Digital Empowerment of Tea Tribe:

Towards Vulnerability Reduction and Unlocking Opportunities

A STUDY

Digital Empowerment of the Tea Tribe / Adivasi Community in Assam: *Towards Vulnerability Reduction and Unlocking Opportunities*

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Authors:

Dr. Syed Sultan Kazi and **Ms. Ritwika Patgiri** (Council for Social and Digital Development)

Dr. Rajdeep Singha (Centre for Labour Studies & Social Protection, Tata Institute of Social Sciences, TISS, Guwahati)

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Council for Social and Digital Development / North East Development Foundation

Plot 159, First Floor, Farm Gate, Khanapara, Guwahati – 781022, Assam
House no. 44, 2nd and 3rd Floor (next to Naraina IIT Academy)
Kalu Sarai (near IIT Flyover) New Delhi – 110016
Tel: 91-11-9818292524| Email: csddindia2030@gmail.com | URL: https://www.csddindia.in/

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Executive Summary

The tea tribes of Assam are 65-lakh people who are descendants of Adivasis largely from the Chotanagpur region in present-day Jharkhand brought by the British Raj as indentured labourers in the mid-nineteenth century. Over the years, the plight of the tea community has been largely documented. The socio-economic and political vulnerabilities faced by the tea tribe of Assam needs no introduction. But the globalized 21st century and the recent coronavirus pandemics have brought in the importance of a digitalized world. However, the digital exclusion that the tea community of Assam faces has hardly been mentioned or documented.

This policy brief attempts to understand and capture how the tea community has not only been socially, economically, and politically exploited but also has been digitally excluded. The main points that have come out of the policy brief are:

1. The tea workers of Assam have been facing identity conflict ever since their arrival. The demand for Scheduled Tribe (ST) status by the tea tribe is not a recent struggle and despite numerous promises by political parties, this remains a dream unfulfilled.

2. Housing conditions of the tea workers are dilapidated while toilets are non-existent. Most workers do not have access to safe drinking water and water-borne diseases like typhoid and cholera are fairly prevalent. One-third of 170 tea plantations of Dibrugarh did not have toilet facilities for tea workers despite being mandated by the law.

3. In terms of Maternal Mortality Rate (MMR), Assam performs worst among all Indian states. The MMR of Assam is 300 in the state while the national average is 167. Within the state, the five districts served by the Assam Medical College and Hospital – Tinsukia, Dibrugarh, Sibsagar, Jorhat and Golaghat – had a collective maternal mortality ratio of 404 per 100,000 live births in 2013, which is close to the ratios in sub-Saharan Africa. Nearly

4. 80% of the mortality in these districts is from the tea gardens.

5. The wages of the tea workers are below the minimum wage for Assam's unskilled agricultural workers. The workers earn wages lower than the minimum daily wage (the tea workers earn Rs 167 per day while the minimum daily wage in Assam is Rs 240).

6. Only half of the tea workers have access to BPL ration cards. One-third of the tea workers experience recurrent debt. The tea workers have not seen a hike in their wage in the last 15-20 years.

7. 63% of the children of the tea community drop-out from their schools.

8. The tea districts like Dibrugarh, Sonitpur, Kokrajhar, and Sivsagar are the worst performing districts in terms of villages electrified.

9. The women tea workers in Assam undertake 13 hours of physical labour per day and just 6 hours of rest. The women tea workers do the labour intensive, low paid tasks of plucking the tea leaves while the men do the better paid and more respect factory work. Women remain excluded from the

decision making process because of under-representation in trade unions.

10. There is a lack of data when it comes to district wise access to devices. There is no data to understand whether a particular district has access to more smart phones, computers, and laptops.

11. 53% of the people in 6 tea districts of Assam have access to Internet while 47% do not.In India, there are around 54 Internet subscribers per every 100 people. The internet access among the tea tribes, when compared to this, is not an idea picture. While people in the tea gardens can have access to basic Internet, that still does not imply being able to use the facilities of Internet. One reason behind this, apart from the lack of digital literacy, is the poor speed of Internet in these areas.

12. In the 6 districts surveyed, only 9 have an Internet speed greater than 512 kbps and 16 have a speed lower than 512 kbps.

13. The tea districts of Assam have a good number of CSCs. Nagaon and Tinsukia perform the best in terms of all districts of Assam. This is a good sign – the presence of CSCs implies a presence of digital infrastructure. The issue, however, is the people who are accessing these CSCs. It is important to identify and implement the presence of all communities, including tea communities, in these spaces which allow access to digital infrastructure.

14. 79% of the people in the 6 tea districts have no access to digital skills and training.Tinsukia, a tea district, is the worst performing district in terms of training under PMDISHA.

15. Out of the 841 registered tea gardens, only 28 were paying wages through banks. This is only 3.3% of all tea gardens which pay their workers' wages through bank accounts. The reason behind this is a lack of ATMs in the tea districts.

16. There is also a gender digital divide.Only 39% of the women have access to digital devices while the overall percentage is 53%.

Introduction

Who are the tea tribes of Assam andwhy is it important to for a study like this to happen? It is with this notion that the present policy brief has been drafted. The tea tribes of Assam are 65-lakh people who are descendants of Adivasis largely from the Chotanagpur region in present day Jharkhand[1]. They were brought by the British Raj to work as indentured labourers in Assam's tea plantations starting from the mid-19th century. The community is recognized further for its ability to swing elections in the state, since it is present in large numbers in at least 40 of the state's 126 seats. With a political power of single-handedly swinging election results, it is surprising that the community remains one of the most disadvantaged and vulnerable not just in the region, but in the world. The socio-economic disadvantage has largely been documented in the last few years. Numerous studies by Oxfam and International Labour Organization among others have highlighted the vulnerabilities of the tea tribes of Assam.

The maternal mortality rates of Assam's tea growing areas are comparable to that of Sub-Saharan Africa, the poorest region in the world. These areas also have some of the worst infant mortality rate within India and world, rampant hypertension, endemic alcoholism, high incidences of water-borne diseases, and low access to sanitary health and menstrual hygiene products.The workers earn wages lower than the minimum daily wage (the tea workers earn Rs 157 per day while the minimum daily wage in Assam is Rs 240). Moreover, tea garden children have high school dropout rates. They are more underweight and more adolescent girls of the community are anaemic.

The tea tribe community forms 20% of Assam's total population. Tea industry is the state's largest revenue generator. It is beyond shocking that the community which forms the backbone of Assam's large industry is one of the most exploited and oppressed communities in the world. The different dynamics of oppression make this injustice even worse. Apart from socio-economic disadvantages which have been highly documented, the tea tribes are also largely digitally excluded.

Why should there be an importance on the digital inclusion of the tea community of Assam? The present century can be termed as the 'digital age'. The world has been dramatically changed by the processes of globalization and digitalization. These changes have been further aggravated by the Covid-19 pandemic. Online classes and online work have become the norm. Digital India has become the mantra. As reports of vulnerable communities getting excluded from the online mode of things started coming out, it became interesting to understand how much Assam's most vulnerable community has fared in terms of digital accessibility.

While documentation of socio-economic vulnerabilities of the tea tribes of Assam has focused on development indicators, digital accessibility also includes many development factors. Financial inclusion, access to smart phones, digital literacy, and network availability are as important

[1]Saikia, A. (2021, March 26). *Assam's Large Tea Worker Community Has Always Lacked a Political Voice. Could This Be Changing.* Scroll. https://scroll.in/article/990446/assams-large-tea-worker-community-has-always-lacked-a-political-voice-could-this-be-changing

development indicators as mortality rates and school enrollment rates. With the push for Aadhaar linked bank accounts and the trinity approach of Aadhaar, Jan Dhan, and mobile banking have made digital accessibility an important requirement in the present Indian context. This policy brief attempts to understand this digital accessibility among the tea community of Assam, a study which has not been done before and which has become increasingly relevant in the present context.

The tea districts of Assam largely fall in the Upper Assam region. The table below looks at the number of tea gardens in Assam according to the districts as per the Directorate for Welfare, Government of Assam.

Sr. No.	Name of the District	Number of tea gardens
1	Baksa	4
2	Barpeta	0
3	Bongaigaon	1
4	Cachar	56
5	Darrang	4
6	Dhemaji	2
7	Dhubri	3
8	Dibrugarh	177
9	Goalpara	2
10	Golaghat	74
11	Hailakandi	19
12	Jorhat	88
13	Kamup	3

Sr. No.	Name of the District	Number of tea gardens
14	Kamrup Metro	3
15	Karbianglong	15
16	Karminganj	23
17	Kokrajhar	3
18	Lakhimpur	9
19	Sonitpur	59
20	Tinsukia	122
21	Udalguri	24
22	Morigaon	1
23	Nagaon	21
24	Sibsagar	85
25	Nalbari	0
26	Chirang	0
27	Dimahasao	2
	Total	802

Table 1: Number of tea gardens in various districts of Assam (Source: Directorate of Welfare, Government of Assam)(Accessed on 15/10/2021)

The tea districts of Assam, according to the number of tea gardens, are Kokrajhar, Udalguri, Sonitpur, Nagaon, Golaghat, Jorhat, Sibsagar, Charaideu,Dibrugarh, Tinsukia, Cachar, Karimganj, and Hailakandi. Upper Assam consists of most of these districts. 7 out of 10 Upper Assam districts are, in fact, tea districts. Out of the 3 not included in the tea districts, both Dhemaji and Lakhimpur have a few tea gardens and only Majuli has no recorded tea garden. The number of tea gardens region-wise can be understood from the figure below.

Figure 1: Number of tea gardens in Assam – administrative region wise-division (Source: Author's calculation)

The number of tea gardens in Upper Assam exceeds the other regions by a large margin. While Barak Valley, North Assam, and Hills and Central Assam have respectable number of tea gardens, the number is especially low in Lower Assam. The insights in this policy brief will be made based on this regional division of tea gardens in the state.

With this background, the policy brief analyses the digital infrastructure of these tea districts as compared to the rest of the state and makes inferences on the digital accessibility of the tea tribes of the state.

2. Multidimensional Vulnerability of the Tea Tribe in Assam

As mentioned earlier, the socio-economic vulnerabilities of the tea tribe of Assam have been well documented. Along with social and economic vulnerabilities, there are also institutional, political, cultural, and human resource vulnerabilities that disadvantaged communities face. This section looks at these various vulnerabilities which have been previously documented as well as looks at some new parameters which highlight the disadvantage of the tea community of Assam.

2.1 Social Vulnerability

Social vulnerability includes vulnerability to multiple stressors and shocks, including abuse, social exclusion, and natural hazards. The tea workers of Assam have been facing identity conflict ever since their arrival. The demand for Scheduled Tribe (ST) status by the tea tribe is not a recent struggle. Their struggle is not just an assertion of their identity but also a political claim for citizenship rights. Organisations such as the All Assam Tea Tribe Students' Association (AATTSA), the All Adivasi Students' Association of Assam (AASAA), and tea workers' unions have played an important role in this struggle of identity assertion. The struggle has also been critical of the role of government as well as political parties (Sharma and Khan, 2018).

Social vulnerability can also be understood in terms of access to housing facilities, access to toilets, health indicators, education indicators, etc. Housing conditions of the tea workers are dilapidated while toilets are non-existent. Most workers do not have access to safe drinking water

and water-borne diseases like typhoid and cholera are fairly prevalent. According to a news report in 2018, one-third of 170 tea plantations of Dibrugarh did not have toilet facilities for tea workers despite being mandated by the law. It is noteworthy that Dibrugarh is India's largest tea-producing district, with some 25 per cent of its population living in estates. As per the Plantation Labour Act, tea estates are mandated to provide 8ftx 6ft bath-cum-latrine to every labour quarter[2].

According to a study by International Labour Organization (ILO)[3], tea workers have been dispossessed of their land that they have been cultivating for generations by the management. Much of this land have been converted into ponds for fish farming at the expense of the subsistence farming in which workers had engaged since colonial times and that no compensation had been given following the dispossession.

The ILO report also recorded that living quarters of the tea workers are very poor as these structures were built 50-60 years ago with no renovation done. Workers have complained but these complaints are often met with threats from the management. Another issue faced by the workers is leaky roofs and falling walls.

Social vulnerabilities can also be understood in terms of health indicators. The health indicators analysed here are maternal mortality rates and infant mortality

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[2]Bose, P.R. (2018, June 14). *Assam Tea Workers Yet to Have Access to Toilets.* The Hindu Business Line. https://www.thehindubusinessline.com/news/assam-tea-workers-yet-to-have-access-to-toilets/article24166007.ece
[3]Martinez, D. (2018. March 8). *Improving Conditions in Tea Plantations in Assam.* International Labour Organization. https://www.ilo.org/empent/Projects/the-lab/WCMS_619601/lang--en/index.htm

rates. In terms of Maternal Mortality Rate (MMR), Assam performs worst among all Indian states. India accounts for 17% of all maternal deaths in the world[4]. The MMR of Assam is 300 in the state while the national average is 167, as per the data by NITI Aayog[5]. Within the state, the five districts served by the Assam Medical College and Hospital – Tinsukia, Dibrugarh, Sibsagar, Jorhat and Golaghat – had a collective maternal mortality ratio of 404 per 100,000 live births in 2013, which is close to the ratios in sub-Saharan Africa. Nearly 80% of the mortality in these districts is from the tea gardens. The figure below makes it clear.
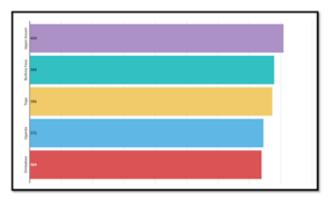

Figure 2: Maternal mortality rate in Assam and Sub-Saharan Africa (Source: Annual Health Survey, India and World Bank)

The above figure makes it evident that the MMR in Upper Assam is not far behind Sub-Saharan Africa, the poorest region in the world. One prime reason behind this high MMR is anaemia among women. In fact, 20% of total maternal deaths globally are caused because of anaemia. Female tea workers are highly anaemic as malnutrition is abundant. The other reason is hypertension. Around 60% of tea workers in Dibrugarh suffer from hypertension

(Hazarika, Biswas, Narain, Kalita, Mahanta, 2002).

The tea garden community is more susceptible to maternal deaths because of its frail economic condition. Workers can't afford nutritious food or access basic healthcare because of low wages.

2.2 Economic Vulnerability

The economic vulnerability of tea communities can be assessed using numerous parameters. According to a study by Oxfam wherein researchers interviewed 510 tea workers in 50 tea estates in Assam, the findings were striking. The wages of the tea workers are below the minimum wage for Assam's unskilled agricultural workers. The workers earn wages lower than the minimum daily wage (the tea workers earn Rs 157 per day while the minimum daily wage in Assam is Rs 240). Only half of the tea workers have access to BPL ration cards. One-third of the tea workers experience recurrent debt. The tea workers have not seen a hike in their wage in the last 15-20 years.

Due to unrelenting poor socio-economic conditions, the children of tea garden workers are forced to stay out of school or drop out of school to help their support their families. 'Child Rights Situational Analysis in Tea Gardens in Assam', a study by international child rights NGO Save the Children has found that over 63% children working in at least 70 tea gardens in seven districts confessed to dropping out of schools to earn for their families. With the labour-intensive nature of work at tea-plantations, children also do not have the time to invest in their education.

According to recent reports, only 1/5th of the working children were attending school

[4]El-Saharty, S and Ohno, N. (2015, January 13). *South Asia's Quest for Reduced Maternal Mortality: What the Data Show.* Investing in Health. https://blogs.worldbank.org/health/south-asia-s-quest-reduced-maternal-mortality-what-data-show

[5]Public Trust of India. (2018, February 16). *Assam Worst in MMR, Spent just 13.58% of NHF Fund in 2017-18.* Business Standard. https://www.business-standard.com/article/pti-stories/assam-worst-in-mmr-spent-just-13-58-of-nhm-fund-in-2017-18-118021601073_1.html

among the tea community whereas many children begin working in tea gardens from the age of 11 onwards. While this is a necessity due to low wages but it is also encouraged by the parents, who believe that tea-leaf picking is a skill that must be learned from a young age.

A study by Save the Child found that the child workers work for over 40 hours a week. This is equivalent to a long work day and is not surprising that these children are then too tired to pay attention to their education. The same study found that parents know that the school infrastructure is poor, and henceencourage their children to work rather than study. The schools in these regions also have a high irregularity in attendance. Due to the dominance of the tea-sectors, even the teachers in schools run by the tea-garden run schools are part-time workers.

The same study also found from the child workers that their places of worklack toilets and the female workers mentioned that there is a lack of separate sanitation facilities for girls. Other issues faced by the workers

include dehydration due to long working hours in the sun, unhygienic workplaces, malnourishment and tuberculosis. Along with child labour, trafficking and sexual abuse are rarely reported.

The children of tea garden workers also face problems like substance abuse. The Save the Children study found that 14% of the tea child workers chew tobacco, 7% drink alcohol, and another 14% smoke. This had already taken a toll on generations, as high maternal and infant mortality rate had been noted.

2.3 Institutional Vulnerability

Institutional vulnerability could imply formal as well as informal institutional vulnerabilities. Government institutions and their infrastructure need to be looked at. Lack of electricity is another prime concern among tea workers, according to the ILO report. To understand this, it is important to understand the percentage of villages that have been electrified in each district of Assam. The table below records this.

District Name	Number of villages (according to Census of 2011)	Number of villages electrified (2016-17)	Percentage of Villages electrified
Kokrajhar	1068	890	83.3
Dhubri	1091	1088	99.7
Goalpara	829	769	92.7
Barpeta	835	827	99.0
Morigaon	632	513	81.1
Nagaon	1412	1369	96.9
Sonitpur	1876	1622	86.4
Lakhimpur	1184	1172	98.9
Dhemaji	1319	1316	99.7
Tinsukia	1168	1102	94.3

District Name	Number of villages (according to Census of 2011)	Number of villages electrified (2016-17)	Percentage of Villages electrified
Dibrugarh	1348	1118	82.9
Sivsagar	875	773	88.3
Jorhat	848	805	94.9
Golaghat	1125	1107	98.4
KarbiAnglong	2921	2907	99.5
DimaHasao	695	652	93.8
Cachar	1040	922	88.6
Karimganj	936	840	89.7
Hailakandi	331	327	98.7
Bongaigaon	563	-	-
Chirang	508	-	-
Kamrup	1068	-	-
Kamrup (Metro)	216	-	-
Nalbari	456	-	-
Baksa	690	-	-
Darrang	561	-	-
Udalguri	800	-	-
Assam	26395	24512	92.8

Table 2: Electrification in various districts of Assam in 2016-17 (Source: Assam Power Distribution Company Limited) (Accessed on 10/10/2021)

It is evident that tea districts like Dibrugarh, Sonitpur, Kokrajhar, and Sivsagar are the worst performing districts in terms of villages electrified.

The figure below looks at the electrification of districts region-wise in the state.

Figure 3: Electrification of tea and non-tea districts in Assam (Source: Assam Power Distribution Company Limited)(Tea districts in green and non-tea districts in purple)

Although certain non-tea districts like Marigaon have some of the least number of villages electrified, the tea districts are clearly performing worse as evident from the figure above. Dibrugarh, Sonitpur, Kokrajhar, and Sivsagar are the worst performing districts.

2.4 Greater Vulnerability for Women

Although a part of social vulnerability, it is important to look at gender vulnerabilities separately because of their various nuances. Women tea workers are particularly vulnerable as along with underpaid work in the gardens, they are also overburdened with unpaid domestic work. In fact, the women tea workers in Assam undertake 13 hours of physical labour per day and just 6 hours of rest. The women tea workers do the labour intensive, low paid tasks of plucking the tea leaves while the men do the better paid and more respect

factory work. Women remain excluded from the decision making process because of under-representation in trade unions.

As assessment on knowledge building on Menstrual Hygiene Management (MHM), Sexual Health Rights and Gender rights and feminism among Adivasi women in Lakhimpur district of Assam, carried out by Action-Aid in collaboration with PAD during 2018 revealed that acute poverty and the apprehension of losing jobs, loss of earning due to unpaid leave during pre and post natal period compel these women to join the work immediately after the delivery of their babies. This has an adverse affect on their health as well as health of their children. The assessment also revealed that most of the female workers working as temporary workers in tea gardens are unaware of their entitlement such as maternity leave during pregnancy and post natal period. It also revealed that most of the schoolgirls of

these tea garden working women remain absent in schools during menstruation when their parents fail to purchase them sanitary pads. This has results in school dropouts. For these adolescent girls who have to leave schools, the only option is to join the temporary workforce in the garden during plucking seasons and working in hazardous sand mining or stone queries. The assessment also revealed that in some schools, provisions of toilet facilities are there, but running water facilities are yet to be installed.

The women especially are greatly disadvantaged as they often have to cope with domestic violence, work through their pregnancies, return to work soon after childbirth thus denying their babies proper nutrition through exclusive breastfeeding. Vulnerable to sexual harassment from plantation managers and other higher authority, many of them also lack support of extended family. With no access to daycare facilities, many of the young mothers are therefore forced to take their babies to the tea plantation.

3. State of Digital Access, Digital Citizenship and Divide in Tea Tribe

Digital empowerment could mean many things – digital literacy, digital financial inclusion, digitalization of services, etc. Digital empowerment could also mean adaptation to information technologies digitally and making maximum use of the potentials of information technologies by participants (Akkoyunlu, et al., 2010). The digital divide can be measured by looking at representation in Information and Communication Technology jobs;number of people taking up science, technology, engineering, and mathematics (STEM) courses; people engaged in software development, people engaged in start-ups and capital ventures; having well equipped digital skills like using laptops and smart phones; and digital financial inclusion. However, most of these parameters seem redundant in a developing country's perspective where there is underrepresentation in most of these fields by almost all vulnerable communities.

Digital empowerment in this policy brief will be measured in terms of access to network, access to information, access to devices, access to digital platforms, access to entitlements and opportunities like health, education, employment, banking and finance, and public schemes and benefits, access to skills and capacities, and access to institutions.

3.1 Access to Network

The first basic step to understand the digital inclusion of tea communities is through access to telecom network. The data availability of teledensity for every district of Assam is very poor. The available data is that of 2013. The scenario must have changed to some extent now but the 2013 data still gives the required context. The service providers in the state are Reliance JioInfocom Ltd, Bharti Airtel Ltd, Vodafone Idea Ltd, BSNL, and MTNL. The total subscriber base in Assam as of 31st March, 2020 is 23.49 million with 13.88 million in rural Assam and 9.69 million in urban areas. The percentage of rural subscriber base in Assam is 59.11%.

The rural teledensity of Assam is 47.11 which is lower than the all-India average of 58.54. The teledensity in urban Assam is 184.65 and the all India average urban teledensity is 138.41. Thus, the urban teledensity of Assam is better than the all-India average.

Since there is a lack of data at the local level in districts, blocks, and PRIs, estimation and analysis become difficult. The 2013 data records 2G teledensity in the various districts of Assam. The 2013 data reveals the following information.

District Name	Total Number of Inhabited Villages	Number of Villages with Mobile Coverage	Percentage of Villages with Mobile Coverage	Uncovered Villages	Tea District (Yes/No)
Kokrajhar	1055	940	89.10	115	Yes
Dhubri	1056	1007	95.36	49	No
Goalpara	788	744	94.42	44	No
Barpeta	826	801	96.97	25	No

District Name	Total Number of Inhabited Villages	Number of Villages with Mobile Coverage	Percentage of Villages with Mobile Coverage	Uncovered Villages	Tea District (Yes/No)
Marigaon	603	575	95.36	28	No
Nagaon	1370	1351	98.61	19	Yes
Sonitpur	1801	1726	95.84	75	Yes
Lakhimpur	1146	1058	92.32	88	No
Dhemaji	1266	1113	87.91	153	No
Tinsukia	1144	1051	91.87	93	Yes
Dibrugarh	1324	1305	98.56	19	Yes
Sibsagar	863	859	99.54	4	Yes
Jorhat	770	730	94.81	40	Yes
Golaghat	1034	936	90.52	98	Yes
KarbiAn-glong	2713	1544	56.91	1169	No
Dima-Hasao	676	240	35.50	436	No
Cachar	1015	953	93.89	62	Yes
Karimganj	920	892	96.96	28	Yes
Hailakandi	331	308	93.05	23	Yes
Bongaiga-on	538	518	96.28	20	No
Chirang	502	451	89.84	51	No
Kamrup	1051	945	89.91	106	No
Kamrup Metro	214	205	95.79	9	No
Nalbari	464	431	92.89	33	No
Baksa	681	657	96.48	24	No
Darrang	553	520	94.03	33	No
Udalguri	792	751	94.82	41	Yes

Table 3: 2G data in various districts of Assam (Source: Telecom Regulatory Authority of India) (Accessed on 10/10/2021)

The figure below explains the difference in 2G data in the tea and non-tea districts of Assam. The green bars represent tea districts and the purple bars represent the non-tea districts.
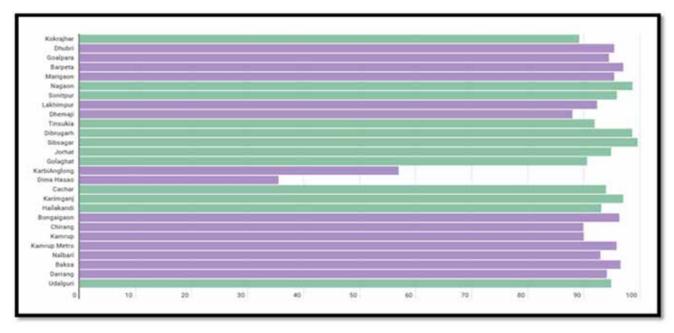

Figure 4: Percentage of villages with 2G mobile coverage (Tea districts in green and non-tea districts in purple)

The figure shows the tea districts in green and the non-tea districts in purple. While there seems to be not much difference in 2G mobile network coverage in tea and non-tea districts, this analysis is incomplete as the data for 3G and 4G mobile networks is not available. Similarly, 2G network is the most basic phone network which works even without smart phones. This network rarely gets financial and other digital work done and cannot be a good indicator of digital inclusion. Lack of data on 3G and 4G coverage is a bigger concern.

The figure below shows the number of villages uncovered by 2G network. Although Upper Assam fares the worst, Lower Assam does not do too well in this regard. Thus, it is hard to infer how tea communities are doing in terms of 2G network.
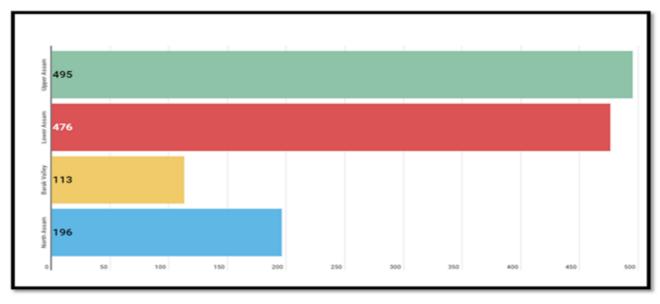

Figure 5: Number of villages uncovered by 2G network

Similarly there is a lack of data when it comes to district wise access to devices. There is no data to understand whether a particular district has access to more smart phones, computers, and laptops. The following section looks at access to Community Service Centres (CSCs) instead which provide a platform for rural people to access devices and internet.

A study by the Digital Empowerment Foundation on improving access to information in tea gardens in 6 districts of Assam, however, gives some information on access to internet. The districts covered in this study include Dibrugarh and Tinsukia, two of the largest tea districts. The other four districts are Jorhat, Sonitpur, Udalguri, and Nagaon. The table below lists the percentage of access to internet by tea tribes in six tea districts of Assam.

Status	Percentage of Tea Tribe Community Having Access to Internet (number of people responding in the survey)
No Internet Access	47% (1259)
Have Access to Internet	53% (1420)

Table 4: Status of Internet Access in Gardens (Source: Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

The figure below depicts this further. 53% of the people surveyed said they had access to Internet while 47% did not. Although this is only data for 6 tea districts, this information reveals how more people in the tea community do not have the basic access to the Internet.
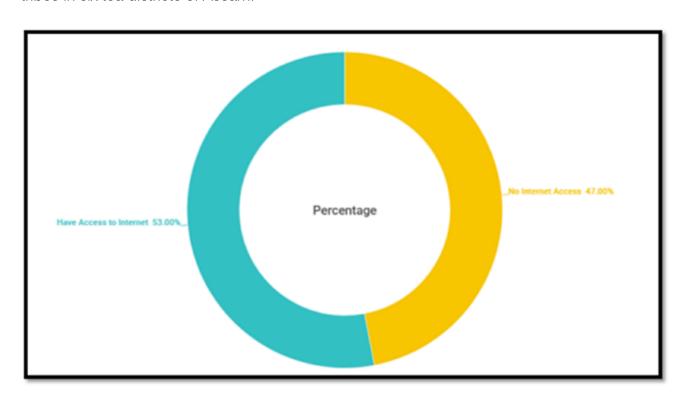

Have Access to Internet 53.00%

No Internet Access 47.00%

Percentage

Figure 6: Status of Internet Access in Gardens

47% of individuals not having access to Internet may not seem like a large percentage. But when compared with the national and global averages, according to the World Bank data, this remains low. The global average is 50%, however, it is much higher for developed countries like the US (87%), France (82%), Canada (91%), Australia (87%)[6]. In India, there are around 54 Internet subscribers per every 100 people. The internet access among the tea tribes, when compared to this, is not an idea picture.

While people in the tea gardens can have access to basic Internet, that still does not imply being able to use the facilities of Internet. One reason behind this, apart from the lack of digital literacy, is the poor speed of Internet in these areas. The table below gives an idea.

Internet Access	Speed
16 Tea Gardens	< 512 kbps
9 Tea Gardens	> 512 kbps

Table 5: Internet Speed in Tea Gardens (Source: Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

In the 6 districts surveyed, only 9 have an Internet speed greater than 512 kbps and 16 have a speed lower than 512 kbps. While in classification of Internet speed, anything below 1 mbps is considered slow[7], it is

surprising that 16 tea gardens have Internet speed not just below 1 mbps but also below 512 kbps! The above table reveals that despite having access to Internet, a slow internet connection is available in most of the tea gardens. Hence, mere access to Internet is not sufficient to draw an analysis, it is important to understand the speed of the Internet connection and it is evident that the speed in the 6 districts surveyed is far from the optimum speed.

3.2 Access to Digital Devices

In terms of access to digital devices, the survey by DEF reveals the following information.

Digital Device	Tea Tribe Community Access to Device
Have access to device	53%
Have no access to device (mobile /other)	47%

Table 6: Access to digital devices in teagardens (Source:Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

53% of the people in the 6 tea districts said they have access to devices and 47% did not have access to any digital device. While majority did have digital access, the definition of mobile phone is vague. The very simple and basic mobile devices hardly get any Internet services done, hence it may not be the best way to judge whether access to a simple mobile device can imply access to Internet. The figure below highlights the percentage of people in the 6 districts that have access to devices.

[6]Kawoosa, K.M. (2020, August 14). *Connectivity Gets Better But Parts of India Still Logged Out.* Hindustan Times. https://www.hindustantimes.com/india-news/connectivity-gets-better-but-parts-of-india-still-logged-out-story-VSqXriMdGUudWb7eBcWzjN.html

[7]Anders, D. (2021, April 16). *Internet Speed Classifications: What Counts as Fast Internet?* All Connect. https://www.allconnect.com/blog/internet-speed-classifications-what-is-fast-internet
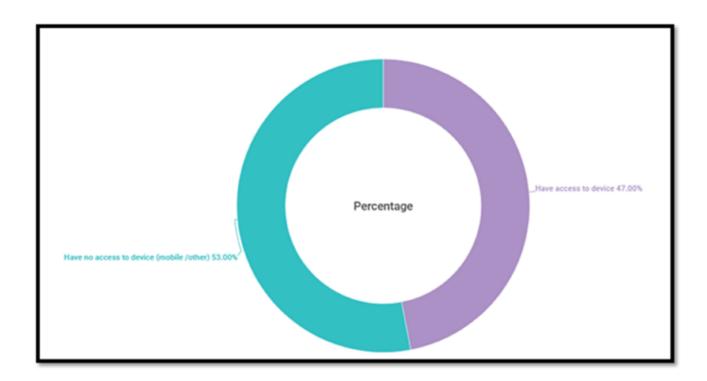
Figure 7: Access to digital devices in tea gardens

Common Service Centres (CSCs) were introduced under the Digital India Programme under the Ministry of Electronics and IT. The CSCs are access points for delivery of essential public utility services, social welfare schemes, healthcare, financial, education, and agriculture services to citizens in rural and remote areas of the country. This is a perfect intervention for the communities which are away from the benefits of the highly digitalized world. The Government of India initiated this scheme to lead to greater financial and digital inclusion. The CSCs have emerged as a harbinger of rural entrepreneurship while vying for larger financial and digital inclusion of rural communities. CSCs are the internet enabled access points for delivery of various electronic services. CSCs are more than service delivery points in rural India. They are positioned as change agents, promoting rural entrepreneurship and building rural capacities and livelihoods. They are enablers of community participation and collective action for social change through a bottom-up approach with key focus on the rural citizen[8].

28 districts of Assam have been covered under this scheme. Each district has certain number of blocks that are covered. The number of CSCs is counted in each block of each district to get the total number of CSCs in each district. The table below represents this.

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[8]Annual Report 2019-20. (2020) CSC: E-Governance Services India Limited https://csc.gov.in/assets/events-report/Annual-Report-2019-20.pdf

Sr. No.	Name of the District	Number of Blocks where CSCs are located	Total Number of CSCs
1	Barpeta	12	226
2	Baksa	8	111
3	Bongaigaon	8	196
4	Cachar	26	174
5	Chirang	2	55
6	Darrang	7	177
7	Dhemaji	5	144
8	Dhubri	13	181
9	Dibrugarh	8	179
10	Goalpara	7	185
11	Golaghat	8	160
12	Guwahati	1	3
13	Hailakandi	6	69
14	Jorhat	8	157
15	Kamup (Metro)	3	100
16	Kamrup Rural	40	205
17	Karbianglong	7	52
18	Karminganj	8	135
19	Kokrajhar	6	124
20	Lakhimpur	9	150
21	Morigaon	8	128
22	Nagaon	22	262
23	Nalbari	7	116
24	NC Hills	5	14
25	Sibsagar	9	150
26	Sonitpur	14	248
27	Tinsukia	9	144
28	Udalguri	8	99

Table 7: Community Service Centres in various districts of Assam (Source: Ministry of Electronics and IT website) (Accessed on 10/10/2021)

The figure below explains the difference in CSCs in the tea and non-tea districts of Assam. The green bars represent tea districts and the purple bars represent the non-tea districts.
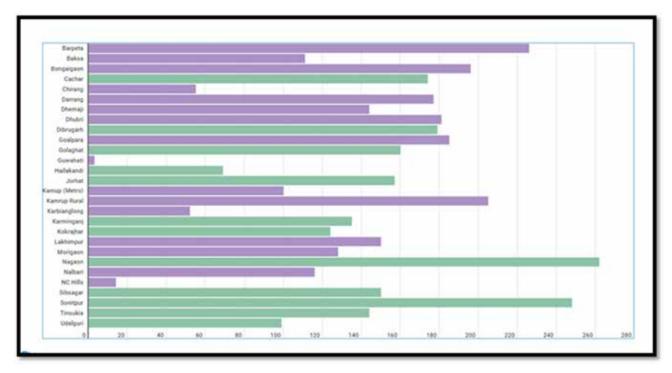

Figure 8: Community Service Centres in tea and non-tea districts of Assam (Tea districts in green and non-tea districts in purple)

The figure reveals that tea districts of Assam have a good number of CSCs. Nagaon and Tinsukia perform the best in terms of all districts of Assam. This is a good sign – the presence of CSCs implies a presence of digital infrastructure. The issue, however, is the people who are accessing these CSCs. It is important to identify and implement the presence of all communities, including tea communities, in these spaces which allow access to digital infrastructure.

3.3 Access to Digital Skills and Capabilities

In terms of access to digital skills and capabilities, the DEF survey reveals that 79% have no access to digital skills and training. The table below reveals this.

Access to Formal Digital Literacy Skills and Training	
No access to skills and training	79% (2117)
Access to skills and training	21% (562)

Table 8: Access to digital literacy skills and training for tea garden people (Source:Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

A mere 21% of the population surveyed in the 6 tea districts had access to some kind of digital training. This is an important data since the mere presence of digital infrastructure is not enough without the presence of digital literacy.

A further analysis of data from Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMDISHA) data reveals the information below.

District Name	Students Registered	Training Completed	Certified Students
Barpeta	163580	151765	116551
Baksa	110272	98180	78747
Bongaigaon	94864	85577	63846
Cachar	95651	80743	64639
Chirang	51849	46682	36181
Darrang	98024	86647	68847
Dhemaji	75554	66272	53404
Dhubri	196555	181928	156320
Dibrugarh	96745	82947	67506
Dima Hasao	4926	4449	3313
Goalpara	95601	87785	70747
Golaghat	82783	68171	56642
Hailakandi	62292	52562	46077
Jorhat	109324	94229	77045
Kamup (Metro)	18497	14063	11612
Kamrup Rural	127090	110653	92352
Karbianglong	87750	77600	60676
Karminganj	92728	85336	67146
Kokrajhar	105728	97208	77710
Lakhimpur	82707	73040	58775
Morigaon	99991	83828	61345
Nagaon	161346	134538	105814
Nalbari	75862	64747	52417
Sibsagar	73965	56079	44142
Sonitpur	134403	109348	89702
Tinsukia	44052	33361	25789
Udalguri	98040	85189	65299

Table 9: Number of people registered for digital training and certified (Source: Pradhan Mantri Gramin Digital Saksharta Abhiyan) (Accessed on 10/10/2021)

The above table looks at the people registered, trained, and certified at each district of Assam. The figure below compares the people registered in skill training in each district. The green bars represent the tea districts while the purple ones represent the non-tea districts. The figure makes it evident that more people are registered for digital skill training in non-tea districts as compared to tea districts.
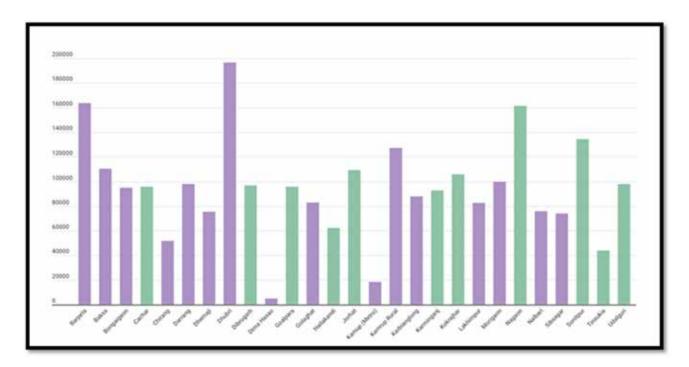

Figure 9: Number of people registered(Tea districts in green and non-tea districts in purple)

Dhubri has the highest number of people registered followed by Barpeta and Nagaon. Hence, Nagaon is the best performing tea district in this regard. Dima Hasao and Kamrup (M) have few people registered which can be understood given the terrain of the former and the size of the latter district. Dibrugarh and Tinsukia are the two largest tea districts and Dibrugarh performs average in this aspect but the numbers are fairly lower in Tinsukia. In fact, it is the worst performing tea district in this regard.

The figure below looks at the people who have been trained in digital skills under PMDISHA. The tea districts are once again in green and the non-tea districts in purple.
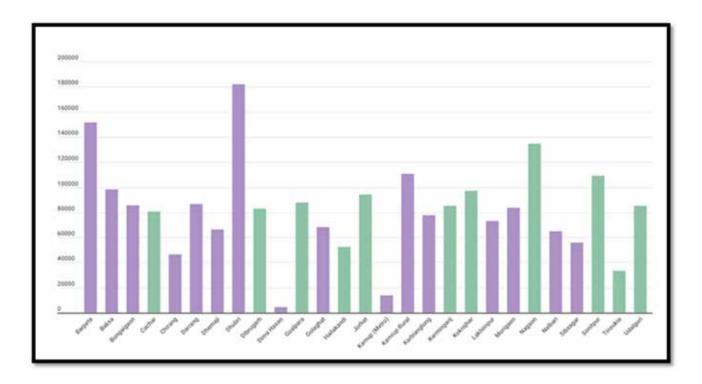
Figure 10: Number of people who have received training (Tea districts in green and non-tea districts in purple)

Once again, Dhubri has the highest number of people receiving training in digital skills followed by Barpeta and Nagaon. Nagaon is yet again the best performing tea district in this regard. Hailakandi and Tinsukia are the two worst performing tea districts in this regard.

The figure below looks at the people certified after the training. The tea districts are again in green and the non-tea districts in purple.
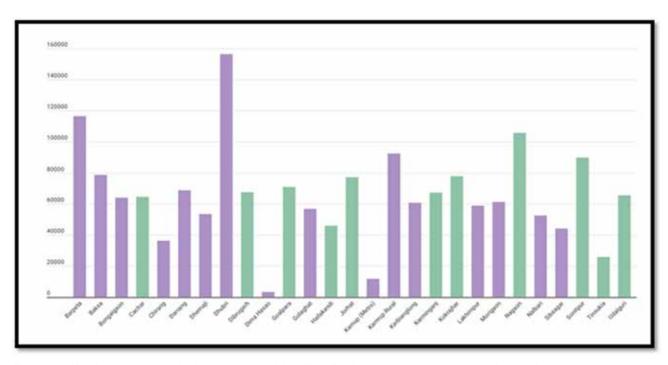

Figure 11: Number of people who have been certified (Tea districts in green and non-tea districts in purple)

The analysis is similar to the registered and the trained data. Dhubri has the highest number of people certified in digital skills under PMDISHA followed by Barpeta and Nagaon. Tinsukia remains the worst performing tea district in this regard.

3.4 Access to Entitlements and Opportunities

There are 841 registered tea gardens in Assam according to the data tabled in the state Assembly in 2019. There are in total 6,76,835 tea workers, out of which 57% (3,85,612) are permanent and 43% (2,91,223) are temporary workers. Out of the 841 registered tea gardens, only 28 were paying wages through banks. This is only 3.3% of all tea gardens which pay their workers wages through bank accounts. The table below gives the distribution of the tea gardens district wise.

Name of the District	Number of registered tea garden that provide wages through bank account
Sonitpur	1
Sivsagar	2
Dibrugarh	8
Jorhat	7
Charaideu	3
Darang	3
Kokrajhar	3
Bongaigaon	1

Table 10: Registered tea gardens in Assam that provide wages through bank account (Source: Assam State Legislative Assembly Data)

Very few tea gardens use digital modes of payment and the reasons are because very few have bank accounts, less number of ATMs near the tea gardens, and lack of digital literacy. The figure below reflects the same.
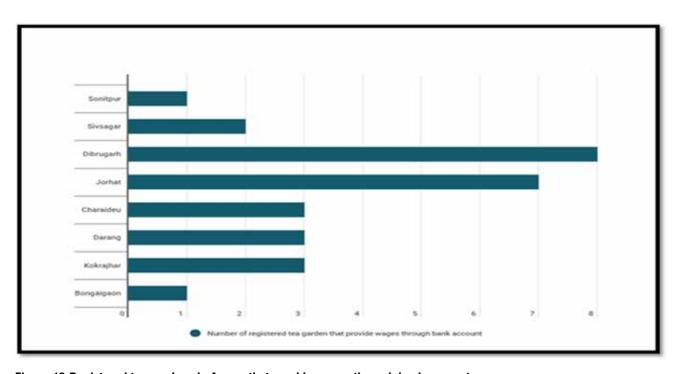

Figure 12:Registered tea gardens in Assam that provide wages through bank account

The garden owners want to pay the workers their wages through banks since the Centre has ordered a 2% additional tax on employers paying through cash. However, lack of ATMs has exaggerated the problem even when the owners want to digitalise the payment system. Digital India has failed in tea gardens of India and they only remain in newspapers and TV channels[9].

The DEF survey also tried to understand the presence of community libraries, community centres, and other spaces that provide public internet. The table below provides the data for this.

Community Access Provision in Tea Gardens to Device and Internet (Community Library, Community Centre and others)	
No Provision for Community Access	98 %
Provision for Community Access (Café or Local Digital Service Centre nearby)	2 %

Table 11: Community Access in Tea Gardens (Source:Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

Only 2% of the tea population in the 6 districts surveyed has access to such public spaces. This has an appalling number and reflects the lack of digital infrastructure in the tea districts.

3.5 Access to Institutions and Services

The access to institutions and services can be understood in terms of access to the number of ATMs. The access to ATMs represents two important aspects – digitalization of banking which is an important determinant of digital infrastructure and financial inclusion of rural communities. The table below looks at the district wise number of ATMs.

Sr. No.	Name of the District	Number of ATMs
1	Baksa	19
2	Barpeta	143
3	Bongaigaon	116
4	Cachar	203
5	Darrang	107
6	Dhemaji	48
7	Dhubri	95
8	Dibrugarh	273
9	Goalpara	66
10	Golaghat	103
11	Hailakandi	56
12	Jorhat	193
13	Kamup	162
14	Kamrup Metro	769
15	Karbianglong	44
16	Karminganj	92
17	Kokrajhar	56
18	Lakhimpur	93
19	Sonitpur	238
20	Tinsukia	196
21	Udalguri	24
22	Morigaon	52
23	Nagaon	217
24	Sibsagar	143
25	Nalbari	92
26	Chirang	13
27	Dimahasao	13
28	Hojai	22
29	Charaideo	10

[9]Karmakar, S. (2019, August 23). *Digital India Initiative Flops in Assam Tea Gardens*. Deccan Herald. https://www.deccanherald.com/national/east-and-northeast/digital-india-initiative-flops-in-assam-tea-gardens-756301.html

Sr. No.	Name of the District	Number of ATMs
30	West Karbi	0
31	South Salmara	1
32	Majuli	12

Table 12: Number of ATMs in various districts of Assam (Source: Reserve Bank of India)

The above table is used in the figure below to understand the difference between tea districts and the non-tea districts. The green bars represent the tea districts and the purple bars represent the non-tea districts.
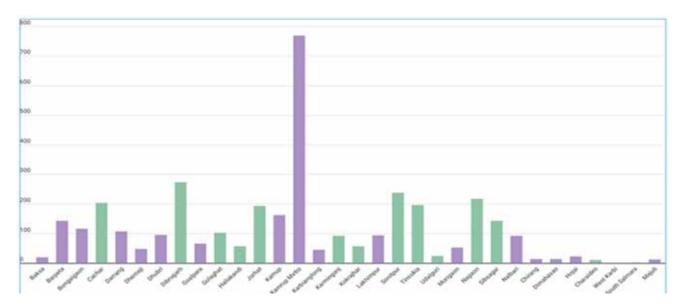

Figure 13: Number of ATMs in tea and non-tea districts of Assam (Tea districts in green and non-tea districts in purple)

It is clear from the above table that the tea districts do have more ATMs. But a clearer understanding would be comparing the various regions of the state, since each district differs in the size. The figure below gives a region-wise idea of the number of ATMs in the state.
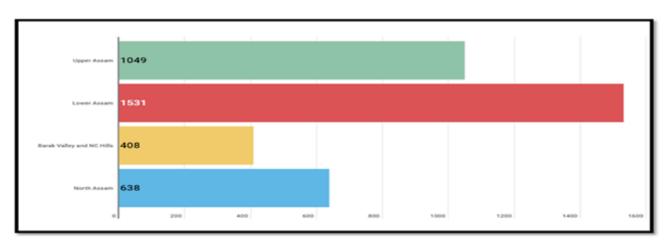

Figure 14: Number of ATMs in various administrative regions of Assam

The figure above makes it clear that Lower Assam have the highest number of ATMs, but this is completely because of the presence of Guwahati in Kamrup (Metro) district. Upper Assam, where the most number of tea districts are located does not come much behind Lower Assam in this aspect. It can be understood that the number of ATMs are evenly present in the tea districts of Assam which is a good sign.

What the analysis, however, misses is whether people from the tea communities are accessing these ATMs. The presence of the digital infrastructure is a good sign; however, the mere presence of digital infrastructure is not enough if the community is not digitally literate. The analysis does not calculate the population who is accessing these ATMs. Moreover, the analysis does not take account of whether all the ATMs are working ATMs. According to recent data, India has 650,000 villages but has only 1 working ATM for every 10 village. Similarly, India has one of the lowest ratios of cash withdrawals relative to cash in circulation in the economy. Only 69% of the rural population has access to ATMs in the country[10]. Hence, it won't be farfetched to imply that vulnerable communities, who are already digitally excluded, are not reaping benefits of the mere presence of these institutions.

3.6 Gender Digital Divide

As seen from the previous section, there is a clear gender bias that exists tea

[10]Joseph, A.T. (2021, January 7). Why the ATM Industry in India Continues to Struggle. Fortune India. https://www.fortuneindia.com/macro/why-the-atm-industry-in-india-continues-to-struggle/105011
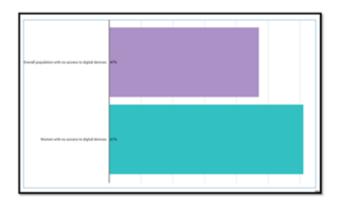
communities in terms of socio-economic factors. This bias is also visible in digital literacy. The DEF survey of the 6 tea districts of Assam reveals that 46% of women have no access to internet while the overall percentage of not having access to Internet amongst the tea community is 47%. The table below provides the information.

Internet Access	Gender(Girls and Women) Access
Women / Girls have no Internet Access	401 (46%)
Women / Girls have Access to Internet	471 (54%)

Table 13: Gender access to Internet (Source: Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

There is also a need to understand the access to digital devices and if there is a gender bias. The table below gives the following information, as per the study done by DEF.

Digital Device	Gender Access to Device (Feature / Smart phone or others)
Women / Girls have access to device	340 (39 %)
Women / Girls have no access to device (mobile /other)	532 (61%)

Table 14: Gender access to devices in tea gardens(Source:Improving Access to Information in Tea Gardens in Six Tea Tribe Districts of Assam, 2019; Digital Empowerment Foundation)

Hence, only 39% of the women have access to digital devices while the overall percentage is 53%, as seen from table. The difference is shown the figure below.

Figure 15: Percentage of women and total population with no access to digital devices

It is evident from the above figure that as compared to the overall population, women of the tea communities suffer from a gender digital divide. And this is not surprising given how women of vulnerable communities face double vulnerabilities, one because of the vulnerability faced by the community and the other is the gender bias that all communities have. The intersectionality of the two makes it harder for the women.

4. Why Digital Disempowerment is Added Vulnerability?

Access to digital platforms by the masses has allowed central and state governments to put information online, ranging from information on land records to various government schemes and programmes. Thus, digital empowerment starts with access to the digital world. Empowerment is different from inclusion. While digital inclusion only implies providing a citizen access to devices and networks that can enable him or her to get the information necessary and appropriate for him or her, digital empowerment goes beyond this. It includes an agency – citizens are confident in using digital platforms.

4.1. Perpetuating the Development Divide

For tea districts of Assam, a lack of network coverage and inappropriate number of cellular towers lead to hindrance in digital empowerment. In addition, lack of access to digital devices and bad network lead to the duality of digital problems in these areas (Bansode and Patil, 2011). Lack of education and high school dropout rates could further indicate confusion in using digital platforms. Frequent network failures, confusing language, and lack of digital devices together discourage the use of internet based services in these areas. For instance, the community's lack of access to information about opportunities has been a traditional bottleneck, but got further accentuated due to lack of digital access and resources and further pushed to the edge of living.

4.2. Devoid of Critical Infrastructure

The entire country has seen a rapid rise in the growth of digital infrastructure in the forms of mobile telephone towers and optic fibre networks. There has also been a large scale penetration of smart phones and other devices. The presence of digital infrastructure is the first step of digital empowerment. The lack of data in terms of access to smart phones and devices by the tea community of Assam does is not a good sign of digitalization. In fact, their income is so low that it can be assumed that most members of the tea community do not have access to the digital infrastructure. A lack of access to the digital infrastructure implies hindrance in terms of access to banking processes and information.

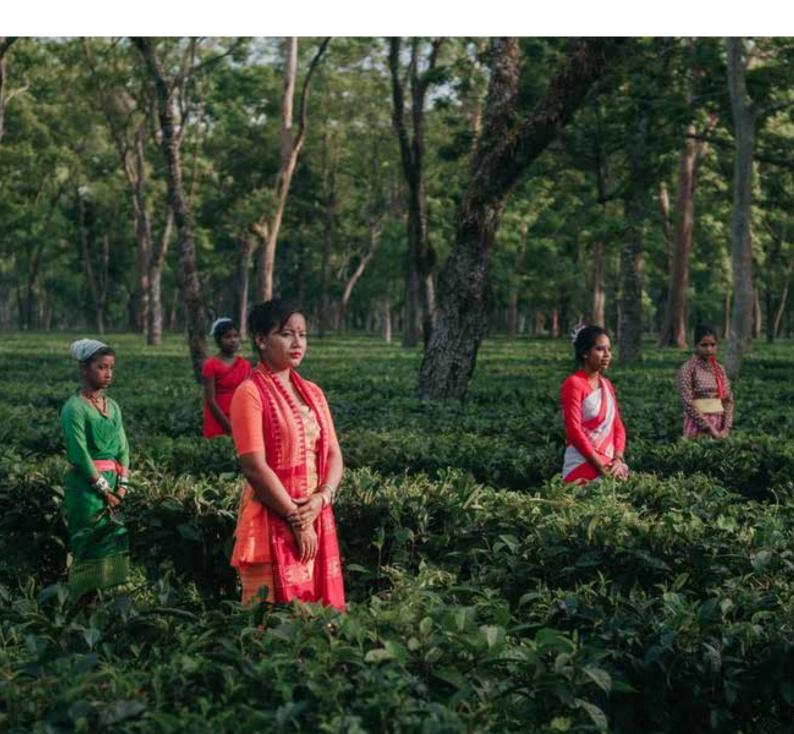## 4.3. Accentuating Gender Digital Divide

There is also a clear gender divide in the digital world (Panda et al, 2013). While women tea workers are worse off as compared to their male compatriots, their fate is not different when it comes to the digital world. Women tend to have rudimentary phones for voice calls and smart phones and other devices are most used by the male members of the family. Female literacy is lower as compared to the male literacy and female school dropout rates are higher. This implies a greater struggle to use digital devices as the link between literacy and using of digital devices is quite clear. It is not surprising that women tea workers prefer to stay away from digital transactions more as compared to the male workers.

4.4. Widespread Digital Exclusion and Marginalisation and Denial of Digital Citizenship

Digital citizenship has become the norm in the present times. Starting from opening a bank account to filling up an exam form, everything requires digital literacy. Digital participation is thus, no longer a luxury, it is an undeniable requirement. Digital inclusion of all communities can hence, enhance the democratic process of the country where all the citizens have access to information and do not miss out on opportunities because of inaccessibility.

Digital inclusion and empowerment is supposed to open a new world of knowledge, opportunities, and information. The more literate people, the ones in better networkareas, and the people who can afford these facilities are more likely to benefit. These are also the people who are most likely to be already the better off section of the society. Hence, tea workers with this large digital gap are estimated to be further lagging behind. The digital gap will only widen and this gap is more likely to reinforce inequalities by excluding the vulnerable sections from accessing valuable information and opportunities.

5. Need and Scope for Investment in Digital Empowerment of Tea Tribe

5.1. Basic and Advance Level of Digital Democracy, Participation and Citizenship

Given the state of socio-economic and political marginalization of the tea community in Assam, digital inclusion can serve as a way out. However, the further digital marginalization of the community has led to a double divide – first, the one which is based on socio-economic and political indicators and the second, the most recent digital divide.

The digital inclusion of marginal communities was supposed to lead the way towards the betterment of these communities. However, the systematic double divide of these communities have further aggravated their marginalization. Hence, there is an immediate need to encourage these communities to become more digital but at the same time, improve infrastructure to make them more digitally inclusive. Digital literacy does not come alone. It needs infrastructure, skill enhancement, and proper training. It also goes hand in hand with literacy and overall socio-economic development of the community.

Thus, there is an immense need to make the tea community more digitally inclusive which can in turn, lead to the better socio-economic condition. However, this digital literacy requires that socio-economic factors are also bettered. For instance, without a good literacy rate of the community, it is unfair to expect any community to become digitally literate, especially when large part of digital literacy requires English education. Hence, a prerequisite of digital literacy can

be understood as a good overall literacy rate.

5.2 Socio-Economic Empowerment

The scope of a digitally inclusive tea community is immense too. Technology can intervene and lead the way for better education and health facilities. The pandemic has changed the education and health sectors and have made things online. Digital inclusivity of the tea community can help in better education and schooling of its members. It can also lead to access of better health facilities.

5.3 Financial and Banking Inclusion

Banking facilities can further help the community. A large part of the state and central benefits come directly to the respective bank accounts and digital literacy can help in keeping one updated with the banking facilities, net banking, digital transfer of cash, etc. As discussed previously, the tea garden owners want to pay the workers their wages through banks since the Centre has ordered a 2% additional tax on employers paying through cash. But a lack of ATMs has exaggerated the problem even when the owners want to digitalise the payment system.

5.4. Skill Development and Entrepreneurship

As the job market has dwindled, rural entrepreneurship has been extensively promoted. The entry of the tea community to entrepreneurship can be considered significant in two ways – first, it can lead

to upward mobility of a community long oppressed and marginalized by the tea garden owners. A change of occupation will not only lead to upward economic mobility but also a social mobility. Second, it can bring in a change in the job market as labour force participation rates in both urban and rural areas are coming down, especially post-Covid. Digital literacy has a huge role to play in this.

Entrepreneurship thrives on innovation, and no innovation is possible in the present age without digital literacy. Skill enhancement and digital inclusion become a prerequisite of the entrepreneurial mindset. Moreover, banking loans and finances also require digital literacy, which serve as a large part of entrepreneurial investment. Research on available schemes, research on literature on entrepreneurship, and research on one's ideas require digital literacy, without which entrepreneurship is almost a failed journey.

5.5.Cultural Empowerment

Digital inclusion can also lead to overall cultural empowerment. In the age of social media and Google, diasporas are created mostly on the social media platforms. Digital inclusion has strengthened community networks, helping communities to become strongly connected to one another and promote one's culture in the national as well as international levels.

5.6.Gender

The gender gap is real for every community in the world. For the marginalized communities, the gender gap becomes especially important since women are more vulnerable to be the oppressed of the oppressed, as discussed in the policy brief in the previous sections. Digital literacy of women can help reduce some of the socio-economic gaps. Access to digital infrastructure can imply female literacy rates going higher, increasing female sexual and reproductive health awareness, and increase in the number of female entrepreneurs.

6. Policy Safeguard for Digital Empowerment of Tea Tribe / Adivasi &Recommendations

The digital inclusivity of the tea community of Assam can help in the betterment of the community. The tea tribe community forms 20% of Assam's total population but the community is marked by severe socio-economic and political marginalization. Digital marginalization of the community has largely been ignored. However, digital inclusivity of the community can serve as a major way out of the existing vulnerabilities of the community. However, digital inclusivity is not a panacea of everything – digital inclusion and digital literacy are not exclusive of the socio-economic factors. In fact, digital literacy and inclusivity require socio-economic betterment. Hence, one cannot exist without the other. For instance, without the money to buy a smart phone, one cannot have access to the smart phone. Similarly, without educational literacy and knowledge of English, it is hardly possible to become digitally literate. In the same way, it can be argued that without proper health, one cannot stare at the digital screen or have the skills to use banking facilities. Hence, socio-economic betterment goes hand-in-hand with digital literacy.

Various policies can be recommended for increasing digital literacy, building digital infrastructure, making the tea community digitally inclusive, and reducing the digital divide. The policy recommendations are listed below:

Access to Device

The first step to make any community digitally inclusive is to provide a digital infrastructure. Various studies done during the pandemic has documented how rural students all over the country lack smart phones and laptops, and faced challenges when education became remote. No such data is available for the tea community. But it is only plausible given their vulnerabilities and marginalization on numerous fronts that the tea community is not faring well in terms of access to digital devices.

The recent announcement that the Line Sardarsof the tea gardens will be provided with smart phones is a welcome move[1]. However, this should not just be limited to the Line Sardars. Students of the tea community should all be given smart phones and laptops. Women should also be provided with these devices to make them more aware about sexual and reproductive health and develop an entrepreneurial mindset.

Access to Networkand Build Community Network

Tea gardens have very bad network coverage[2]. This needs to be improved by encouraging private entities to build more towers. Private telecom players need to understand there is a huge market unexplored for them and a better network coverage can significantly improve conditions in the tea areas.

Mobile and Internet network can in turn lead to building of community networks as diasporas are created mostly on the social

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[1]Sentinel Digital Desk. (2018, July 1). *Tea Garden Workers to Enjoy More Schemes.* The Sentinel. https://www.sentinelassam.com/top-headlines/tea-garden-workers-to-enjoy-more-schemes/
[2]Karmakar, S. (2019, August 23). Digital India Initiative Flops in Assam Tea Gardens. Deccan Herald. https://www.deccanherald.com/national/east-and-northeast/digital-india-initiative-flops-in-assam-tea-gardens-756301.html

media platforms. The members of the tea community can become strongly connected to one another and promote one's culture in the national as well as international levels.

Access to Internet: Subsidy

While access to telecom network is importantfor building digital infrastructure for a region and community, barely any work gets done without Internet. As cost of Internet has come down and telecom companies are providing internet at a faster speed in an affordable rate to everyone, the price of Internet might still seem a little higher for oppressed communities. Hence, along with availability of network, vulnerable communities and their regions should have a subsidy on Internet facilities.

Access to Skills and Capacities

Although construction of Community Service Centres and facilities of Digital India have reached rural India, they are not enough to build entrepreneurial skills and capacities. First, all the districts need equal attention in terms of these facilities. Second, tea districts need special focus given the circumstances. Extension of more such centres and facilities will create more skilled individuals, build capacities, and lead to an increase in rural entrepreneurship.

Digital Financial Literacy and Education

As discussed earlier, it is important for students of tea communities to have access to digital devices and internet. What has been done is done, but there is a scope to lead to betterment of the future generations. India's demographic dividend can be beneficial only if all sections of the country are given equal opportunities. The tea community of Assam, one of the most

oppressed and vulnerable communities of the region, need financial literacy. This can start with the youth and the students. Providing them merit scholarships is important, but distribution of digital devices, inculcating digital literacy, and building digital skills are important steps that can be taken for the betterment of the tea community.

Given the understanding, the following recommendations can be made:

Digital Infrastructure Plan for Tea Tribe Districts and Panchayats

There needs to a digital infrastructure plan especially handmade for the tea districts. This will include data collection on access to devices, access to mobile networks, and access to financial benefits. With collection of data as the first step, an infrastructure plan will help in identifying the gaps and finances necessary to fill the required gaps. Provision of digital devices to students and women, making sure that private players are providing network and internet subsidy, and making use of the Corporate Social Responsibility (CSR) for further financial aid could be the subsequent steps once the infrastructure plan is laid out.

Community Network Access in Tea Gardens

With greater internet network a greater community network can be built. Digital literacy can strengthen community ties. This can be done through awareness and capacity building.

Digital Device Schemes for Tea Tribe

As the infrastructure is planned out, provision of digital devices, especially for students and women, can be carried out. Students and youth act as important demographic dividend of India and

provision of digital devices can act as an important factor in this. Women should get a special focus as most women are often the last benefactor of such schemes and tend to lose out. Moreover, women are often the last receivers of devices at the household level. Providing them with digital devices can make them aware about reproductive and sexual health as most ASHA workers are encouraged to generate awareness through smart phone calls. Similarly, women entrepreneurs can be built through access to digital literacy.

Digital Scholarships and Fellowships

Appropriate scholarships and fellowships for tea community youth and students can also bridge the digital gap.

Digital Empowerment of Tea Tribe Women and Adolescent Girls

Although mentioned before, special emphasis needs to be made on the provision of digital devices to the women and adolescent girls.

Recommendations from Panel Discussion

On 10th December 2021, the Council for Social and Digital Development (CSDD), Digital Empowerment Foundation (DEF) and the North East Development Foundation (NEDF) organized a panel discussion on "Digital Empowerment of Tea Tribe Garden Community in Assam: Towards Vulnerability Reduction and Unlocking Opportunities". The panel discussion gave rise to several important recommendations and suggestions. The session moderator was Dr Rajdeep Singha, Assistant Professor at Centre for Labour Studies and Social Protection , School of Social Sciences and Humanities; TISS Guwahati. The other panelists were Ranjana Das, Program

Coordinator, Oxfam, Mr Osama Manzar, Founder & Director, Digital Empowerment Foundation, Mr Wilfred Topno, Director, People's Action for Development, and Ms Panchali Banerjee, Swaniti and Mr Stephen Ekka, Director, Pajhra.

Ranjana Das, Program Coordinator, Oxfam India

"The minimum wage of the tea workers has increased recently and the wage rate is now Rs 167 which is still less than Rs 240, the legal minimum wage rate. To digitally include the community, it is important to understand the need of the community. Any digital programme for the community should be empowering to make an impact. The gender digital gap which is close to 26% today and women need special focus especially amongst the tea community where literacy is not always a reality.Oxfam is collaborating with IIIT, Hyderabad to build a web application which can provide information about various government schemes to the tea community members. The application has a dual role as it will also serve as a platform to share grievances if the members are unable to access any scheme. The application will mobilize young volunteers from the community to make this a reality."

Mr Osama Manzar, Founder & Director, Digital Empowerment Foundation

"Digital is always exclusionary and the pandemic has made it clear. There is need to understand policies and infrastructure that targets the community and digitalization should be included in this model. That digital accessibility should be a fundamental right. The importance of collaboration between partners is a need for the local community and the local administration to collaborate on this".

Ms Panchali Banerjee, Swaniti

"There are widespread difficulties that tea workers face while filling up forms to apply for government schemes. Because of lack of awareness regarding these schemes, most of the time the workers remain excluded. And even when they are able to apply for the schemes, there are either no documents or there are many errors in filling up the form. There is an issue of language for the workers. No access implies no entitlements and this is all a result of digital exclusion."

Mr Wilfred Topno, Director, People's Action for Development

"The term *adivasi* is a more accurate representation for the community than the phrase "tea tribe" as the new generation prefers the term *adivasi*. There are examples of exclusion like there are very few ATMs in the tea gardens. In Lakhimpur district of Assam which has 11 tea gardens, only 3 of these tea gardens have ATMs near them. The existing ATMs are not used by the tea workers as they are illiterate as well as not digitally literate. There is need and importance of financial training amongst these workers. There are no toilets in the gardens, and especially for the women who become excluded."

Mr Stephen Ekka, Director, Pajhra

"The tea community is facing critical issues right now in terms of digital accessibility stems because of their inaccessibility to digital devices, illiteracy, and network issues. The community is unable to access information as government and many other schemes provide information digitally. Aadhaar card, digital banking, etc are a step towards digitalization of schemes and services.A large number of workers or all tea workers fall in the unorganized sector and these issues govern all unorganized sector workers. The reason behind this, is lack of proper education. The status of education is very poor amongst the community and digitalization cannot come before education. There are few young people who have gone through high schools are digitally equipped reflecting the importance of education in the community. The various programmes and services should reach the community even if they are not digitally equipped and civil society bodies can play a role in that."

Dr. Rajdeep Singha, Assistant Professor at Centre for Labour Studies and Social Protection, School of Social Sciences and Humanities; TISS Guwahati

"In regard to the welfare nature of the benefits provided to the community there is a need to evaluate how many workers are actually getting benefitted. The importance of e-governance in the present times should be seen also from the perspective of what it might mean for the tea-community and greater inclusivity. There is the need for digital infrastructure to address the issues faced by the tea community. There is the scope of online education and how it can benefit the students. There is need for provisions like digital budget to get access to digital devices, as in States like West Bengal, and the need for such inclusive policies. The importance of language and how language barriers exist and digital infrastructure provided to the tea community should keep that in mind"
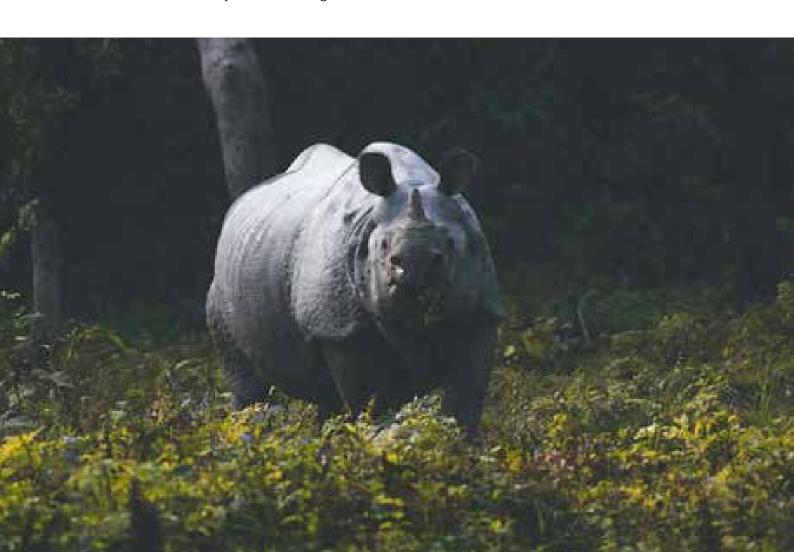
7. Conclusion

The tea community of Assam remains one of the most vulnerable communities of the region. This policy brief has attempted to document the vulnerabilities faced by the community. These vulnerabilities include social, economic, political, cultural, and institutional. Most of these vulnerabilities have been documented and have been discussed by academia as well as the development sector. What remains out of the public discussion is how far the community is lagging behind in terms of digital empowerment.

It is noteworthy that in 2016, the government promised to deliver prosperity to the tea community in two ways: by hiking their daily wage to Rs 351 and giving them Scheduled Tribe status. Both promises remain unfulfilled today. However, digital disempowerment of the community has not been addressed yet and remains out of the public imagination. There are no vague promised made either!

The solutions to the woes faced by Assam's tea industry do not lie in attacking its imaginary enemies. Digital inclusion is a right of every individual in this highly digitalized world. This policy brief, along with its recommendations, has made an attempt to understand the various issues and challenges regarding digital infrastructure and inclusion of the tea community of Assam and what could be the road ahead. The suggestions have been put forward by taking an understanding of the geographical, regional, and economic conditions of the community.

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For any further information, please contact:

**Council for Social and Digital Development (CSDD) /
North East Development Foundation (NEDF)**
Plot 159, First Floor, Farm Gate, Khanapara,
Guwahati - 781022, Assam

Tel: +91 - 7303452425; 8826458116; 9818292524