Overlapping Marginalities: The Digital Access and Freedoms of Young Muslim Women in Bhiwandi During COVID-19 Period

Abdul Shaban

Professor, School of Development Studies, Tata Institute of Social Sciences, Mumbai-400088 Email: shaban@tiss.edu

Ayona Datta

Professor, Department of Geography, University College London, Gower Street, London, WC1E 6BT Email: a.datta@ucl.ac.uk

Sheema Fatima

Post-Doctoral Fellow, School of Development Studies, Tata Institute of Social Sciences, Mumbai-400088 Email: fatimasheema@gmail.com

Abstract

The COVID-19 period experience shows that excessive reliance on digital technologies for the delivery of education can further sharpen the inequalities in learning between students on both sides of digital divides. The female students additionally faced several challenges due to their intersectionalities. Bhiwandi, both a metropolitan and a digital periphery, experienced such a catastrophic experience. Where educational institutions failed to effectively adapt to the situation, the Muslim female students enrolled in the colleges of Bhiwandi experienced a lack of digital access, digital freedoms, and quality of learning. Among others, they also experienced compromised freedom of spatial mobility which physical access to colleges brought them.

Keywords: COVID-19; Online Education; Digital Divide; Digital Periphery; Women's Freedom.

1. Introduction

COVID-19 is arguably the most significant global event in revealing the uneven access to digital infrastructures across a number of scales and a diversity of social groups. Several authors (Bailey et al. 2021; Datta 2020a; 2020b; Milan, Trere, and Masiero 2021) have now written about the marginalizing effects of access to or lack thereof to digital infrastructures that

led to socio-economic and health crises across families and social groups during and after COVID-19. In India, a large part of this discussion is concerned with the migrant crisis which emerged as soon as the COVID-19 lockdown was announced, while another significant aspect of the literature uses a feminist lens to critique the resultant rise in gender-based violence at home and women's increasing domestic burdens imposed through the impossibilities of 'work from home' guidelines. Sidelined within these discussions was the impact that COVID-19 had on access to education, particularly for young women in low-income households, whose limited access to technology combined with increased surveillance of their spaces and times produced multiple marginalizations that were largely hidden within the confines of the home (Datta 2022).

In this paper, we take an intersectional approach to the gendering of education during COVID-19. We are interested not just in how the pandemic produced uneven access to education, rather how this impacted specific groups of women differently when they were intersected by geography, class, religion, generation, and gender. We focus here primarily on Muslim women living in low-income housing in Bhiwandi – one of the most deprived communities in the peripheries of Mumbai. Based on a survey of 302 young women pursuing a college degree, we argue that the COVID-19 lockdown and the subsequent shift to online classes exposed Bhiwandi's younger generation to an unprecedented crisis whereby structural marginalization faced by Bhiwandi's population over decades was reinforced by social and cultural marginalization faced by young Muslim women. We follow Ticktin (2021) in arguing for a feminizing intersectional understanding of the crisis so that appropriate policies and initiatives can emerge addressing these marginalizations.

The rest of the paper is divided into three sections. Section 2 presents a brief review of the literature with regard to covid-19 and digital education delivery and access to higher education by Muslim women, while section 3 briefly highlights the uneven geographies of Bhiwandi. Section 4 discusses the data and methodology used in this paper. Section 5 presents the socioeconomic profile of the female students who were interviewed, while section 6 examines their access to digital technologies. How colleges as act as safe spaces ensuring physical mobilities of young Muslim women is discussed in section 7. Section 8 concludes the paper.

2. Muslim women's education, pandemic and access to digital technologies

The 4th Industrial Revolution powered by information technology (IT) is rapidly transforming not only how one acquires information and consumes it, but also altering the ways of governance and access to education, health, and life-support services. Many argue that IITenabledservices (ITeS) is leading to the death of geographies (Bates 1996; O'brien 1992; Kolko 2000; Cairneross 2001) and giving birth to a distanciated society (Henning 2007). One does not deny socio-spatial transformative impacts of the ITeS and the massive advantage they have generated with regard to information flows, however, like any technology, the impact of the IT on societies is also patterned as per the class, caste, religion and geographies of developmental of IT infrastructure. Studies have shown that use of the ITs and ITeS varies as per the economic affordability, social acceptability and adaptability, educational levels and skills of individuals and communities even in areas where there may be ubiquitously developed IT infrastructure. Gender and generational access to technology further add to these determinants of use of IT and ITeS. In other words, despite rapidly decreasing cost of IT and ITeS, there are a number of factors shaping their use. At the individual level, the intersectionality of class, gender, education, age, caste, and religion, may have determining role while at the community level space and culture may be reshaping access and behaviours. The access and deprivation may be creating digital core and periphery both at social and spatial levels.

COVID-19 led lockdowns of educational institutions and shifting of the mode of delivery of higher education to online platforms created an unprecedented situation globally. It had massive adverse consequences for access to effective learning environments for students, especially for those in the peripheries of socio-economic development and digitalization. While it also impacted the financial health of educational institutions resulting in a cut in payments to teachers and related staff due to a decrease in revenues, this was much more acute in the metropolitan peripheries in India where educational access was already very limited. Economically poor institutions could not swiftly transition to the online mode and that had adverse consequences for the students enrolled in such institutions. As most of the educational Institutions in India have lower economic capacities, the pressures were also higher on them to provide immediate support to teachers and students and provide online learning environments to respond to the emerging situation. In India, while we do not have any public estimates of losses, our first-hand interaction with local colleges in Bhiwandi highlight that they suffered massive losses due to la ack of government subsidies, non-payments of fee by students, and increased expenses on digital technologies.

In India, though penetration of internet is deepening but still sharp geographic, class, and gender divides exist. Niti Ayog data shows that in 2020-21, out of every 100 persons 55 had access to the internet (Krishnan 2021). A similar is situation in other countries of South Asia. Chandasiri (2020) shows that in Sri Lanka about 60% of the undergraduate students had no access to the internet, and COVID-19 had an immense impact on their mental health as they, among others, lacked infrastructure and technology support in fulfilling the requirement of the education system. Chandasiri also highlights the issues faced by students in laboratory-related works which were hardly conducted leading to deficiency in the learning of the students.

Rashid and Yadav (2020) argue that COVID-19 exposed the shortcoming of the current higher education system, which was even less equipped to handle such a crisis because of the lower technological adaptation, and lower share of information technology-trained teachers and staff. The movement to online platforms of teaching had negative impact on the psychology of both teachers and students. The adaptation related to the internet and online-based teaching, presentation, assessment, and to a variety of software for a majority of teachers was not easy, so was in the case of students (Khan 2021). The online mode also increased the disparities in learning among students (Zianuddin et al. 2020).

Several studies have vividly shown that a number of socio-economic factors undermine access to higher education for women. Hasan and Menon (2004) argue that access to education is further undermined among Muslims often give low priority to the education of women with a logic that it may not be beneficial for the family because they may not effectively enter the labour market and earn. And, given that boys terminate their education early, it would be difficult to find suitable grooms for relatively higher-educated women. In fact, several independent public Committees (Sachar Committee 2006; Mahmoodur Rahman Committee 2013, Sudhir Commission (2016) which investigated the development of the Muslim community also have, among others, pointed out the lack of education in the community and especially among women, due to lack of economic affordability, conservative attitudes of the parents, lack of geographical access, early marriages, to the lack of expectation of economic return from education, etc, for the situation. Many studies have also pointed out that education among Muslim women varies as per the community and geographies and in many states Muslim women are outperforming Muslim males in the educational field (Shaban 2018; Shaban 2016).

Ram and Yadav (2021) show that impact on income of COVID-19 lockdown the families was immense in India due to the dominance of informal sector employment in the country. They estimate that about 150-199 million additional people fell into poverty due to the pandemic in India, which has a ripping effect on the marginalized groups and especially on low-developed and dominantly informally employed religious minorities, scheduled castes, and scheduled tribes. Their computation shows,

"Muslims, the second-largest religious group, and the largest religious minority in India do fairly unwell when it comes to social indicators including poverty. ... as high as 61% of the urban Muslims are at risk of poverty aftermath crisis compared to 39% of urban Hindus and 30% of urban Christians." (p.8).

3. Uneven geographies of bhiwandi

In India, metropolitan areas remain at the core of the development related to IT and ITeS, while the outgrowth and satellite cities around them show enormous dualities in use and access to the IT and ITeS. Bhiwandi is one of the seven Municipal corporations included within the Mumbai Metropolitan Region but is often considered a peripheral town. Historically significant for its power-looms and textile mills, today it faces rapid transformations in its industrial base and population. Its powerloom and small-scale factories which have provided employment to migrants from other regional states in India, now face increased threats of survival due to the withdrawal of state subsidies and an increase in electricity tariffs. Today, most power loom owners find it difficult to run their looms at profit and this has impacted the workers' wages and livelihoods. Bhiwandi however has remained a significant site for the development of industries and godowns since the 1990s. As a peri-urban to the Mega-city of Mumbai, it has experienced both physical and institutional peripheralization. The city is dominated by migrant workers who have very little stake in its development planning and growth. The downfall and moving out of power looms from the municipal boundaries of Bhiwandi to adjacent villages has impacted the financial capacity of the urban local body. On the other hand, since the last decade, there has been an emergence of large-scale warehouses catering to the storage of goods of global e-commerce businesses such as Amazon, Flipkart, and Nyka in the adjacent villages. It has provided another possibility for employment to town dwellers and nearby villagers,

though largely in informal sector. The town suffers from enormous inequalities and lack of access to IT and ITeS and also underdevelopment of the related digital infrastructure.

If we look at the educational history of the city, the native Konkan community has played a crucial role in establishing several schools, junior colleges and colleges in Bhiwandi. The Konkan Muslim Education Society since pre-independence have been running most of these educational institutions in the city. Intrestentingly the number of schools and colleges for women are more in number in comparison to men. Though over the years, the number of educational institutions have not multiplied as has the increasing migrant population in Bhiwandi. The condition of young women's access to education was exacerbated during COVID-19 period because of several factors. The chief among them were economic, infrastructural, and cultural factors. For instance, marginal classes like majority of those living in Bhiwandi dependent on informal sector jobs suffered from loss of job resulting in decrease in income. For many families as well, it was not easy to transition and adopt the new emerged situation. There were several cases of migrants returning back to their native village which disrupted education for several students and tracing them proved difficult due to poor digital connectivity.

4. Data and methodology

This paper is based on a sample survey of 302 young women within 17-20 years enrolled in local colleges of Bhiwandi. The survey was conducted between October 2021 to November 2021 through google forms online. All the respondents belonged to the Muslim community.

The study mainly relied on online forms for the survey, which meant that only those students who had access to the internet and mobile or laptop/desktop/tab or could use others' devices and the internet for this purpose could participate. Therefore, it is not an absolute representation of the situation but is well representative of the given cohort. The questionnaire was structured under three broad headings. The first was the basic socio-economic profile, the second was related to access to mobile phones, tablets, laptops/desktops, and the availability of internet connection. The third was related to the monetary aspect of the digital interface in terms of average expenditure on phone recharge and other modes of access to internet data.

Apart from the survey we also conducted two face-to-face workshops with the young women in the local colleges. The workshop was conducted with select participants in December 2021, it was the first phase of relaxation rules for lockdown and one could meet in

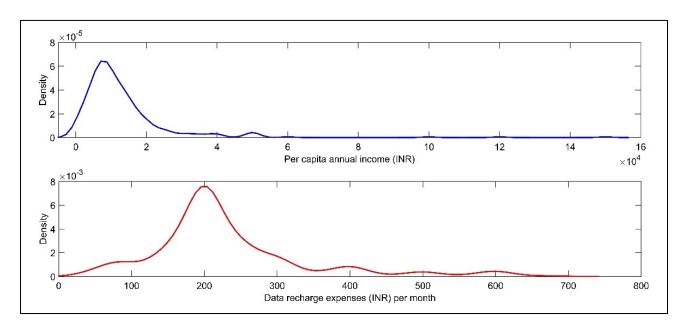
small numbers in person. The workshop helped us capture the young women's excitement for being able to come out of their houses and have a day-long discussion about their struggles with online education. A second workshop was conducted a few months later in April 2022 when students were requested to write their perception of the city of Bhiwandi and how do they interacted and participated in the public spaces. It helped us understand how digital mediums are being used to break spatial barriers for interactions.

5. Socio-economic profile of students

Bhiwandi is a city of migrants with a large floating population which became evident during the lockdown. We find the family size relatively larger in Bhiwandi. The 302 families from which the respondents came had 3,201 individuals, corresponding to mean and median sizes of the family of 6.96 and 6.0 respectively. Cumulatively, 14.2% of the total families in the sample had 4 or fewer members, 57.6% of the families had 6 or fewer members, 78.1% of the families had 8 or fewer members and the remaining had more than 8 members. The family size is higher not because of the higher number of children per family but the majority of them live in extended and joint families. If we look at the general socio-economic profile of the communities in the city, they are engaged in informal business set-ups related to the power-loom or ancillary sectors or are working as informal labours. Therefore, given the precarious nature of the labour market, and low earnings, especially for lower-income socio-economic groups it makes economic sense to live in joint families and share the kitchen and burden of daily expenses.

The yearly per capita income based on surveyed families is also skewed towards the lower end with a long tale (**Figure 1**) showing that a large number of individuals fall into income lower than Rs.10,000 per capita per annum. In 2011-12, the urban poverty line income was Rs.1,134 per month, and the same, when adjusted to the consumer price index for 2021-22 (Reserve Bank of India 2021), would be Rs.1,863 per month or Rs. 22,356 per capita per annum. This means 88.4% of the persons belonged to poor families (as their income was lower than Rs.22,356 per capita per annum) in the town.

Figure 1: Distribution of per capita annual income (Rs.) and expenditure per month on the internet (Rs.) by respondent



Source: Authors.

Although all the surveyed families had access to electricity, toilet, and piped water, the ownership of other assets is moderate to poor. Only 13.6% of the families had a car, 55.0% motorcycle or scooty, 41.4% television, 63.2% have a washing machine, and 77.2% gas stove, but not necessarily these assets they purchased as new (**Table 1**).

Table 1: Percentage of surveyed families owning major assets in Bhiwandi.

	Annual per capita income categories								Total
	<=2500	2501 - 5000	5001 - 7500	7501 - 10000	10001 - 15000	15001 - 20000	20001 - 25000	>=25001	
Television	4.0	5.0	4.0	8.3	8.3	4.3	1.0	6.6	41.4
Gas Stove	5.0	8.9	11.3	15.9	16.2	9.3	3.0	7.6	77.2
Motorcycle/S cooty	4.6	4.0	7.6	12.6	10.6	6.6	1.7	7.3	55.0
Car	1.3	1.7	0.7	2.0	2.6	2.6	0.7	2.0	13.6
Washing machine	5.6	6.6	8.6	13.9	11.3	7.6	2.3	7.3	63.2

Note: All surveyed families had access to piped water, electricity, and toilet within the house.

Source: The sample survey by authors.

Bhiwandi is a historic town famous for its handloom from as early as the 19th century. In the later decades, it evolved into a power-loom centre. These looms were part of the everyday life of a majority of families in the early 20th century and traditionally the ground floor was used for the same while side rooms or the first or second floors were used to house labourers and their families. Over the years, many neighbourhoods with such mixed-land use have remained the same. As a result, we see very few only residential apartments, except in new extensions of Bhiwandi city like Millat Nagar and other upcoming areas on the Bhiwandi-Nasik Highway.

6. Access to digital technologies

During the lockdown, classes across India were conducted in online mode. It meant that access to a desktop, laptop, or a mobile phone/tablet was important for any student to attend classes. It also meant that students need to have uninterrupted internet and data availability. This section deals with access to digital devices to the student and internet availability.

The study reveals that out of 302 women students interviewed for this study, 95.0% were using only mobile phones for their classes, presentation, and assignments, 1.3% (4 students) used only a laptop, one student only a desktop, and 1.7% (5 students) both laptop and desktops with mobile phones (**Table 2**). Total 5 students (1.7%) had access to none of the devices, mobile, tab, laptop, or desktop. But some of the students reported that the phone they use does not belong to them. Out of the 302 students, 32.5% used phones which belong to other family members. They had to often share it with their siblings, and it was also used even during the classes to receive and make calls by parents, interrupting the classes of students.

Table 2: Percentage distribution of ownership of phones and its type by income category

Per capita incom	ne Possession	of Mobile	Android	Mobile	New	Size of mobile phone storage (GB))
category	phone		phone	with	phone					
	Personal	Using but		camera		32	64	128	256	Do not
	phone	not a								know/d
		personal								o not
		phone								have
<=2500	6.6	0.7	6.6	5.6	2.3	4.3	1.7	0.3	0.0	1.1
2501 - 5000	5.7	5.8	10.3	10.6	1.3	6.3	3.0	1.2	0.0	1.0
5001 - 7500	9.9	2.7	14.6	10.9	2.6	10.7	2.5	0	1.0	0.7
7501 - 10000	14.8	6.4	19.5	19.9	7.6	11.3	7.0	2	0.3	0.7
10001 - 15000	12.8	7.6	19.5	17.2	7.0	7.9	9.5	2.3	0.0	0.7
15001 - 20000	6.6	4.9	11.6	11.6	5.3	4.0	6.3	1.3	0.7	0.0
20001 - 25000	2.9	0.7	3.0	2.6	0.7	1.7	0.7	1.2	0.0	0.0

>=25001	3.9	4.7	8.6	7.3	3.3	3.2	3.2	1.6	0.3	0.3
Total	63.2	33.5	93.7	85.8	30.1	49.7	33.8	9.6	2.3	4.6

Source: The sample survey by authors.

6.1 Quality of the mobile phone

Out of the 302 students interviewed, 93.7% had android phones while 3.3% had no phone (**Table 2**). Further, about 50% of the respondents had phone which had storage capacity less than 32 gigabyte (GB), while another 33.8% had mobile phones with 64 GB storage. Only 2.3% of the respondents had smart mobile phones with storage capacity of 256 GB. This shows that there is an overwhelming use of cheaper version of android mobile phones with lower storage capacity, as android mobile phones can be bought in a few thousands rupees while iphones are costlier. It is interesting to note that as pandemic emerged and classes teaching shifted to online mode, about 30.1% of the students were given new phones for attending classes by their families.

In terms of quality of the phone, which meant at least functioning camera and mike, out of the sample, about 14% of the students reported that though they had a mobile phone, they did not have a functioning camera. It hindered their overall participation in classes.

6.2 Digital networks and connectivity

In cities like Bhiwandi which are on the margins of Mumbai, regular supply of electricity and lack of uninterrupted internet availability are hindrances to the digitalization process. The settlement pattern in most of the neighbourhoods are dense with many being categorized as slums or slum-like habitation, which makes it difficult to lay down cables in many areas. Further, given the networks of mobile towers are also not dense, there are many places that remain in mobile signal shadow. The survey data shows that 71.9% of the students are dependent on mobile networks for Internet while 20.5% have access to cabled networks and wifi. Some of those using wifi, use the wifi internet of their neighbours as well. Those sharing wifi with their neighbours and relatives constitute 7.6% of the sample. This shows that a sense of cooperation to help those without internet also exists in the town, and it did help a sizeable share of the students to access education during the COVID-19 period. The wifi sharing becomes possible because of families living in close proximity to each other. In several cases, this sharing of data is done with mutual consent, and some of the students also shared

the cost of wifi. We also came across several instances where students use the wifi without the consent of the owners.

Only about 58.3% of the total students remain satisfied with the quality of internet speed on mobile, while the rest categorise it as bad or irregular. About 45.7% of the student use Jio network, followed by the Airtel (that is 37.1% of the students), while the rest use Vodafone-Idea. To safeguard themselves from weaker mobile networks, families keep the alternative of wifi/cabled connections. But in the case of these students, it is not the reality. As discussed above a large number of students come from economically weaker sections and the average monthly income does not enable them for higher expenses on internet and wifi connections. As such it is not only the device issue for the education (as they mainly used phones which does not help them properly view the slides as it has small screed/display, but also not easy to read text and type assignments), but also the quality of internet that created a challenging situation for these students.

The monthly expenditure and usage of data increased for each family during the pandemic. Data consumption during online classes was generally very high which meant that the students could not attend all the classes and had to make choices of some of the crucial classes. Further, they also shared the same device and internet with their siblings, which further brought down their share of data that can be used by them. This also meant that expenses per student on the internet were Rs.232.5 per month. Further, more than 88% of the users, had expenses less than Rs.300 per month. Although, the data cost is cheaper, about Rs.200 for 28 days for 1.5 GB per day. It meant that these women had to ensure use of data within a limited quantity to attend one month of the classes. A large section of the students are from economically weaker families and have large family sizes. Therefore, it was not possible for them to attend all the classes, and had to make judicious use of data pack sharing with other siblings and use.

Table 3: Percentage distribution of internet expenses by income

	Internet data expenses							
	<=100	101 - 2022	201 - 300	301 - 400	401 -500	>=501	Total	
<=2500	0.3	5.0	0.7	0.7	1.0	0.0	7.6	
2501 - 5000	1.7	5.6	3.0	0.7	0.0	0.3	11.3	
5001 - 7500	1.3	9.6	2.0	1.3	0.3	0.7	15.2	
7501 - 10000	2.6	10.9	5.0	1.3	0.3	1.0	21.2	
10001 - 15000	1.3	11.9	4.3	0.7	1.0	1.0	20.2	

15001 - 20000	1.3	5.6	4.0	1.0	0.0	0.3	12.3
20001 - 25000	0.0	2.3	1.0	0.0	0.0	0.0	3.3
>=25001	0.3	4.3	3.6	0.7	0.0	0.0	8.9
Total	8.9	55.3	23.5	6.3	2.6	3.3	100.0

Source: The sample survey by authors.

Apart from attending classes (about 88% of the respondent used the internet and mobile phone for attending classes), some young women also used mobile phones for recreation purposes like watching web series and videos (about 11%), and making videos (about 1%). Some of these young women reported to have taken to baking, cooking, or doing other crafts during the lockdown, and/or watching different videos on the internet. They learned many of these skills through YouTube and other online videos.

Only about 47.7% of the students were allowed by families to use the mobiles whenever they wanted, while 22.2% of women students used it in the morning (mainly for classes), 25.2% in the afternoon (almost mainly for classes), and the rest about 5% used it is mainly in the night when other family members were asleep and not using the data/phone. Many of the students used to share the mobile phones of their fathers or brother when they were not going out for work. This meant that the women could have access only at the early morning or late night when the working members of the families were home with phones. When asked whether they were able to attend all the classes online, only 38.1% responded affirmatively, while the rest said 'no', as the phone was not available. About 27.2% of them attended important classes only because of sharing of the phone and saving data, and about 35% of the total respondents said that it was interrupted because they needed to share the same phone with their siblings who were also using the same phone for their classes.

With regard to the availability of the phone for or listening to the recorded lectures, only 47.7% percent said they could do so at any time of the day. The rest reported access when the younger/elder siblings did not have their classes. About 22.2% percent of these young women students said it was only during the early morning hours when they could use it. This shows that the young women had to adjust their study hours as per the availability of the phone and it was impossible for a majority of them to follow the college schedule regularly and attend all the classes.

As they were not able to attend all the classes, the students has to borrow class notes from classmates. A majority of the students (86% of the students) borrowed notes on the classes on mobile phones when they missed attending. Many teachers also during the discussion informed providing class notes regularly to the students not able to attend the classes due to some reasons. Given the grim situation, there were parents of at least 5% of the students, who felt that their daughters will be better off by leaving the educational programme.

Although there was lower access to the internet to the young women studying in bachelors programmes in Bhiwandi, mobile phones are being increasingly used for booking cooking gas cylinders (60.3% of the respondents say that they book it online), tickets (22.2%), recharging/paying telephone bills (18.2%), paying property taxes (20.9%), applying for a passport (11.3%), applying for voter card (24.2%), applying for admission in school and colleges (56.6%), and searching employment opportunities (19.9%). About 7.3% used the internet and their mobiles to promote their business, while 27.2% and 26.5% of them used for shopping online non-food items and foods, respectively.

Lack of access became more acute during university exams when students needed unhindered networks and mobiles or laptops. The colleges had to make special arrangements for them to visit the campus in small groups to write their exam. The colleges also showed flexibility by conducting the exam on different dates. While initially the exam time was for 1.5 hours they provided a longer time frame for writing the exam through the whole day. As one of the college teachers says,

"but students didn't understand this earlier, so we had to run after them. University gave these students a second and third chance to write their exams. The office and teachers were individually persuading the students. Here in Bhiwandi, people are laid back, their parents are from the labour and working class, and they don't have any idea about what is happening with the ward. Only thirty percent of parents keep track of their children education. Students keep changing phone numbers so quickly that keeping track was also becoming difficult."

7. Women's colleges as safe spaces

In Bhiwandi, in some families, women, especially young women within the Muslim community, are discouraged to use phones as it is widely assumed that it leads to moral corruption. One respondent noted 'If a woman is seen speaking on the phone, people will stop

and ask, are you speaking to your boyfriend?' These narratives reinforce the idea of gender segregation and marginalization of women with common gender stereotypes about women's role in the family and society at large. Another respondent said, 'In Bhiwandi, these are males who are considered knowledgeable but that is because females don't come forward and express their feelings and ideas."

In this context, the colleges in the city act as an important safe space for these young women. It is the only public space where Muslim womens are allowed to travel alone, every day and without strict controls. As one of the students highlighted, "College is the only place where I can go alone". When the women were confined within the walls of their household during the pandemic access to opportunities to meet their friends remained hindered. As one student shared, 'When the lockdown started I was very happy that I will rest at home but soon I was frustrated being at home because college was the only place we would go'. The routinization of living in the household, many say will create challenges for their physical movements and their will be need for renegotiation for the mobility and activities for which they already had negotiated and had routinized their movements/freedoms.

A young woman who is enrolled in the science stream while writing about the city says, "Bhiwandi is a place where a woman and a boy is either brother or sister. If you are a friend people take it in the wrong way". She finds this norm very derogatory to her existence and suffocates her independence. It is also true that in the given circumstances, digital platforms have made the boundaries and encounters fluid and made it possible for young women and men to be friends on digital platforms.

Even for those who had access to the mobile phone, it did not necessarily mean that they had the freedom to use it as they wished. The biggest hindrance in this aspect was limited monetary support for purchasing the data for the phone. Only 24.8 percent of the women said their phones were regularly recharged with data as per their requirements, while the rest had to bargain and negotiate with their parents for recharging the phone every time the data got over. Many women reported it to be a big hurdle and often the parents would ask them to wait for a few days.

Many students also complained that though their parents can afford to install a wifi connection, but they do not do it because they did not want the children to have unrestricted and continuous access to the internet. The number of students who said they do not have the freedom to use the internet whenever they wanted is 35.4%. On the other hand, during the discussion, many of these women reported that this was not the case with respect to their

brothers who had comparatively free access to use of the internet. Further, both the women teachers and students faced the fear of using cameras fearing that they may be exposed other side to unwanted persons.

Apart from parental monitoring of the female body and associating the same with the notion of security for women, the other reason for restricted use of the internet for the women was the added responsibility of household chores. During the lockdown when most families were in their homes, it increased the amount of cooking, cleaning and washing chores for the women. And invariably it was the female members who were expected to share the workload. As discussed earlier, several of these students reported managing household work along with online classes. These young women shared that their parents at home didn't give much importance to the need of being present for the classes and rather expected them to prioritize household work. As one student shared, "The class lectures were like background music, we would be cooking, cleaning, or sweeping while listening to the teacher".

It also meant that the additional burden of home-based work and domestic labour increased not only for the mothers or wives but equally burdened the daughters. The gender division of labour especially among the working class saw women bearing the burden of household work and attending classes as a side activity. While the women in normal circumstances also finished household work before they went to school or college, giving them much-needed respite, in this particular case they were trapped in the same situation.

8. Conclusions

The paper brings out the limited access to technology-driven education by students from marginalized sections of the society, and the ways in which women faced discrimination in comparison to their male siblings in the same household and in the same situations. The study further shows the importance of intersectionalities in determining access to IT and ITeS. It emerges that poorer sections were/are pushed towards online education without appropriate digital infrastructures and technological support, which is, in turn, producing new social and material inequalities.

We find that not only the aspects of network and connectivity, and access to devices, but average monthly expenditure on data packs were also the defining factor in online access to higher education by young women in Bhwandi during the COVID-19 period. The cooperation among the students during the challenging time was very high and they used

various modes of 'sharing', from class recordings, and class notes, to data packs as a coping mechanism.

Notwithstanding all the challenges, the pandemic also provided an opportunity for students to connect to higher education through the internet. Online education though has accessibility, affordability, and limitations in promoting effective learning today, may prove very beneficial in the long run, especially for students from marginalized groups, as we expect the internet penetration will continue to deepen and the technology cost will come down with rising ability and share of the population using the same (Jena 2020). This may bridge the asymmetries in access to information by a different group of populations that drive wealth creation and accumulation of knowledge. However, in the short run, the digital divide and gender gaps may acerbate the socio-economic inequalities.

Acknowledgments

We express our gratitude and appreciation for the time and effort of our respondents in completing the survey as well as participating in the face-to-face workshop. We also wish to express our gratitude to different colleges in Bhiwandi which supported this research. Funding for this research was provided by the British Academy Tackling Global Challenges programme (Ref: TGC\200118).

Reference

- Bailey, David, Riccardo Crescenzi, Elisa Roller, Isabelle Anguelovski, Ayona Datta, and John Harrison (2021): "Regions in Covid-19 Recovery", *Regional Studies*, 55 (12): 1955–65. https://doi.org/10.1080/00343404.2021.2003768.
- Bates, Stephen (1996): "The Death of Geography, the Rise of Anonymity, and the Internet," *American Enterprises*, 7 (2): 50–52.
- Cairncross, Frances (2001): The Death of Distance: How the Communications Revolution Is Changing Our Lives, Boston: Harvard Business Press.
- Chandasiri, O. (2020): "The COVID-19: impact on education", *International Journal of Advanced Education and Research*, 5(3): 13-15.
- Datta, Ayona (2020a): "Self(Ie)-Governance: Technologies of Intimate Surveillance in India under COVID-19", *Dialogues in Human Geography*, Special Issue on COVID-19, 10 (2): 234–37. https://doi.org/10.1177/2043820620929797.

- Datta, Ayona (2020b): Geography Directions'. Survival Infrastructures under Covid-19 (blog).

 13 May 2020. https://blog.geographydirections.com/2020/05/13/survival-infrastructures-under-covid-19/ (accessed on 19 May 2022).
- Datta, Ayona (2022): ""Thick Time": Experiments with Feminist Urban Futures in Community Podcasts". *Geoforum*. doi.org/10.1016/j.geoforum.2022.06.007.
- Hasan, Z., and R. Menon (2004): *Unequal Citizens: A Study of Muslim Women in India*, New York: Oxford University Press.
- Henning, C. (2007): Distanciation and Disembedding. The Blackwell Encyclopedia of Sociology, New York: John Wiley & Sons, Inc.
- Jena, P.K. (2020): "Impact of Covid-19 on higher education in India", *International Journal of Advanced Education and Research*, 5(3): 77.81.
- Khan, M.A. (2021): "COVID-19's Impact on Higher Education: A Rapid Review of Early Reactive Literature", *Educational Sciences*, 11, 421. https://doi.org/10.3390/educsci11080421
- Kolko, Jed (2000): "The Death of Cities? The Death of Distance? Evidence from the Geography of Commercial Internet Usage." In *The Internet Upheaval: Raising Questions, Seeking Answers in Communications Policy*, edited by Ingo Vogelsang and Benjamin M. Compaine, 73–98. Cambridge, MA: The MIT Press.
- Krishnan, R. (2021, 10 June). More people in India got internet access in 2020, but fewer mobile connections: Niti report. *The Print*. https://theprint.in/india/more-people-in-india-got-internet-access-in-2020-but-fewer-mobile-connections-niti-report/675324/ (accessed on 31 July 2022).
- Mahmoodur Rahman Committee Report (Government of Maharashtra) (2013): Socio-economic and Educational Backwardness of Muslims in Maharashtra. Mumbai: Chief Ministers Office, Government of Maharashtra.
- Milan, Stephania, Emiliano Trere, and Silvia Masiero, eds. (2021): COVID-19 from the Margins: Pandemic Invisibilities, Policies and Resistance in the Datafied Society, Amsterdam: Institute of Network Cultures.
- O'brien, Richard (1992): Global Financial Integration: The End of Geography, New York: Council on Foreign Relations Press.
- Ram, K. and S. Yadav (2021): "The Impact of COVID-19 on Poverty Estimates in India: A Study Across Caste, Class and Religion", *Contemporary Voice of Dalit*, 1–15. DOI: 10.1177/2455328X211051432
- Rashid, S. and S.S. Yadav (2020): "Impact of Covid-19 Pandemic on Higher Education and Research", *Indian Journal of Human Development*, 14(2): 340–343. DOI: 10.1177/0973703020946700
- Reserve Bank of India (2021): Handbook of Statistics on Indian Economy: Consumer Price Index Annual Average, Table 28. Mumbai: RBI.

- Sachar Committee Report (Government of India) (2006): Social, Economic and Educational Status of the Muslim Community of India. New Delhi: Cabinet Secretariat, Government of India.
- Shaban, A (ed.) (2018). *Lives of Muslims in India: Politics, Exclusion and Violence*. London: Routledge.
- Shaban, A. (2016). "Muslim Women in Urdu Medium Schools of Maharashtra: Progress, Retention and Aspirations", *Economic and Political Weekly*, 51(25): 65-70.
- Sudhir Commission Report (Government of Telangana). 2016. Socio-economic and Educational Conditions of Muslims in Telangana, Commission of Inquiry to Study the Socio-Economic Status of Muslims in the State of Telangana. Hyderabad: Chief Ministers' Office, Government of Telangana, Hyderabad.
- Ticktin, Miriam (2021): "Building a Feminist Commons in the Time of COVID-19", Signs: Journal of Women in Culture and Society (blog). 2021. http://signsjournal.org/covid/ticktin/ (accessed on 19 May 2022)
- Zainuddin, Z., C.J Perera, H. Haruna, and H. Habiburrahim (2021): "Literacy in the New Norm: Stay-Home Game Plan for Parents". *Information and Learning Sciences*, 121, 645–653. https://doi.org/10.1108/ILS-04-2020-0069