17	75.22	53.9	54.94
Jan-Apr 2019	99.67	98.52	97.12	96.19	90.72	86.4	74.74	51.87	42.96
May-Aug 2019	99.71	98.55	97.01	96.21	90.69	86.37	74.78	51.25	38.99
Sep-Dec 2019	99.78	98.45	96.63	95.8	89.85	85.57	74.09	49.89	32.12
Jan-Apr 2020	99.84	99.06	98.16	97.21	93.51	90.54	79.93	60.07	50.21
May-Aug 2020	99.65	99.38	98.71	98.33	97.03	93	78.06	53.29	19.8
Sep-Dec 2020	99.56	99.25	99.08	98.55	96.43	91.87	79.37	56.68	28.56
Jan-Apr 2021	100	98.84	98.63	98.19	95.42	91.12	76.98	53.31	34.67
May-Aug 2021	99.72	98.72	98.79	98.57	97.02	93.7	84.43	63.38	58.24
Sep-Dec 2021	99.88	99.39	99.12	98.71	97.51	94.83	86.44	65.06	61.04

Source: CMIE data, retrieved by APU

Table 3: Percentage of respondents with no computer by employment

EMPLOYMENT STATUS	DAILY WAGE WORKER/ CASUAL LABOUR	SALARIED - PERMANENT	SALARIED - TEMPORARY	SELF-EMPLOYED	UNEMPLOYED (NOT WILLING & NOT LOOKING FOR A JOB)	UNEMPLOYED (WILLING & LOOKING FOR A JOB)	UNEMPLOYED (WILLING BUT NOT LOOKING FOR A JOB)
Jan-Apr 2018	99	77.85	95.84	95.08	90.16	93.92	86.99
May-Aug 2018	98.75	74.29	95.45	95.02	89.42	94.61	85.31
Sep-Dec 2018	98.4	73.27	95.44	94.59	89.16	94.32	77.99
Jan-Apr 2019	98.46	71.79	95.49	94.42	88.65	91.97	82.24
May-Aug 2019	98.26	70.75	95.72	94.32	88.66	94.33	83.05
Sep-Dec 2019	98.05	69.4	94.97	93.81	88.16	88.76	86.83
Jan-Apr 2020	99.24	76.88	96.77	96.06	92.02	97.28	97.26
May-Aug 2020	98.92	82.03	94.91	97.42	94.41	98.4	98.39
Sep-Dec 2020	99.17	80	97.44	97.3	94.11	98.64	93.7
Jan-Apr 2021	98.83	75.8	97.15	96.87	93.18	95.3	93.02
May-Aug 2021	99.22	81.91	98.96	97.18	95.2	97.77	94
Sep-Dec 2021	99.52	84.64	99.08	97.7	95.48	95.77	93.7

Source: CMIE data, retrieved by APU

Table 4: Percentage of respondents with no computer by gender

GENDER	MALE	FEMALE
Jan-Apr 2018	94.39	93.44
May-Aug 2018	93.9	92.89
Sep-Dec 2018	93.73	92.4
Jan-Apr 2019	93.11	92.12
May-Aug 2019	93.21	91.95
Sep-Dec 2019	92.82	91.37
Jan-Apr 2020	95.09	94.15
May-Aug 2020	96.28	95.88
Sep-Dec 2020	96.39	95.61
Jan-Apr 2021	95.69	94.67
May-Aug 2021	96.77	95.96
Sep-Dec 2021	97.03	96.5

Source: CMIE data, retrieved by APU

Table 5: Percentage of respondents with no computer by region

REGION	RURAL	URBAN
Jan-Apr 2018	97.9	84.73
May-Aug 2018	97.7	83.56
Sep-Dec 2018	97.66	82.4
Jan-Apr 2019	97.58	81.68
May-Aug 2019	97.46	81.38
Sep-Dec 2019	97.09	80.6
Jan-Apr 2020	98.21	86.5
May-Aug 2020	98.83	90.22
Sep-Dec 2020	98.66	89.89
Jan-Apr 2021	98.54	87.41
May-Aug 2021	98.66	90.76
Sep-Dec 2021	99.05	91.56

Source: CMIE data, retrieved by APU

Table 6: Percentage of respondents with no computer by religion

CASTE	HINDU	MUSLIM	CHRISTIAN	SIKH	OTHERS
Jan-Apr 2018	93.73	95.74	81.73	86.03	82.65
May-Aug 2018	93.22	94.94	82.74	83.8	82.08
Sep-Dec 2018	92.78	95.74	80.58	81.68	79.74
Jan-Apr 2019	92.46	96.14	81.39	78.65	81.51
May-Aug 2019	92.36	95.93	79.26	77.37	80.01
Sep-Dec 2019	91.88	95.3	79.65	74.96	81.04
Jan-Apr 2020	94.54	97.2	85.93	82.38	83.91
May-Aug 2020	96.02	98.4	90.97	88.56	92.17
Sep-Dec 2020	95.83	98.26	91.22	87.37	87.83
Jan-Apr 2021	94.99	97.6	89.41	84.89	85.08
May-Aug 2021	96.1	98.88	92.02	88.15	89.29
Sep-Dec 2021	96.65	98.83	91.44	88.96	91.31

Source: CMIE data, retrieved by APU

Table 7: Percentage of respondents with no access to computer by income

INCOME DECILE	1ST INCOME DECILE	2ND INCOME DECILE	3RD INCOME DECILE	4TH INCOME DECILE	5TH INCOME DECILE	6TH INCOME DECILE	7TH INCOME DECILE	8TH INCOME DECILE	9TH INCOME DECILE	10TH INCOME DECILE
Jan-Apr 2018	98.63	99.49	99.32	98.69	97.75	97.06	95.58	93.18	87.19	72.3
May-Aug 2018	97.71	99.36	98.86	98.54	97.63	96.74	95.46	93.43	87.25	72.18
Sep-Dec 2018	98.87	99.39	98.98	98.32	97.34	95.9	94.49	91.89	86.27	71.17
Jan-Apr 2019	97.88	98.64	98.75	98.37	97.42	96.57	94.92	91.41	85.48	69.62
May-Aug 2019	97.76	98.66	98.46	98.04	97.52	96.41	94.59	92.26	84.88	70.81
Sep-Dec 2019	98.47	98.81	98.79	98.06	97.26	96.13	94.67	91.59	84.4	71.22
Jan-Apr 2020	96.78	98.61	98.31	97.35	97.54	96.83	95.46	92.92	89.77	78.94
May-Aug 2020	98.17	99.29	98.44	97.99	97.29	96.49	96.12	93.91	90.17	82.89
Sep-Dec 2020	99.33	99.66	99.45	98.62	98.04	97.81	96.57	94.87	89.39	81.27
Jan-Apr 2021	99.2	99.42	98.88	98.17	97.55	96.39	96.05	93.42	86.11	77.5
May-Aug 2021	98.89	99.35	99.37	98.9	98.32	97.21	96.97	95.31	90.37	82.35
Sep-Dec 2021	99.64	99.62	99.52	99.44	98.82	98.33	98.1	96.43	91.83	83.32

Source: CMIE data, retrieved by APU

NO ELECTRICITY

Table 1: Percentage of respondents who had no access to electricity by caste

CASTE	GENERAL	OBC	SC	ST
Jan-Apr 2018	2.2	2.96	4.07	3.02
May-Aug 2018	1.39	2.34	2.82	2.53
Sep-Dec 2018	1.61	2.48	2.45	1.84
Jan-Apr 2019	1.13	1.61	1.78	1.6
May-Aug 2019	0.91	1.07	1.63	0.8
Sep-Dec 2019	0.27	0.61	0.89	0.82
Jan-Apr 2020	0.2	0.47	0.83	0.49
May-Aug 2020	0.28	0.55	0.52	0.29
Sep-Dec 2020	0.84	1.1	1.32	1.26
Jan-Apr 2021	0.04	0.08	0.49	0.33
May-Aug 2021	0.24	0.25	0.43	0.65
Sep-Dec 2021	0.05	0.16	0.15	0.14

Source: CMIE data, retrieved by APU

Table 2: Percentage of respondents who had no access to electricity by education

EDUCATION LEVEL	NO EDUCATION	UPTO PRIMARY SCHOOL	UPTO MIDDLE SCHOOL	UPTO LOWER SECONDARY SCHOOL	UPTO HIGHER SECONDARY SCHOOL	FINISHED SECONDARY SCHOOL	GRADUATE	POST GRADUATE	PH.D/M. PHIL
Jan-Apr 2018	5.55	3.01	3.58	3.19	1.19	1.43	0.62	0.52	6.17
May-Aug 2018	5.72	2.22	2.62	2.14	0.7	1.07	0.36	0.44	6.81
Sep-Dec 2018	5.25	2.22	2.69	2.23	0.87	1.15	0.41	0.3	7.53
Jan-Apr 2019	6.24	1.46	1.85	1.4	0.46	0.76	0.21	0.19	6.13
May-Aug 2019	4.82	1.29	1.34	1	0.38	0.57	0.12	0.15	0
Sep-Dec 2019	3.98	0.68	0.74	0.55	0.18	0.23	0.22	0	0
Jan-Apr 2020	1.82	0.34	0.57	0.68	0.19	0.24	0.27	0.17	0
May-Aug 2020	1.01	0.49	0.45	0.33	0.27	0.61	0.26	0.13	0
Sep-Dec 2020	3.26	1.19	1.2	0.93	0.71	0.74	0.52	0.18	0.51
Jan-Apr 2021	1.16	0.23	0.27	0.21	0.03	0.02	0	0	0
May-Aug 2021	1.87	0.48	0.51	0.34	0.08	0.04	0	0	0
Sep-Dec 2021	0	0.28	0.19	0.1	0.03	0.01	0	0.01	0

Source: CMIE data, retrieved by APU

Table 3: Percentage of respondents who had no access to electricity by employment

EMPLOYMENT STATUS	DAILY WAGE WORKER/ CASUAL LABOUR	SALARIED - PERMANENT	SALARIED - TEMPORARY	SELF-EMPLOYED	UNEMPLOYED (NOT WILLING & NOT LOOKING FOR A JOB)	UNEMPLOYED (WILLING & LOOKING FOR A JOB)	UNEMPLOYED (WILLING BUT NOT LOOKING FOR A JOB)
Jan-Apr 2018	4.71	0.33	2.08	2.65	1.93	0.42	2.37
May-Aug 2018	3.61	0.37	2.15	1.81	1.43	2.74	2.67
Sep-Dec 2018	3.21	0.3	2.36	1.96	1.36	1.22	0.75
Jan-Apr 2019	2.28	0.17	1.87	1.32	0.93	0	2.52
May-Aug 2019	1.72	0.26	0.7	0.97	0.86	0.3	6.3
Sep-Dec 2019	0.98	0.05	0.44	0.62	0.26	0	0
Jan-Apr 2020	0.69	0.12	0.33	0.39	0.34	1.79	0.68
May-Aug 2020	0.68	0.07	0.22	0.3	0.42	1.65	0
Sep-Dec 2020	1.47	0.5	0.57	1.06	0.95	0.36	0
Jan-Apr 2021	0.49	0	0.13	0.09	0.11	0	0.31
May-Aug 2021	0.61	0.01	0.1	0.28	0.15	0.86	0
Sep-Dec 2021	0.22	0	0.27	0.1	0.08	0	0

Source: CMIE data, retrieved by APU

Table 4: Percentage of respondents who had no access to electricity by income decile

INCOME DECILE	1ST INCOME DECILE	2ND INCOME DECILE	3RD INCOME DECILE	4TH INCOME DECILE	5TH INCOME DECILE	6TH INCOME DECILE	7TH INCOME DECILE	8TH INCOME DECILE	9TH INCOME DECILE	10TH INCOME DECILE
Jan-Apr 2018	6.78	7.69	3.98	3.04	2.16	1.72	1.05	0.83	0.61	0.17
May-Aug 2018	2.8	5.21	3.27	2.26	2.1	1.26	1.21	0.99	0.73	0.23
Sep-Dec 2018	4.51	6.35	3.11	2.13	1.85	1.01	0.99	0.72	0.5	0.27
Jan-Apr 2019	2.48	3.7	2.58	1.71	1.42	0.87	0.81	0.4	0.19	0.14
May-Aug 2019	0.77	2.24	1.53	1.51	0.81	0.88	0.56	0.67	0.51	0.39
Sep-Dec 2019	1.2	1.55	0.95	0.75	0.51	0.55	0.39	0.26	0.24	0.13
Jan-Apr 2020	1.32	1.5	0.62	0.31	0.44	0.69	0.18	0.18	0.43	0.29
May-Aug 2020	0.63	0.89	0.82	0.46	0.42	0.34	0.48	0.23	0.21	0.09
Sep-Dec 2020	1.61	1.84	1.36	0.87	0.76	0.83	0.75	1.03	0.52	0.76
Jan-Apr 2021	0.23	0.83	0.29	0.42	0.05	0.35	0.05	0.03	0.02	0.03
May-Aug 2021	0.18	1.05	0.21	0.24	0.27	0.25	0.15	0.23	0.22	0.13
Sep-Dec 2021	0.18	0.21	0.12	0.27	0.05	0.09	0.11	0.08	0.08	0.02

Source: CMIE data, retrieved by APU

Table 5: Percentage of respondents who had no access to electricity by region

REGION	RURAL	URBAN
Jan-Apr 2018	4.03	0.27
May-Aug 2018	3.05	0.14
Sep-Dec 2018	2.91	0.23
Jan-Apr 2019	1.97	0.18
May-Aug 2019	1.47	0.14
Sep-Dec 2019	0.79	0.09
Jan-Apr 2020	0.63	0.13
May-Aug 2020	0.53	0.24
Sep-Dec 2020	1.27	0.63
Jan-Apr 2021	0.25	0.04
May-Aug 2021	0.42	0.03
Sep-Dec 2021	0.16	0.04

Source: CMIE data, retrieved by APU

Table 6: Percentage of respondents who had no access to electricity by religion

RELIGION	HINDU	MUSLIM	CHRISTIAN	SIKH	OTHERS
Jan-Apr 2018	2.86	2.63	1.13	0.2	0.5
May-Aug 2018	2.1	2.08	0.87	0	0.46
Sep-Dec 2018	2.02	2.54	0.2	0.02	0.24
Jan-Apr 2019	1.42	1.59	0.13	0	0.41
May-Aug 2019	1.08	1.08	0.05	0	0.04
Sep-Dec 2019	0.59	0.5	0.29	0	0.05
Jan-Apr 2020	0.49	0.31	0.09	0	0
May-Aug 2020	0.44	0.57	0.09	0.02	0.12
Sep-Dec 2020	1.05	1.37	0.66	0.67	0.49
Jan-Apr 2021	0.19	0.08	0.02	0	0
May-Aug 2021	0.29	0.44	0	0	0
Sep-Dec 2021	0.13	0.05	0	0	0.13

Source: CMIE data, retrieved by APU

NO MOBILE PHONES

Table 1: Percentage with no mobile phones by education

EDUCATION LEVEL	NO EDUCATION	UPTO PRIMARY SCHOOL	UPTO MIDDLE SCHOOL	UPTO LOWER SEC ONDARY SCHOOL	UPTO HIGHER SEC ONDARY SCHOOL	FINISHED SEC ONDARY SCHOOL	GRADUATE	POST GRADUATE	PH.D/M. PHIL
Jan-Apr 2018	72.58	75.7	57.02	53.99	41.07	36.29	25.42	16.83	13.82
May-Aug 2018	75.6	73.87	56.5	52.83	40.87	36.85	24.28	15.69	18.36
Sep-Dec 2018	78.86	72.1	56.63	52.42	41.26	37.62	24.49	15.17	7.63
Jan-Apr 2019	78.34	72.79	58.31	53.96	42.93	39.72	26.94	17.26	8.55
May-Aug 2019	78.85	69.03	55.14	51.34	40.01	37.22	24.41	15.26	11.67
Sep-Dec 2019	81.05	67.21	54.36	49.45	38.54	35.61	24.29	16.48	20.67
Jan-Apr 2020	77.57	67.22	54.4	48.77	38.08	35.28	23.41	16.29	15.74
May-Aug 2020	70.57	75.14	56.28	48.7	39	34.08	19.48	11.09	12.9
Sep-Dec 2020	76.64	78.85	58.4	49.08	40.5	35.42	20.67	9.22	2.52
Jan-Apr 2021	82.81	72.56	57.29	48.66	40.72	36.75	22.95	11.55	3.38
May-Aug 2021	85.61	76.45	60.39	51.79	44.26	39.78	24.53	12.93	4.7
Sep-Dec 2021	89.02	74.51	59.96	52.2	44.44	41.35	28.65	16.19	7.85

Source: CMIE data, retrieved by APU

Table 2: Percentage with no mobile phones by religion

RELIGION	HINDU	MUSLIM	CHRISTIAN	SIKH	OTHERS
Jan-Apr 2018	54.59	58.78	39.63	28.02	44.36
May-Aug 2018	53.69	58.43	39.34	27.13	45.25
Sep-Dec 2018	53.24	58.75	39.16	25.23	42.48
Jan-Apr 2019	54.45	60.17	40.06	26.8	41.78
May-Aug 2019	51.1	57.81	38.79	24.85	37.5
Sep-Dec 2019	50.05	53.6	37.27	24.38	38.94
Jan-Apr 2020	49.67	53.74	31.22	27.29	35.14
May-Aug 2020	50.08	51.99	38.77	28.29	34.7
Sep-Dec 2020	51.04	54.67	40.41	26.68	34.21
Jan-Apr 2021	50.21	54.65	37.36	24.49	32.8
May-Aug 2021	53.09	56.54	42.13	31.49	37.24
Sep-Dec 2021	53.3	56.43	42.62	28.94	37.84

Source: CMIE data, retrieved by APU

Table 3: Percentage with no mobile phones by caste

CASTE	GENERAL	OBC	SC	ST
Jan-Apr 2018	51.16	55.64	57.04	60.63
May-Aug 2018	50.8	54.82	55.58	58.88
Sep-Dec 2018	49.52	54.89	55.21	56.44
Jan-Apr 2019	50.77	55.88	55.75	59.74
May-Aug 2019	49.27	51.41	53.39	56.65
Sep-Dec 2019	47.34	50.48	52.66	54.74
Jan-Apr 2020	47.06	51.15	51.78	51.58
May-Aug 2020	47.02	51.32	52.81	50.45
Sep-Dec 2020	48.29	52.02	53.87	53.79
Jan-Apr 2021	48.72	51.24	53.07	52.31
May-Aug 2021	51.51	54.31	54.88	57.77
Sep-Dec 2021	51.91	54.89	55.02	55.08

Source: CMIE data, retrieved by APU

Table 4: Percentage with no mobile phones by employment

EMPLOYMENT STATUS	DAILY WAGE WORKER/ CASUAL LABOUR	SALARIED - PERMANENT	SALARIED - TEMPORARY	SELF-EMPLOYED	UNEMPLOYED (NOT WILLING & NOT LOOKING FOR A JOB)	UNEMPLOYED (WILLING & LOOKING FOR A JOB)	UNEMPLOYED (WILLING BUT NOT LOOKING FOR A JOB)
Jan-Apr 2018	29.37	9.17	19.25	16.59	63.25	47.48	50.37
May-Aug 2018	27.18	7.79	17.19	14.75	62.74	47.46	44.3
Sep-Dec 2018	24.11	7.48	15.39	14.09	63.04	48.4	49.09
Jan-Apr 2019	24.92	7.9	15	16.66	64.48	50.45	56.21
May-Aug 2019	20.77	7.2	14.6	13.48	60.52	48.7	50.67
Sep-Dec 2019	20.97	7.6	16.12	13.32	58.54	40.89	43.59
Jan-Apr 2020	20.17	7.31	16.21	12.04	58.53	35.22	29.52
May-Aug 2020	18.23	4.17	11.33	11.32	59.21	26.51	33.09
Sep-Dec 2020	17.7	4.11	11.77	10.55	61.23	38.31	45.31
Jan-Apr 2021	16.37	4.18	12.72	9.25	60.78	39.7	53.72
May-Aug 2021	18.52	4.08	13.33	11.33	65.37	40.5	57.24
Sep-Dec 2021	18.46	5.25	17.84	10.8	65.78	48.86	61.96

Source: CMIE data, retrieved by APU

Table 5: Percentage with no mobile phones by gender

GENDER	FEMALE	MALE
Jan-Apr 2018	68.44	41.6
May-Aug 2018	67.3	41.12
Sep-Dec 2018	67.49	40.04
Jan-Apr 2019	68.54	41.53
May-Aug 2019	64.19	39.48
Sep-Dec 2019	62.68	38.15
Jan-Apr 2020	62.95	37.24
May-Aug 2020	63.96	37
Sep-Dec 2020	65.71	37.57
Jan-Apr 2021	64.5	37.13
May-Aug 2021	69.1	38.61
Sep-Dec 2021	69.25	38.73

Source: CMIE data, retrieved by APU

Table 6: Percentage with no mobile phones by income decile

INCOME DECILE	1ST INCOME DECILE	2ND INCOME DECILE	3RD INCOME DECILE	4TH INCOME DECILE	5TH INCOME DECILE	6TH INCOME DECILE	7TH INCOME DECILE	8TH INCOME DECILE	9TH INCOME DECILE	10TH INCOME DECILE
Jan-Apr 2018	57.22	71.59	65.54	62.37	58.1	55.24	51.87	46.74	40.86	30.26
May-Aug 2018	58.06	69.47	65.46	61.6	57.88	54.11	50.26	45.94	41.19	31.3
Sep-Dec 2018	61.23	69.52	66.06	61.48	58.05	53.86	49.59	45.73	40.63	30.11
Jan-Apr 2019	60.62	69.17	66.54	63.44	59.33	55.68	51.79	46.96	42.17	33.3
May-Aug 2019	59.13	67.02	64.29	61.17	56.4	52.08	47.94	42.27	38.71	32.82
Sep-Dec 2019	57.28	66.42	63.49	60.21	54.66	50.93	45.51	41.4	37.57	33.04
Jan-Apr 2020	55.38	63.46	60.1	55.54	51.48	47.62	44.92	42.79	40.85	35.66
May-Aug 2020	55.76	60.58	58.14	55.58	51.81	46.07	42.91	40.76	39.38	32.94
Sep-Dec 2020	59.22	67.28	61.87	57.35	53.48	48.88	44.21	39.93	36.15	31.36
Jan-Apr 2021	60.25	67.58	61.87	57.38	51.66	46.86	42.64	38.1	35.81	31.71
May-Aug 2021	61.04	68.85	65.82	61.38	55.46	50.27	46.29	43.18	39.19	34.24
Sep-Dec 2021	59	70.89	68.12	63.15	56.81	51.85	47.99	42.97	40	33.17

Source: CMIE data, retrieved by APU

Table 7: Percentage with no mobile phones by region

REGION	RURAL	URBAN
Jan-Apr 2018	58.75	44.78
May-Aug 2018	58	43.83
Sep-Dec 2018	57.6	43.29
Jan-Apr 2019	58.45	45.32
May-Aug 2019	55.41	41.8
Sep-Dec 2019	53.23	42.1
Jan-Apr 2020	53.31	40.68
May-Aug 2020	53.9	40.34
Sep-Dec 2020	54.63	42.28
Jan-Apr 2021	53.88	41.37
May-Aug 2021	57.04	43.66
Sep-Dec 2021	56.74	44.67

Source: CMIE data, retrieved by APU

HAVING POWER FOR LESS THAN 8 HOURS A DAY

Table 1: Percentage of respondents having power for less than 8 hours a day by caste

CASTE	GENERAL	OBC	SC	ST
Jan-Apr 2018	2.51	3.18	4.21	3.28
May-Aug 2018	1.5	2.45	3.01	2.54
Sep-Dec 2018	1.79	2.57	2.69	1.98
Jan-Apr 2019	1.16	1.64	1.84	1.64
May-Aug 2019	0.95	1.1	1.64	0.83
Sep-Dec 2019	0.28	0.64	0.9	0.83
Jan-Apr 2020	0.27	0.53	0.91	0.65
May-Aug 2020	0.48	0.64	0.54	0.36
Sep-Dec 2020	0.99	1.33	1.48	1.42
Jan-Apr 2021	0.11	0.09	0.52	0.33
May-Aug 2021	0.28	0.37	0.46	0.65
Sep-Dec 2021	0.07	0.2	0.2	0.16

Source: CMIE data, retrieved by APU

Table 2: Percentage of respondents having power for less than 8 hours a day by education

EDUCATIONAL LEVEL	NO EDUCATION	UPTO PRIMARY SCHOOL	UPTO MIDDLE SCHOOL	UPTO LOWER SEC ONDARY SCHOOL	UPTO HIGHER SEC ONDARY SCHOOL	FINISHED SEC ONDARY SCHOOL	GRADUATE	POST GRADUATE	PH.D/M. PHIL
Jan-Apr 2018	5.67	3.26	3.82	3.43	1.42	1.6	0.77	0.69	6.17
May-Aug 2018	5.67	3.26	3.82	3.43	1.42	1.6	0.77	0.69	6.17
Sep-Dec 2018	5.9	2.32	2.8	2.18	0.84	1.12	0.43	0.48	6.81
Jan-Apr 2019	5.3	2.31	2.94	2.45	1.05	1.36	0.64	0.55	7.53
May-Aug 2019	6.24	1.5	1.89	1.42	0.52	0.77	0.27	0.21	6.13
Sep-Dec 2019	4.87	1.32	1.36	1.01	0.4	0.59	0.15	0.29	0
Jan-Apr 2020	3.98	0.7	0.76	0.55	0.2	0.26	0.23	0.04	0
May-Aug 2020	1.82	0.35	0.63	0.76	0.32	0.31	0.37	0.19	0
Sep-Dec 2020	1.05	0.56	0.58	0.4	0.4	0.73	0.27	0.17	0
Jan-Apr 2021	4.41	1.29	1.26	1.01	0.84	0.89	0.59	0.42	0.51
May-Aug 2021	1.16	0.25	0.31	0.25	0.07	0.03	0	0	0
Sep-Dec 2021	1.87	0.52	0.58	0.38	0.12	0.14	0.17	0.07	0

Source: CMIE data, retrieved by APU

Table 3: Percentage of respondents having power for less than 8 hours a day by employment

EMPLOYMENT STATUS	DAILY WAGE WORKER/ CASUAL LABOUR	SALARIED - PERMANENT	SALARIED - TEMPORARY	SELF-EMPLOYED	UNEMPLOYED (NOT WILLING & NOT LOOKING FOR A JOB)	UNEMPLOYED (WILLING & LOOKING FOR A JOB)	UNEMPLOYED (WILLING BUT NOT LOOKING FOR A JOB)
Jan-Apr 2018	4.85	0.4	2.24	2.93	2.16	0.89	2.37
May-Aug 2018	3.71	0.51	2.26	1.91	1.62	3.04	2.67
Sep-Dec 2018	3.32	0.58	2.41	2.15	1.6	2.13	0.75
Jan-Apr 2019	2.31	0.17	1.87	1.36	0.99	0	2.52
May-Aug 2019	1.73	0.28	0.71	0.99	0.91	0.3	6.3
Sep-Dec 2019	0.99	0.08	0.44	0.64	0.28	0	0
Jan-Apr 2020	0.72	0.16	0.43	0.46	0.4	2.03	0.87
May-Aug 2020	0.9	0.1	0.23	0.36	0.54	1.71	0
Sep-Dec 2020	1.82	0.66	0.59	1.15	1.22	0.36	0
Jan-Apr 2021	0.5	0	0.13	0.12	0.17	0	0.31
May-Aug 2021	0.66	0.11	0.16	0.35	0.22	0.86	0
Sep-Dec 2021	0.28	0.03	0.27	0.14	0.12	0	0

Source: CMIE data, retrieved by APU

Table 4: Percentage of respondents having power for less than 8 hours a day by gender

GENDER	FEMALE	MALE
Jan-Apr 2018	3.08	2.94
May-Aug 2018	2.34	2.11
Sep-Dec 2018	2.43	2.15
Jan-Apr 2019	1.59	1.42
May-Aug 2019	1.09	1.06
Sep-Dec 2019	0.46	0.6
Jan-Apr 2020	0.59	0.51
May-Aug 2020	0.57	0.53
Sep-Dec 2020	1.43	1.2
Jan-Apr 2021	0.25	0.2
May-Aug 2021	0.3	0.38
Sep-Dec 2021	0.2	0.15

Source: CMIE data, retrieved by APU

Table 5: Percentage of respondents having power for less than 8 hours a day by income decile

INCOME DECILE	1ST INCOME DECILE	2ND INCOME DECILE	3RD INCOME DECILE	4TH INCOME DECILE	5TH INCOME DECILE	6TH INCOME DECILE	7TH INCOME DECILE	8TH INCOME DECILE	9TH INCOME DECILE	10TH INCOME DECILE
Jan-Apr 2018	6.9	8.04	4.36	3.29	2.42	1.93	1.21	1.05	0.72	0.3
May-Aug 2018	2.81	5.27	3.45	2.48	2.23	1.4	1.38	1.16	0.89	0.3
Sep-Dec 2018	4.89	6.58	3.32	2.33	2.01	1.21	1.09	0.94	0.72	0.41
Jan-Apr 2019	2.51	3.76	2.66	1.72	1.44	0.92	0.84	0.42	0.22	0.17
May-Aug 2019	0.77	2.28	1.55	1.53	0.82	0.9	0.58	0.72	0.52	0.45
Sep-Dec 2019	1.28	1.57	0.98	0.78	0.53	0.56	0.41	0.32	0.24	0.14
Jan-Apr 2020	1.39	1.65	0.69	0.31	0.47	0.69	0.18	0.19	0.46	0.29
May-Aug 2020	0.68	0.98	0.92	0.48	0.44	0.71	0.62	0.25	0.41	0.17
Sep-Dec 2020	1.69	2.5	1.63	1.02	0.89	0.98	0.83	1.08	0.58	0.85
Jan-Apr 2021	0.24	0.89	0.29	0.42	0.05	0.35	0.08	0.04	0.02	0.08
May-Aug 2021	0.2	1.22	0.29	0.3	0.31	0.28	0.16	0.29	0.27	0.16
Sep-Dec 2021	0.18	0.29	0.12	0.38	0.1	0.1	0.16	0.08	0.1	0.08

Source: CMIE data, retrieved by APU

Table 6: Percentage of respondents having power for less than 8 hours a day by region

REGION	RURAL	URBAN
Jan-Apr 2018	4.19	0.6
May-Aug 2018	3.19	0.22
Sep-Dec 2018	3.19	0.26
Jan-Apr 2019	2.02	0.2
May-Aug 2019	1.49	0.18
Sep-Dec 2019	0.82	0.1
Jan-Apr 2020	0.72	0.17
May-Aug 2020	0.62	0.34
Sep-Dec 2020	1.5	0.73
Jan-Apr 2021	0.28	0.07
May-Aug 2021	0.5	0.06
Sep-Dec 2021	0.21	0.06

Source: CMIE data, retrieved by APU

Table 7: Percentage of respondents having power for less than 8 hours a day by religion

RELIGION	HINDU	MUSLIM	CHRISTIAN	SIKH	OTHERS
Jan-Apr 2018	3.04	3.24	1.13	0.39	0.5
May-Aug 2018	2.22	2.24	0.94	0.12	0.46
Sep-Dec 2018	2.17	3.14	0.2	0.02	0.32
Jan-Apr 2019	1.46	1.61	0.13	0	0.41
May-Aug 2019	1.1	1.11	0.05	0	0.23
Sep-Dec 2019	0.6	0.52	0.29	0	0.22
Jan-Apr 2020	0.57	0.36	0.09	0	0
May-Aug 2020	0.51	0.89	0.09	0.07	0.17
Sep-Dec 2020	1.18	2.1	0.86	0.67	0.84
Jan-Apr 2021	0.22	0.13	0.02	0.04	0
May-Aug 2021	0.35	0.58	0	0.07	0.1
Sep-Dec 2021	0.17	0.15	0.02	0	0.13

Source: CMIE data, retrieved by APU

NO TV

Table 1: Percentage of respondents with no TV by caste

CASTE	GENERAL	OBC	SC	ST
Jan-Apr 2018	10.08	10.06	15.48	18.44
May-Aug 2018	8.91	9.13	14.25	16.47
Sep-Dec 2018	9.39	8.98	13.2	13.39
Jan-Apr 2019	8.72	7.95	11.98	12.33
May-Aug 2019	7.2	6.12	10.43	10.46
Sep-Dec 2019	5.18	4.46	8.29	9.7
Jan-Apr 2020	5.49	5.27	8.77	8.81
May-Aug 2020	4.96	4.46	7.38	7.94
Sep-Dec 2020	4.81	4.62	7.8	9.49
Jan-Apr 2021	2.15	2.1	4.92	6.27
May-Aug 2021	4.73	4.36	6.69	7.77
Sep-Dec 2021	3.4	3.9	6.56	9.14

Source: CMIE data, retrieved by APU

Table 2: Percentage of respondents with no TV by education

EDUCATION LEVEL	NO EDUCATION	UPTO PRIMARY SCHOOL	UPTO MIDDLE SCHOOL	UPTO LOWER SEC ONDARY SCHOOL	UPTO HIGHER SEC ONDARY SCHOOL	FINISHED SEC ONDARY SCHOOL	GRADUATE	POST GRADUATE	PH.D/M. PHIL
Jan-Apr 2018	28.45	16.89	11.34	10.79	4.46	4.46	1.88	1.06	6.17
May-Aug 2018	31.43	16.01	10.35	9.39	3.8	4.09	1.62	0.79	6.81
Sep-Dec 2018	34.28	14.46	10.57	9.45	3.86	3.86	1.96	0.46	7.53
Jan-Apr 2019	35.66	13.59	9.35	8.42	3.32	2.82	1.46	0.62	6.13
May-Aug 2019	38.33	11.25	7.52	6.96	2.47	2.33	0.87	0.55	0
Sep-Dec 2019	37.52	8.98	5.98	4.9	1.73	1.94	0.87	0.3	0
Jan-Apr 2020	18.56	9.74	6.8	6.07	2.03	2.47	1.36	0.59	0
May-Aug 2020	15.77	9.41	5.12	4.87	2.47	2.4	1.57	0.42	0
Sep-Dec 2020	27.26	10.46	4.97	4.25	2.19	1.41	0.83	0.1	0
Jan-Apr 2021	17.86	7.11	2.95	2.8	1.09	0.78	0.21	0.06	0
May-Aug 2021	21.4	10.01	5.98	5.09	2.17	1.9	1.26	1.44	0
Sep-Dec 2021	7.9	10.58	5.22	4.38	2.1	1.51	0.55	0.23	0

Source: CMIE data, retrieved by APU

Table 3: Percentage of respondents with no TV by employment

EMPLOYMENT STATUS	DAILY WAGE WORKER/ CASUAL LABOUR	SALARIED - PERMANENT	SALARIED - TEMPORARY	SELF-EMPLOYED
Jan-Apr 2018	20.2	1.28	9.29	8.79
May-Aug 2018	18.85	1.05	8.4	7.9
Sep-Dec 2018	16.93	1.12	8.76	8.21
Jan-Apr 2019	16.07	0.84	8.26	7.21
May-Aug 2019	12.77	0.82	7.2	5.93
Sep-Dec 2019	9.79	0.63	5.25	4.58
Jan-Apr 2020	10.58	1.03	5.49	5.19
May-Aug 2020	8.27	0.66	3.96	4.97
Sep-Dec 2020	8.67	0.56	5.18	4.77
Jan-Apr 2021	5.11	0.3	2.67	2.42
May-Aug 2021	7.57	1.08	4.45	4.3
Sep-Dec 2021	7	0.44	3.19	4.26

Source: CMIE data, retrieved by APU

Table 4: Percentage of respondents with no TV by gender

GENDER	FEMALE	MALE
Jan-Apr 2018	11.75	10.88
May-Aug 2018	10.31	9.95
Sep-Dec 2018	9.68	9.51
Jan-Apr 2019	9.05	8.56
May-Aug 2019	7.87	6.98
Sep-Dec 2019	6.81	5.3
Jan-Apr 2020	6.87	5.69
May-Aug 2020	6.6	5.02
Sep-Dec 2020	7.71	5.13
Jan-Apr 2021	3.95	2.76
May-Aug 2021	5.96	4.77
Sep-Dec 2021	5.25	4.26

Source: CMIE data, retrieved by APU

Table 5: Percentage of respondents with no TV by religion

CASTE	HINDU	MUSLIM	CHRISTIAN	SIKH	OTHERS
Jan-Apr 2018	10.33	19.07	6.55	0.47	4.16
May-Aug 2018	9.35	17.64	4.97	0.1	4.73
Sep-Dec 2018	8.77	18.86	3.31	0.1	2.82
Jan-Apr 2019	7.89	17.14	3.51	0.11	3.3
May-Aug 2019	6.39	14.62	3.12	0.04	3.1
Sep-Dec 2019	5.12	10.1	3.07	0	2.37
Jan-Apr 2020	5.55	11.77	4.26	0.09	3.23
May-Aug 2020	4.72	11.11	3.52	0.25	2.34
Sep-Dec 2020	4.9	10.8	4.18	0.34	2.41
Jan-Apr 2021	2.64	5.61	1.97	0.03	1.29
May-Aug 2021	4.57	8.86	2.3	0.33	2.08
Sep-Dec 2021	4.28	7.1	2.64	0.9	3

Source: CMIE data, retrieved by APU

Table 6: Percentage of respondents with no TV by region

REGION	RURAL	URBAN
Jan-Apr 2018	15.44	1.63
May-Aug 2018	14.2	1.33
Sep-Dec 2018	13.36	1.49
Jan-Apr 2019	11.97	1.47
May-Aug 2019	9.7	1.35
Sep-Dec 2019	7.49	1.18
Jan-Apr 2020	8.14	1.71
May-Aug 2020	6.73	1.69
Sep-Dec 2020	7	1.87
Jan-Apr 2021	3.95	0.68
May-Aug 2021	6.48	1.52
Sep-Dec 2021	6.05	1.38

Source: CMIE data, retrieved by APU

Table 7: Percentage of respondents with no TV by income decile

INCOME DECILE	1ST INCOME DECILE	2ND INCOME DECILE	3RD INCOME DECILE	4TH INCOME DECILE	5TH INCOME DECILE	6TH INCOME DECILE	7TH INCOME DECILE	8TH INCOME DECILE	9TH INCOME DECILE	10TH INCOME DECILE
Jan-Apr 2018	15.74	31.51	18.41	13.78	9.62	6.96	4.81	2.82	1.66	1.2
May-Aug 2018	12.11	26.37	18.62	12.2	9.44	6.62	4.8	3.09	1.88	1.06
Sep-Dec 2018	12.25	27.48	18.62	12.51	9.07	7.24	4.44	2.9	1.72	0.77
Jan-Apr 2019	8.96	22.58	17	13.12	9.36	7.05	5.25	2.51	1.33	0.98
May-Aug 2019	4.14	16.87	12.97	9.76	7.76	6.23	5.07	3.54	2.36	1.16
Sep-Dec 2019	4.82	12.19	9.4	8.1	5.75	6.07	5.1	3.62	2.04	1.14
Jan-Apr 2020	6.91	12.16	8.68	7.47	5.58	7.22	5.42	4.34	3.29	2.59
May-Aug 2020	4.57	9.6	6.22	4.53	4.11	4.18	2.64	3.76	2.47	1.78
Sep-Dec 2020	4.81	10.09	7.86	4.75	5.2	4.4	3.79	2.47	1.92	1.77
Jan-Apr 2021	2.91	6.18	4.45	2.63	2.61	2.36	1.95	1.46	0.78	0.55
May-Aug 2021	3.7	10.05	6.66	5.64	5.29	3.93	3.25	3.11	2.12	1.57
Sep-Dec 2021	3.85	7.94	7.41	5.87	4.53	4.63	3.83	2.69	1.67	0.93

Source: CMIE data, retrieved by APU

EXPENDITURE ON CABLE

Table 1: Expenditure on cable by caste

CASTE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
General	20.6592	76.6633	2.67917
OBC	24.9325	74.2392	0.83083
SC	26.1167	73.1717	0.71167
ST	32.1017	67.1508	0.74667

Source: CMIE data, retrieved by APU

Table 2: Expenditure on cable by education

EDUCATION LEVEL	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
No Education	50.055	49.7358	0.21167
Upto Primary School	26.6883	72.7325	0.58
Upto Middle School	25.0775	74.1675	0.755
Upto Lower Secondary School	24.8283	74.4817	0.68917
Upto Higher Secondary School	16.4458	81.6192	1.935
Finished Secondary School	18.3983	79.1742	2.42583
Graduate	10.2133	86.0058	3.78167
Post Graduate	8.46333	87.0375	4.49667
Ph.D/M.Phil	5.68917	90.8467	3.4625

Source: CMIE data, retrieved by APU

Table 3: Expenditure on cable by employment

EMPLOYMENT STATUS	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Daily Wage worker/ Casual labour	29.9092	69.93	0.16083
Salaried - Permanent	5.52667	89.9442	4.5275
Salaried - Temporary	17.14	81.7308	1.13083
Self-employed	25.3592	73.7017	0.93833
Unemployed (not willing & not looking for a job)	17.6892	80.1808	2.12917
Unemployed (willing & looking for a job)	21.35	78.25	0.39833
Unemployed (willing but not looking for a job)	23.755	73.5775	2.66667

Source: CMIE data, retrieved by APU

Table 4: Expenditure on cable by region

REGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Rural	30.6958	68.9775	0.33
Urban	7.61667	89.0675	3.31583

Source: CMIE data, retrieved by APU

Table 5: Expenditure on cable by religion

RELIGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Hindu	23.2033	75.4875	1.3075
Muslim	25.8133	73.0942	1.0925
Christian	6.0525	91.4	2.54667
Sikh	1.10667	96.0392	2.85333
Others	16.3208	76.2467	7.435

Source: CMIE data, retrieved by APU

Table 6: Expenditure on cable by income decile

INCOME DECILE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
1st income decile	38.0542	61.6342	0.31167
2nd income decile	45.655	54.195	0.1525
3rd income decile	35.9633	63.8317	0.20167
4th income decile	28.2233	71.5292	0.25
5th income decile	22.9192	76.7625	0.32083
6th income decile	20.1183	79.4308	0.45167
7th income decile	16.7908	82.42	0.78833
8th income decile	13.8975	84.9033	1.2
9th income decile	11.2167	86.0608	2.72
10th income decile	10.0967	83.4508	6.45083

Source: CMIE data, retrieved by APU

EXPENDITURE ON MOBILE PHONES

Table 1: Expenditure on mobile phones by caste

CASTE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
General	10.7725	70.24333	18.98667
OBC	11.54333	75.0625	13.39417
SC	14.00833	74.86333	11.12667
ST	13.28083	77.91083	8.808333

Source: CMIE data, retrieved by APU

Table 2: Expenditure on mobile phones by education

EDUCATION LEVEL	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
No Education	25.24333	70.67583	4.081667
Upto Primary School	15.76917	75.49583	8.735
Upto Middle School	12.56333	76.2175	11.22167
Upto Lower Secondary School	10.26083	77.64083	12.09417
Upto Higher Secondary School	8.710833	73.16833	18.12083
Finished Secondary School	8.376667	72.37	19.25417
Graduate	6.7225	66.71667	26.56083
Post Graduate	5.793333	58.00917	36.19917
Ph.D/M.Phil	2.3075	60.84083	36.8525

Source: CMIE data, retrieved by APU

Table 3: Expenditure on mobile phones by employment

EMPLOYMENT STATUS	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Daily Wage worker/ Casual labour	14.67917	77.6175	7.701667
Salaried - Permanent	5.060833	60.84167	34.09917
Salaried - Temporary	10.05917	75.07333	14.86667
Self-employed	10.8775	76.16833	12.9525
Unemployed (not willing & not looking for a job)	11.87	71.2125	16.915
Unemployed (willing & looking for a job)	12.875	75.485	11.6375
Unemployed (willing but not looking for a job)	12.42	72.73167	14.84417

Source: CMIE data, retrieved by APU

Table 4: Expenditure on mobile phones by region

REGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Rural	13.57083	76.85667	9.573333
Urban	8.931667	66.89417	24.17333

Source: CMIE data, retrieved by APU

Table 5: Expenditure on mobile phones by religion

RELIGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Hindu	11.84083	74.3225	13.84
Muslim	12.3	73.90417	13.79583
Christian	6.9875	68.28917	24.7225
Sikh	1.82	58.5425	39.63667
Others	6.0375	60.22667	33.735

Source: CMIE data, retrieved by APU

Table 6: Expenditure on mobile phones by income decile

INCOME DECILE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
1st income decile	13.00167	78.13417	8.864167
2nd income decile	18.47333	77.6025	3.925
3rd income decile	15.41833	79.1125	5.47
4th income decile	13.48667	78.60833	7.904167
5th income decile	11.75167	77.61167	10.63833
6th income decile	10.67083	76.465	12.8625
7th income decile	9.583333	74.74333	15.67833
8th income decile	8.35	72.665	18.98417
9th income decile	7.2475	67.22167	25.53167
10th income decile	5.999167	58.97333	35.02667

Source: CMIE data, retrieved by APU

EXPENDITURE ON MOBILE ACCESSORIES

Table 1: Expenditure on mobile accessories by caste

CASTE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
General	92.545	6.699167	0.754167
OBC	94.6625	5.035	0.305833
SC	94.59333	5.18	0.225833
ST	94.8275	5.031667	0.139167

Source: CMIE data, retrieved by APU

Table 2: Expenditure on mobile accessories by education

EDUCATION LEVEL	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
No Education	97.83	2.08	0.089167
Upto Primary School	95.1375	4.694167	0.168333
Upto Middle School	94.52417	5.260833	0.214167
Upto Lower Secondary School	94.48917	5.171667	0.338333
Upto Higher Secondary School	92.8725	6.560833	0.565833
Finished Secondary School	90.68333	8.490833	0.826667
Graduate	90.86417	7.675	1.461667
Post Graduate	86.22417	10.93667	2.841667
Ph.D/M.Phil	89.77667	8.121667	2.104167

Source: CMIE data, retrieved by APU

Table 3: Expenditure on mobile accessories by employment

EMPLOYMENT STATUS	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Daily Wage worker/ Casual labour	95.7425	4.173333	0.0825
Salaried - Permanent	89.3375	8.396667	2.264167
Salaried - Temporary	95.52667	4.28	0.193333
Self-employed	93.20333	6.478333	0.316667
Unemployed (not willing & not looking for a job)	93.30917	6.064167	0.63
Unemployed (willing & looking for a job)	94.17917	5.653333	0.165833
Unemployed (willing but not looking for a job)	91.9775	7.551667	0.47

Source: CMIE data, retrieved by APU

Table 4: Expenditure on mobile accessories by religion

RELIGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Hindu	93.7625	5.8825	0.355833
Muslim	94.37667	4.634167	0.991667
Christian	94.49833	5.021667	0.480833
Sikh	86.53417	13.13167	0.335833
Others	91.22583	7.94	0.835

Source: CMIE data, retrieved by APU

EXPENDITURE ON INTERNET

Table 1: Expenditure on internet by caste

CASTE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
General	93.3433	3.7475	2.90917
OBC	96.6025	2.66333	0.735
SC	97.2425	2.295	0.46
ST	98.2358	1.57417	0.1925

Source: CMIE data, retrieved by APU

Table 2: Expenditure on internet by education

EDUCATION LEVEL	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
No Education	97.9842	1.92083	0.095
Upto Primary School	97.6125	2.03167	0.355
Upto Middle School	97.3817	2.18667	0.42917
Upto Lower Secondary School	95.89	3.7375	0.3725
Upto Higher Secondary School	95.1775	3.86917	0.95
Finished Secondary School	93.8883	4.50667	1.6025
Graduate	89.8075	6.5975	3.5925
Post Graduate	81.0583	9.51083	9.42917
Ph.D/M.Phil	77.1867	14.3442	8.4675

Source: CMIE data, retrieved by APU

Table 3: Expenditure on internet by employment

EMPLOYMENT STATUS	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Daily Wage worker/ Casual labour	97.7158	2.11917	0.16667
Salaried - Permanent	88.5367	7.78667	3.67667
Salaried - Temporary	95.8967	3.08833	1.01583
Self-employed	96.3108	2.9575	0.72833
Unemployed (not willing & not looking for a job)	94.5117	3.8	1.68917
Unemployed (willing & looking for a job)	95.7442	3.88083	0.375
Unemployed (willing but not looking for a job)	95.1217	2.86583	2.015

Source: CMIE data, retrieved by APU

Table 4: Expenditure on internet by region

REGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Rural	97.815	1.97167	0.2125
Urban	92.0475	5.15667	2.7975

Source: CMIE data, retrieved by APU

Table 5: Expenditure on internet by religion

RELIGION	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
Hindu	96.1658	2.68583	1.14667
Muslim	93.9292	5.70583	0.36333
Christian	94.3742	3.96083	1.66667
Sikh	92.5717	5.57583	1.85417
Others	91.8075	3.9625	4.22917

Source: CMIE data, retrieved by APU

Table 6: Expenditure on internet by income decile

INCOME DECILE	LESS THAN 100	BETWEEN 100-400	MORE THAN 400
1st income decile	98.3192	1.55667	0.12167
2nd income decile	99.0333	0.93583	0.02833
3rd income decile	98.2467	1.6825	0.07167
4th income decile	97.5592	2.33083	0.11
5th income decile	97.35	2.46833	0.18083
6th income decile	97.0875	2.64917	0.26917
7th income decile	96.7133	2.85333	0.43333
8th income decile	96.0783	3.21417	0.70833
9th income decile	93.945	4.41583	1.6375
10th income decile	88.05	5.7	6.25417

Source: CMIE data, retrieved by APU

EXPENDITURE ON ELECTRICITY

Table 1: Expenditure on electricity by caste

CASTE	LESS THAN 100	BETWEEN 100-2000	MORE THAN 2000
General	4.475	93.72	1.803333
OBC	8.9375	90.76083	0.301667
SC	10.09	89.71917	0.1925
ST	6.948333	92.98167	0.07

Source: CMIE data, retrieved by APU

Table 2: Expenditure on electricity by education

EDUCATION LEVEL	LESS THAN 100	BETWEEN 100-2000	MORE THAN 2000
No Education	9.930833	90.02083	0.048333
Upto Primary School	8.696667	91.16667	0.139167
Upto Middle School	9.1775	90.5475	0.275
Upto Lower Secondary School	8.23	91.55	0.220833
Upto Higher Secondary School	6.2825	92.75833	0.955833
Finished Secondary School	4.938333	94.0225	1.04
Graduate	4.225833	93.295	2.481667
Post Graduate	3.500833	90.885	5.615
Ph.D/M.Phil	9.2025	88.18417	2.615

Source: CMIE data, retrieved by APU

Table 3: Expenditure on electricity by employment

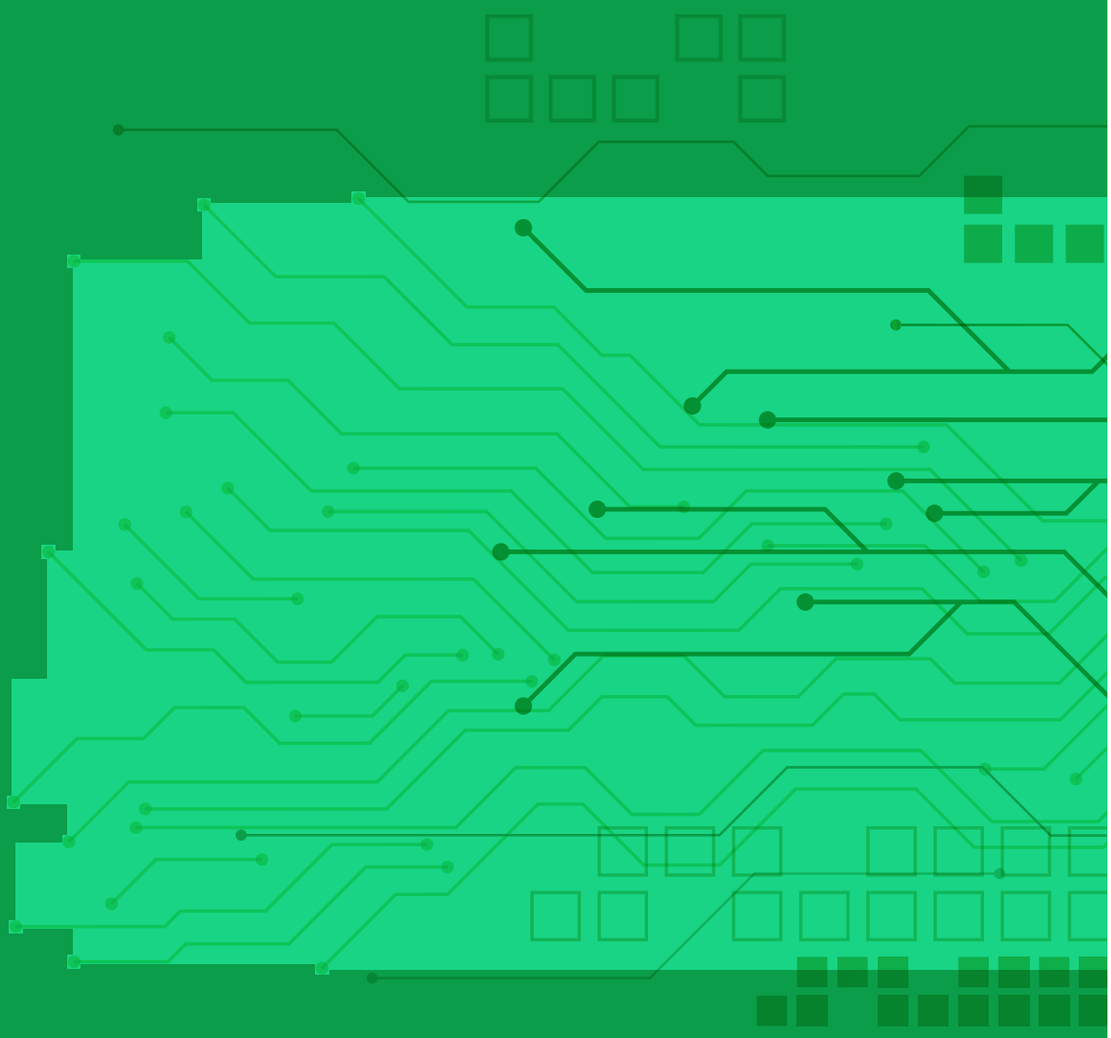
EMPLOYMENT STATUS	LESS THAN 100	BETWEEN 100-2000	MORE THAN 2000
Daily Wage worker/ Casual labour	10.86417	89.10167	0.0325
Salaried - Permanent	3.9125	94.01333	2.073333
Salaried - Temporary	7.314167	92.55333	0.135
Self-employed	6.1875	93.12833	0.683333
Unemployed (not willing & not looking for a job)	7.853333	90.9575	1.188333
Unemployed (willing & looking for a job)	9.105833	90.67917	0.215833
Unemployed (willing but not looking for a job)	11.79667	87.52583	0.678333

Source: CMIE data, retrieved by APU

Table 4: Expenditure on electricity by income decile

INCOME DECILE	LESS THAN 100	BETWEEN 100-2000	MORE THAN 2000
1st income decile	9.480833	89.92667	0.588333
2nd income decile	9.883333	89.89	0.225
3rd income decile	8.2425	91.71167	0.045
4th income decile	8.2925	91.67333	0.035
5th income decile	8.491667	91.45083	0.059167
6th income decile	8.568333	91.35083	0.080833
7th income decile	8.135	91.72583	0.141667
8th income decile	7.575	92.16667	0.26
9th income decile	5.788333	93.47167	0.740833
10th income decile	3.596667	91.75667	4.645833

Source: CMIE data, retrieved by APU



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