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Review Article

Exclusion of Scheduled Tribes in Access to Digital Services in India: Bottlenecks and the Way Forward

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Abstract: The digital India initiative was launched in 2015 with a vision to transform India into a digitally empowered society and knowledge economy. Digital India strives to bring inclusive growth and bridge the digital divide by leveraging technology solutions that are low cost, developmental, and transformative and designed to empower ordinary Indians. However, digital services are not being uniformly distributed and accessible to all segments of the society. Some communities, *t*he Scheduled Tribes (STs) in particular-face considerable obstacles in accessing digital services and are either completely or partially excluded. 'Exclusion' in the socio-political context may be defined as the process through which individuals or groups are wholly or partially excluded from full participation in the society in which they live. The ST population represents one of the most economically backward and socially excluded groups in India. As per 2011 Census, ST population constitute 8.6% of the total population of the India. They generally live in remote areas mainly forests, hills and inaccessible areas and speak a different language. The tribes have been confined to low status and are often physically and socially isolated. The process of social exclusion in STs are closely associated with the factors like geographical isolation, high level of poverty, low level of education, economical exclusion, socio-cultural exclusion, socially least awareness, miss out government services and welfare programmes, less exposure in society, etc,. In this backdrop, the present paper is to analyse major issues and challenges faced by Indian tribal community in access to digital services and digital platforms.

Keywords: Exclusion, Scheduled Tribes, Digital, Access and Equity, ICTs, India.

1. INTRODUCTION

Digital India a campaign launched by the Government of India on July 2015 with the main objective to offer digital services to all citizens, improving the internet connectivity and making the country digitally empowered in the field of technology. Digital India initiatives are taken to ensure that the governmental services are made available electronically to the citizens. Main objective of digital India is to connecting rural areas with high-speed Internet networks and improving digital literacy by making digital resources/services available in Indian languages. The vision of this programme is inclusive growth in areas of electronic services, products, manufacturing and job opportunities etc. Digital transformation initiatives like the digital India initiatives, ICT solutions, Aadhar card, Jan Dan Schemes, E-governance, BHIM App, and Skill India initiatives (PMI, 2017) helps in the transformation in different dimensions and in the transformation of the economy. The development and availability of these digital innovations made many changes in the socio-economic sphere of Indian citizens.

The core vision of this initiative as per the Government is divided into three broad aspects – digital infrastructure as a core utility for citizens, governance and services on demand and the digital empowerment of citizens. The initiative includes plans to develop better digital infrastructure in rural areas and boost the existing digital economy. Since its inception the Government has been consistently scaling the Digital India initiative, they increased the outlay for the programme by 23% to Rs. 3,958 crore for the year

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2020-21. This increase is likely to contribute to scaling our electronic manufacturing industry, facilitating research and development and strengthening cyber security and data protection frameworks. The vision of Digital India program includes three core initiatives as shown in below Table-1.

Table 1: Vision areas of Digital India

Vision areas	Initiatives
Digital Infrastructures	➢ Availability of high speed internet as a core utility for delivery of services to citizens. ➢ Cradle to grave digital identity that is unique, lifelong, online and authenticable to every citizen. ➢ Mobile phone & bank account enabling citizen participation in digital & financial space. ➢ Easy access to a Common Service Centre. ➢ Shareable private space on a public cloud. ➢ Safe and secure cyber-space.
Governance and Services	➢ Seamlessly integrated services across departments or jurisdiction. ➢ Availability of services in real time from online & mobile platforms. ➢ All citizen entitlements to be portable and available on the cloud. ➢ Digitally transformed services for improving ease of doing business. ➢ Making financial transactions electronic & cashless. ➢ Leveraging Geospatial Information Systems (GIS) for decision support systems & development.
Digital Empowerment	➢ Universal digital literacy. ➢ Universally accessible digital resources. ➢ Availability of digital resources / services in Indian languages. ➢ Collaborative digital platforms for participative governance. ➢ Citizens not required to physically submit Govt. documents / certificates.

Source: www.digitalindia.gov.in/content/vision-and-vision-areas.

There is no doubt that the Digital India Initiative has been success in its first five years. However, it is imperative that an accelerated focus is placed on certain core components such as enhancing digital literacy and accessibility to truly realise the potential of India's digital economy. The government is always arguing that the digitalization and new digital innovations are reaching at each and every corner of the nation and made a transformation in their lives. But, there is an apprehension that whether the bottom level and marginalized communities are having access to these digital innovations. Among marginalized communities, Scheduled Tribes (STs) are geographically, socially isolated and economically marginalized communities. In this context, it is a serious question as to whether these digital initiatives actually reach the STs and do the means of digital innovations are familiar to the communities.

II. OBJECTIVES AND DATA SOURCES

In the light of above observations, the paper critically sets the following objectives;

1) To understand the vision areas of digital India initiatives.
2) To analyse the major issues and challenges faced by Indian tribal communities in access to digital services and digital platforms.
3) To suggest suitable remedial measures for digital accessibilities and digital empowerment of tribal communities.

The present paper is exclusively based on secondary data from various research studies including census data, digital India web portal, committee report on poverty, annual reports of tribal welfare ministry, and report on selected educational statistics, etc.

India has a rich glorious heritage, but a sizeable part of Indian population is yet to get benefits out of it. They are still tribal communities which are primitive and live in secluded areas (Verma, 1996). India comprises almost 10.4 million tribes, which accounts nearly 9% of its population spread over 15% of its geographical area (Census of India, 2011). Out of their total population in the country, 91.7 per cent were living in rural areas, whereas, only 8.3 per cent from urban areas. The tribal communities in India have historically remained disadvantaged and socially excluded. Isolated from the main stream, they have long suffered social and economic marginalization. These communities are characterized by economic and social marginalization, primitive existence, geographical isolation and educational backwardness. There are over 700 STs notified under Article 342 of the Constitution of India, spread over different States and Union Territories of the country. Tribal communities who are living in forest regions faced largely with uncertainty about their lives and livelihoods. The recent COVID-19 pandemic further widens the severe social divide and excluded in access various services. Jobless, loss of income and lack of basic amenities of education, healthcare, food and safe water became the harsh reality for the socially isolated tribal communities.

III. DIMENSIONS OF BOTTLENECKS IN ACCESS TO DIGITAL SERVICES

The discussion on barriers for STs to access digital services is (a) illiteracy and lower education (b) high incidence of poverty, and (c) geographical location.

Illiteracy or Low level of Education

Access to digital services and platforms are generally regarded as a necessity to lead a normal life in modern economy. The inability to access these digital services is a problem for many people, especially living in remote and forest areas. Due to illiteracy or low level of education, certain sections of society, particularly STs are affected more than others. A low literacy rate is a major impediment to increasing internet penetration, while digital literacy and skills are important in allowing access to digital information.

Education is one of the primary agents of transformation towards development. Inclusive education is a policy of expanding and broadening of economic, geographical and social access of education for all. Professor Amartya Sen recently emphasized education as an important parameter for any inclusive growth in an economy. As per the Census (2011), literacy rate in India is 74.04 per cent with a 14 per cent increase from 2001. Even after six decades of independence and initiation of welfare and developmental programmes under various plan periods, STs suffer disproportionally higher rate of illiteracy and lower enrolments in higher education. Compared to overall literacy rate which increased from 52% in 1991 to 73% in 2011, STs are lagging much behind (Table-2). In the case of ST women, the literacy rate was a shockingly low 34.8% in 2001 from where it jumped to almost 50%. The literacy rate of SC women, about 42% in 2001, increased to 56.5% in 2011. Among ST males, the literacy rate went from 59.2% to 68.5% by 2011 and among SC males it went up from 66.6% to 75.2% in the same period.

Table 2: Literacy Rate of ST Population (1991-2011)

Year	All Social Groups			Scheduled Caste			Scheduled Tribe		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1991	64.13	39.29	52.21	49.91	23.76	37.41	40.65	18.19	29.60
2001	75.26	53.67	64.84	66.64	41.9	54.69	59.17	34.76	47.10
2011	80.89	64.64	72.99	75.17	56.46	66.07	68.53	49.35	58.96

Source: Census of India (2011), Registrar General of India.

As per All India Survey of Higher Education AISHE (2017-18), the total estimated student enrolment is 3.66 crore, out of which nearly 52 per cent are male and rest 48 per cent are female students. Across social category, Scheduled Caste (SC) student enrolment is around 14 per cent of the total enrolment and students belonging to Scheduled Tribe (ST) category constitute only 5 per cent of the total student enrolment (MHRD, 2018). It is, thus, evident that the STs suffer from lower access to education than other social groups.

Another reason for digital exclusion is the language in which content is available on the internet. India is a culturally, religiously and linguistically diverse society. At least 80 per cent of all content on the internet is in one of 10 languages: English, Chinese, Spanish, Japanese, Portuguese, German, Arabic, French, Russian, or Korean (World Bank, 2014). Language fragmentation within India compounds the challenge as it has various languages and scripts. Lack of relevant local internet content is a hurdle for the people whose primary language is not English and prevents people from familiarizing themselves with benefits of internet based information and contents.

Higher Incidence of Poverty

One of the dimensions of deprivation is economic poverty and it is disproportionately affects the STs in access digital platforms. Poverty poses a major barrier to Internet access and access better technology devices. In India, the ability to purchase or rent the Information and Communications Technology (ICT) tool for access to digital information is less among the masses (Mukherjee *et al.*, 2016). The Incidence of poverty varies widely across social groups. Across social groups, the incidence of poverty has been most pronounced among the STs. The incidence of poverty was higher in all the reference periods for STs When comparison to others or overall. As per Tendulkar Committee methodology approach, the incidence of poverty among SC and STs are very high in the given all reference periods (Table-3). It can be seen from the table that poverty level in 2004-05 is highest among STs (63.7 per cent), followed by SCs (60.5 per cent) and the overall population is 45.7 per cent. The percentage of persons below the poverty line in 2011-12 has been estimated as 43 per cent among STs, 29.4 per cent among SCs and 21.9 per cent for the country as a whole. ST population in India are substantially worse off than other groups. The incidence of poverty is not only higher but also chronic among them, despite implementation of various poverty alleviation programmes.

Table 3: Incidence of Poverty among STs in India

	1993-94	2004-05	2009-10	2011-12
All	45.7	37.2	29.8	21.9
Scheduled Castes	60.5	50.9	40.6	29.4
Scheduled Tribes	63.7	60.0	45.6	43.0

Source: (1) Planning Commission (2014). (2) Panagaria, A and Megha Mukim (2014)

For developed countries, advances in computing power, connectivity, artificial intelligence, more capable technologies hold tremendous promise etc,. Inclusive agriculture, rural growth and structural transformation from agriculture to high-productivity manufacturing and other economic sectors can be accelerated, as technological change transforms individuals' lives and enables developing countries to progress at speeds and on scales previously inconceivable. The case of India is salient because, unlike its East and Southeast Asian neighbours, rapid economic growth has not been inclusive enough to reduce the numbers of Indians living in poverty. India contains the largest number of poor people in the world, particularly STs. Poverty and socio-economic constraints digitally exclude the people belonging to lower rungs of the economic ladder as they cannot afford new communication technologies and the expenses incurred in upgrading the equipment, software, and training support. In India, low-income clients are not able to afford the technology required to access digital services (Niranjan, 2017). According to Srikant and others, major hurdle in achieving digital financial inclusion in India is low financial literacy at the bottom of the pyramid (Srikanth *et al.*, 2021). In this situation, poor people unable to access digital resources such as smart phones, electronic equipment and other supportive digital devices.

Geographic Location

Geographical location is one of the main barriers for STs in access to digital services. Majority of the tribal communities live in forests and remote areas and they are not aware much on information technology or any digital services. Moreover, the tribal life and livelihood is directly linked to the forest resources. Chen and Wellman (2004) found that geographic location is one of the major factors affecting people's access to and use of the internet, with more prosperous regions having higher internet penetration rates than poorer or isolated regions. Lack of sufficient network coverage and insufficient infrastructure are the major obstacles to internet adoption, particularly in geographically isolated areas. In addition, there are gaps in high-speed internet access that have important effects on media access such as streaming video.

There are also other reasons like the lack of infrastructure and affordability, due to the higher costs of acquiring necessary devices and services. Lack of awareness about benefits of ICTs, in spite of access to ICTs being available. The Internet & Mobile Association of India (IAMAI) survey (2015) also found that 76 percent of Indian respondents cited lack of awareness about the internet as the reason they weren't online (Kumar, 2019). In addition to this, access to electricity is another hurdle in rural areas, with only 55 percent of rural households having access to electricity (Census of India, 2011).

IV. WAY FORWARD

Digital exclusion leads to social exclusion by restricting people's accessibility to the digital services and resources, thereby narrowing down the social network where people can express their viewpoints, share their experiences and communicate. The way forward is to adopt an inclusive approach to reach the target groups, especially the tribal community. It is the pressing time to consider holistic tribal digital education and their inclusive growth, which helps to access digital services. There is a need for collaboration and strategic discourse between government, ICT companies and civil society organisations to collectively put efforts to bring awareness among tribal community on digital services. Effective policy initiatives need to focus on a long-term strategy to enhance digital education and technical skills among tribes. Equal access and opportunities should be given to tribal community to empower them to access digital services.

The government has taken positive steps since towards digital accessibility. In 2013, the government approved a National Policy on Universal Electronic Accessibility. This policy is aimed at facilitating equal access to electronic and other information and communication technologies, and at creating awareness about issues pertinent to universal design and universal accessibility guidelines (National Policy on Universal Electronic Accessibility, 2013). Tribal communities already living in chronic poverty and they are plagued by problems of malnourishment, illiteracy, unemployment and lack of basic infrastructure like schools, hospitals, sanitation, erratic power supply, network connection, etc. Enhanced network connections and required infrastructure are to be developed in tribal living areas for getting internet connection. Maintaining adequate power supply without interruption is also important. Further, simple and different applications with attractive and easy to understand visuals must be developed in local languages to bring internet other digital services into remote areas.

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