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Contents

Articles

Indian Population towards Stabilization

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Abstract

Literature and reports state that high population growth is no longer a major concern for India. Because the total fertility rate (TFR), and the population growth rate as well, have declined significantly during last two/three decades. It is expected that during next two decades, Indian population will reach its maximum size and start to decline thereafter. However, the TFRs, and consequently the population growth rates, of different communities have been different. Compared to other communities the population growth rate among Muslims has been higher. From this fact one may be inclined to jump to the conclusion that if appropriate population policies are not implemented, the religious composition of Indian population may drastically change in the coming years. However, a closer look at the trends in the community-wise TFRs reveals that the TFR of all the communities including that of Muslims have declined significantly during this period. It is hence argued that community-specific targeted population control measures may not be required. The focus of policy should rather be on improving access of left-behind sections of population, including the Muslims with low income and educational attainment, to basic services such as education of the girl child, healthcare etc., which will quicken the decline of fertility rate among these population segment and, in turn, lead to early convergence of cross community-specific population growth rates. This will not only stabilize the total Indian population but also the inter-community composition of the population.

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Introduction

In India, until 1970s or 1980s, it was widely believed that high rate of population growth was mainly responsible for various socioeconomic problems such as unemployment, food shortage, price rise etc. The government also implemented various policies to control population. In fact, India was the first country in the world to introduce state sponsored family planning program way back in 1952. Initially the program was focused primarily on population control. In course of time though, its scope has been widened to a program of family welfare with women and child health occupying a major plank of the program. With improved understanding of the dynamics of population growth, the policy has been expanded beyond population contraceptives and birth-control measures to lay greater emphasis on socioeconomic determinants of fertility. The National Population Policy 2000 provides a holistic and target free approach to reduce the fertility.

Towards the end of 20th century, the problematic perception of India's large and growing population started to give way to an emerging positive perspective regarding its population to be a resource and a potential source of economic growth. This positive perception arose not just because of the size but also from the age structure of its population. Compared to most developed counties of Europe, North America and Japan, Indian population is remarkable young with an average age of only 28.7 years in 2020[4]. In contrasts, the average age of the population in Japan, Germany, Norway, Canada and China are 48.6 years, 47.8 years, 39.5 years, 41.8 years and 38.4 years respectively. With a larger share of population in the working age group of 15 to 60 years, India was slated to earn 'demographic dividend' by developing and deploying its human resource productively within and outside the country (Dahlman and Utz, 2005; Chandrasekhar et al. 2010). To what extent India has been able to appropriate this potential demographic dividend is a subject worthy of serious debate and discourse. But, as the title suggests, the theme of the present write-up is the discernable decline in the population growth rate India in the last few decades. Literature (Vollset et al, 2020) suggests that population growth is no longer a major concern for India, as the total fertility rate (TFR), the prime driver of pollution growth, has declined significantly in India during last two three decades. The article takes a closer look at the trend in TFR along with the population trend in India in the last two decades. Besides the review of literature on the theme of declining TFR and factors affecting the decline, we have examined the fertility data reported in the first, second, third, fourth and fifth rounds of National Family Health Survey[5] (NFHS).

This article consists of four sections. The second section examines the declining TFR in India. Variation in the TFR across different communities is discussed in the third section. The last section gives some concluding remarks.

[4] https://www.cia.gov/the-world-factbook/field/median-age/country-comparison, Accessed on 09-11-2022.

[5] The National Family Health Survey (NFHS) started in 1993 provides information on population, health, and nutrition for India, and each state and union territory (UT). The NFHS is done by Ministry of Health and Family Welfare, Government of India. Till 2022 five such surveys have been conducted. The latest one is the fifth NFHS 2019-21

Declining Fertility

The tendency towards declining growth rate of population started during 1980s. In the year 2020 the Lancet journal (a journal of medical sciences) made a projection regarding the world population. They stated that towards the end of this century the world population would be lower than what it is now (Vollset et al, 2020). They found that in India population would start to decline by the mid of 2040s. If this report is to be believed, we should not worry about the problem of population explosion; which was earlier extensively discussed in the literature (Malthus, 1798; Coale & Hover, 1958, Enke, 1970). According to this projection by 2100 the five most populated countries of the world would be India, Nigeria, China, USA and Pakistan. The total projected population and the Total Fertility Rate[6] (TFR) of these five countries is given in Table1.

Table 1: Projected Total Population and TFR of the Five Largest Countries in the World

Countries	Total Population (in Crore)		Total Fertility Rate	
	2017	2100	2017	2100
India	138.06	109.32	2.14	1.29
Nigeria	20.61	79.01	5.11	1.69
China	141.25	73.19	1.53	1.47
USA	32.48	33.58	1.81	1.53
Pakistan	21.43	24.84	3.40	1.31
Global	764.05	878.56	2.37	1.66

Source: Vollset et al, 2020

It is not just the Lancet journal which has made the prediction of population of India soon reaching its peak and subsequently declining. The complete report of the National Family Health Survey-5(NFHS-5) is published during the beginning of 2022 has also hinted towards such an eventuality. The report states that the TFR of Indian women has declined significantly. Presently, the TFR of India is almost equal to that of replacement rate[7]. The TFR of India over the years is given in Table 2. It can be seen that the TFR in India has declined from 3.39 during 1993 to 2.0 during 2021. Thus, TFR is below the replacement rate (2.1) during 2021. TFR has declined across all the states. Among the 30 states and union territories shown in Table 2, only five states have their TFR above the replacement rate. TFR is highest in Bihar, followed by that in Meghalaya, Uttar Pradesh, Jharkhand and Manipur. It is worth noting that Uttar Pradesh had highest TFR (4.82) among the states of India during 1993 which had declined significantly by 2021. The TFR is lowest in Sikkim followed by that in Goa.

[6]Total fertility rate of a population in a particular year indicates the total number of children that would be born to each woman till the end of her child bearing age (14 to 49 years). It is an important indicator of population growth.

[7]If the total fertility rate of a country is 2.1, the the population of that country is expected to be stable. In other words, number of children born to that country will be equal to the number of deaths occur. This rate of total fertility (2.1) is known as the replacement rate.

Table 2: Total Fertility Rate across the States in India over the Years

STATES	1993	1999	2006	2016	2021
Bihar	4.0	3.7	4.0	3.4	3.0
Meghalaya	3.73	4.57	3.8	3.0	2.9
Uttar Pradesh	4.82	4.06	3.82	2.7	2.4
Jharkhand	NA	2.76	3.31	2.5	2.3
Manipur	2.76	3.04	2.83	2.6	2.2
Rajasthan	3.63	3.78	3.21	2.4	2.0
Madhya Pradesh	3.9	3.43	3.12	2.3	2.0
Haryana	3.99	2.88	2.69	2.1	1.9
Uttarakhand	NA	2.61	2.55	2.1	1.9
Assam	3.53	2.31	2.42	2.2	1.9
Mizoram	2.3	2.89	2.86	2.3	1.9
Gujarat	2.99	2.72	2.42	2.0	1.9
Chhattisgarh	NA	2.79	2.62	2.2	1.8
Orissa	2.92	2.46	2.37	2.0	1.8
Arunachal Pradesh	4.25	2.52	2.03	2.1	1.8
Kerala	2	1.96	1.93	1.6	1.8
Tamil Nadu	2.48	2.19	1.8	1.7	1.8
Telangana	NA	NA	NA	1.8	1.8
Himachal Pradesh	2.97	2.14	1.94	1.9	1.7
Nagaland	3.26	3.77	3.74	2.7	1.7
Tripura	2.67	1.87	2.22	1.7	1.7
Maharashtra	2.86	2.52	2.11	1.9	1.7
Andhra Pradesh	2.59	2.25	1.79	1.8	1.7
Karnataka	2.85	2.13	2.07	1.8	1.7
Punjab	2.92	2.21	1.99	1.6	1.6
Delhi	3.02	2.4	2.13	1.8	1.6
West Bengal	2.92	2.29	2.27	1.8	1.6
J&K	3.13	2.71	2.38	2.0	1.4
Goa	1.9	1.77	1.79	1.7	1.3
Sikkim	NA	2.75	2.02	1.2	1.1
All India	3.39	2.85	2.68	2.2	2.0

Source: Sample registration survey 2019.NFHS 5 (2019-21) and Data book for Planning Commission: 22nd December, 2014

Considering the TFR closer to the replacement rate, we may conclude that the population growth rate of India will decline significantly in the coming years. Moreover, the total

population of India will reach the maximum level within next two decades and start declining thereafter. The pertinent question to ask in this context is what factors are responsible for decline in TFR. Literature state that the level of education of the women has had significant impact on decline in TFR (Chaudhry, 1989; Sleebos 2003; Addio and Ercole 2005; Pourreza et al. 2021). Sometimes women postpone their marriage to complete education; which has a negative impact on their TFR. Data available from NFHS-4 and NFHS-5 also confirm that along with increase in the number of years of schooling of the women, TFR trend decline (refer to Table 3). It can be seen that the TFR among the women with no schooling is 2.82 during NFHS 5, which is 1.78 among the women with 12 or more years of schooling.

Table 3: Total Fertility Rate of the Women with Different Level of Schooling

Years of schooling completed by the Women	NFHS 4	NFHS 5
No schooling	3.07	2.82
5 years of schooling	2.43	2.30
5-7 years of schooling	2.38	2.21
8-9 years of schooling	2.19	2.12
10-11 years of schooling	1.99	1.88
12 or more years completed	1.71	1.78

Source: www.rchiips.org/nfhs, Accessed on 01-10-2022

Table 4: Total Fertility Rate across Different Wealth Groups

Wealth index	NFHS 4	NFHS 5
Lowest	3.17	2.63
Second	2.45	2.12
Middle	2.07	1.89
Fourth	1.84	1.74
Highest	1.54	1.57

Source: www.rchiips.org/nfhs, Accessed on 01-10-2022

Economic condition of a family is also expected to affect the TFR. Table 4 shows the TFR of different wealth groups. Results from both NFHS- 4 and NFHS-5 show that TFR is highest among the lowest wealth index group, and lowest among the highest wealth index group. Thus, TFR has negative correlation with the economic condition (volume of wealth) of the society or community. There are also some other factors those affect the TFR and population growth rate. Literature state that infant mortality rate has a positive correlation with the TFR (Basu, 2002). It is because when parents are not sure about the survival of their children, they prefer to have more child. Thus, better public health system is expected to reduce the TFR. Preference for son and infant mortality rates are also related to each other. Global records show that more boys are born than girls. However, due to biological factors girls have more survival capacity than the boys. In other words, the natural infant mortality rate among the boys is more than that of girls. So, in the middle age equal number of male and female should be there in

a society. But, in India, preference for son and neglect towards daughters in terms of nutritional requirements, medical care etc. leads towards higher infant mortality rate among the girls (Sen 1992, 2003 Arnold et al. 1998). In China, the one child policy has destabilized the sex ratio at birth due to sex selective abortion (Follett, 2020). Sex selective abortion is known to be a problem in India also, especially in some north Indian states. Additionally, if some couple has girl child and no boy, they are more likely to have another child at a short interval. In India, the median birth interval after the birth of a girl is one month shorter than the median birth interval after the birth of a boy. It is another cause of higher child mortality rate among the baby girls, as the mother has shorter time to take care of the baby girl (Arnold et al 1998). In the world, India and China are the only two countries with higher infant mortality rate among the girls compared to that of boys (United Nations, 2011).

Table 5: Percentage Distribution of Married Women (aged 15-49) Who do not Want more Children by Sex and Number of Their Living Children (in %)

Number of living children	NFHS 1	NFHS 2	NFHS 3	NFHS 4	NFHS 5
2 boys and no girls	71.5	82.7	89.9	89.2	90.8
1 boy and 1 girl	66	76.4	87	86.7	89
2 girls and no boys	36.9	47	61.4	62.6	65.3
2 children	59.7	72.4	83.2	83.6	85.8

Source: www.rchiips.org/nfhs, Accessed on 01-10-2022

The causes behind the preference for son are economic, social and religion. Boys are actively involved in agricultural and other works; while the participation of women in such work has declined significantly after the mechanization of agriculture (Mitra, 2014). Social factors include the tradition of dowries and a rigid patriarchal society where only sons have the rights to perform death rituals of parents and carries the title of the society etc. Preference for son has been observed to be higher in the northern and western states compared to that in southern and eastern states (Mitra 2014). Table 5 shows the percentage of currently married women who do not want any more children by the number and sex of living children. According to NFHS-5, more than 90 per cent of the women reported not to have any more children after having 2 boys; while only 65.3 per cent the women with 2 daughters and no son did not want to have any more children. Around 85.8 per cent of the women with two children (irrespective of gender) reported that they did not want more children. Across all rounds of NFHS, the percentage of women who do not want any more children is higher among those who have at least one son compared to those who do not have a son. Thus, the desire to have more children is strongly affected by the number of sons in India. But over the year the percentage of women with 2 daughters (without a son) wanting no more children had increased from 36.9 per cent during NFHS-1 of 1993 to 65.3 percent during NFHS-5 of 2021. Again the percentage of women with 2 children (irrespective of son or daughter) who do not want any more children have also increased from 59.7 per cent during NFHS-1to that of 85.8 per cent during NFHS-5. This change preference regarding number of children to be had must have been a significant contributory factor to the decline in the TFR.

Table 6: Percentage of Currently Married Women (Aged 14-49) according to use of Contraception

Methods	NFHS 1	NFHS 2	NFHS 3	NFHS 4	NFHS 5
Any method	40.7	48.2	56	53.5	66.7
Female sterilization	27.4	34.1	37.3	36.0	37.9
Male sterilization	3.5	1.9	1.0	0.3	0.3
IUDs	1.9	1.6	1.7	1.5	2.1
Pill	1.2	2.1	3.1	4.1	5.1
Condom	2.4	3.1	5.2	5.6	9.5

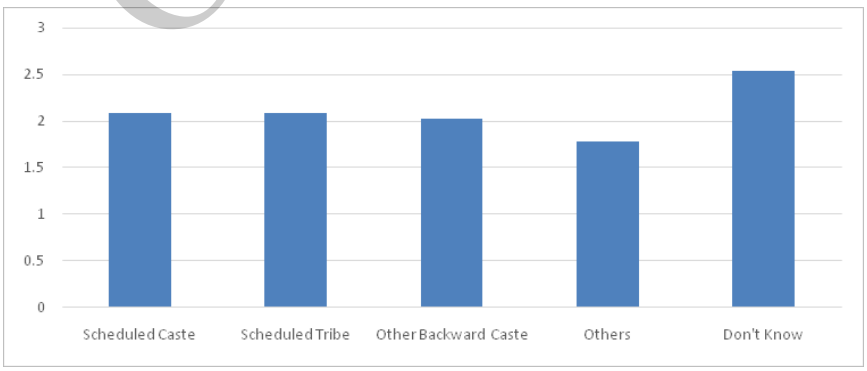
Source: www.rchiips.org/nfhs, Accessed on 10-02-2024

It is to be noted here that the family planning in India is still women driven. Table 6 explains the use of contraception among married women (age 14-49) and their current partners. Although there is an increase in the use of condoms by the men in the recent years, still women are mainly responsible for adopting the birth control measures. While there is a significant increase in female sterilization over the years, the male sterilization has declined significantly during this period. So, it is important to sensitize the society about the importance of family planning measures to be taken both by male and female.

Fertility across Different Communities

Discussion on population growth rate would be incomplete without any discussion on the TFR of different castes and communities. The NFHS-5 has categorised the population into five groups, i.e. scheduled tribe, scheduled caste, other backward caste, others (general) and those who are not aware of their caste. The TFR across different castes are shown in Figure 1. It can be seen that among different castes TFR is lowest among those belonging to the others category and highest among those who do not know their caste.

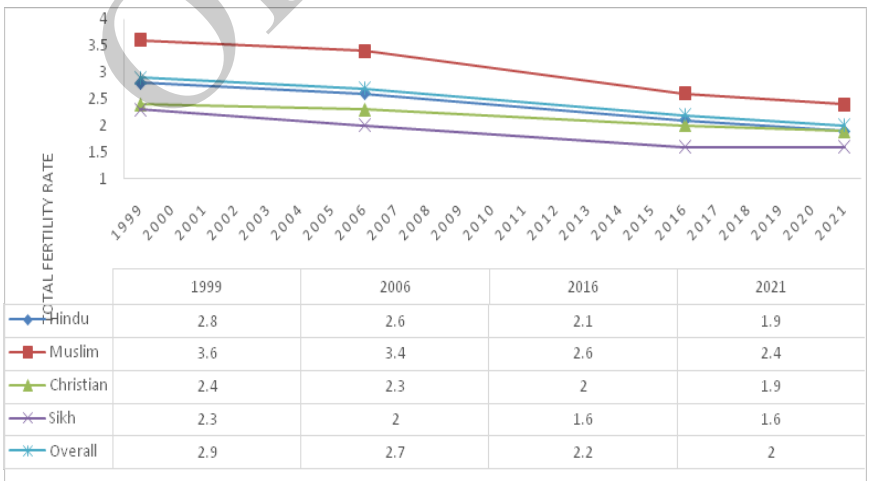
Figure 1: Total Fertility Rate across Different Caste during 2019-21



Source: NFHS-5, www.rchiips.org/nfhs, Accessed on 01-10-2022

The TFRs, and consequently the population growth rates, have also been different across communities along religious lines. Among such communities, population growth rate has been higher among the Muslims. From this fact one may be inclined to jump to the conclusion that, if appropriate population policies are not implemented, the religious composition of Indian population may drastically change in the coming years. However, a closer look at the trend in the community-wise TFRs reveals that the apprehension may be unfolded. The TFRs of different religion-wise communities are given in Figure 2. It can be seen that the TFRs of all communities have been declined significantly during last two decades. TFRs of communities excluding Muslims have already come down below the replacement rate. During 2019-21, the TFR among the Muslims was 2.4, which was marginally higher than the replacement rate (2.1). In other words, on the average 240 children were born to a group of 100 Muslim women during their reproductive period (life time). On the other hand, the TFR of the Hindus was slightly lower (1.9) than the replacement rate. In simple words, on the average 190 children were born to a group of 100 Hindu women during their reproductive period. TFR was significantly lower than the replacement rate among the Buddhists, Jains and Sikhs. It was found that on the average 160 and 140 children were born to a group of 100 Sikh and Buddhists women respectively during their reproductive age group. However, it will be misleading if it is not mentioned that the decline in TFR during last two decades is highest among the Muslim community. If these trends continue, we can well expect that after a decade or so, the TFR across the communities will converge to a below replacement level national rate. Along with it, the religious composition of Indian population will reach stability. It is to be mentioned here that the TFRs in many Islamic countries such as Iran, Tunisia, Lebanon, Turkey etc. have declined to the replacement level (Pourreza et al. 2021). Even in neighbouring Bangladesh, where 90% of population is Muslim, the TFR has fallen below the replacement rate (Vollset et al, 2020). So, we may conclude that religion is not a major factor determining TFR.

Figure 2: Total Fertility Rate in India across Religious Communities



	1999	2006	2016	2021
Hindu	2.8	2.6	2.1	1.9
Muslim	3.6	3.4	2.6	2.4
Christian	2.4	2.3	2	1.9
Sikh	2.3	2	1.6	1.6
Overall	2.9	2.7	2.2	2

Source: Different Rounds of National Family Health Survey, www.rchiips.org/nfhs, Accessed on 01-10-2022

Besides showing that the fertility rates of all religious communities have tended to decline over time, the graphs in figure 2 also show another interesting feature about the trends in the fertility rates. The graphs show that after a fertility rate has come down to a sufficiently low level, further decline in the fertility rates take place rather slowly. If this trend continues, the fertility rates of all communities will tend to converge to a common fertility rate sometime in the future. Then on, there will be no significant difference in population growth rates across different communities. Until this convergence is achieved, inter-community population growth rates will be different, albeit by small extents.

Assuming declining trend in TFRs will continue in the observed pattern, the population growth rates of different religious groups in India will converge to a common rate which will also stabilize the religious composition of the population. Yet, some section of Indian public seems to be quite concerned with present differential population growth rates across communities, especially with the somewhat higher growth rate among Muslims. To address this concern, it may be necessary to take up policy measures to quicken the decline and eventual convergence in the fertility rates. Such policy need not be targeted to any particular community. If policy measures target reduction of fertility rates as such, it will impact those communities more whose fertility rates are higher than those of the others. The next question therefore is what kind of policy measures can be taken. One can think of three alternative policy options. The first, and the most obvious one, will be to enforce one child or two children norm. Such a measure will not only be drastic but its implementation may involve elements of coercion. In the past such coercive measures have not only been found to be difficult to implement, but proved to be socioeconomically politically costly. Forcible family planning measures during emergency imposed in India the mid-1970s was one of factors contributing to the Congress Party's unprecedented defeat in the general election to the Lok Sabha in 1977 (Gupte, 2017). Similarly, one child policy enforced by China on couples during 1979 led to many undesired socioeconomic consequences, which forced the country to finally abandon the policy (Zeng & Hesketh, 2016). In view of these unsatisfactory experiences from the past, measures of such types are best avoided. The second option may be to put some disincentive for having larger family size. The policy measures may take the form of denying or reducing benefits of various government-run welfare measures to couples having more children than the stipulated number. Such a policy may not be strictly coercive in nature but has the drawback of forcing a uniform standard without regards to specific contexts. In our opinion, the best policy option is to work through the factors that significantly impact the fertility rate; such as women education, improved access to basic healthcare, fuller immunization of children and general economic uplift of the poorer section of the society. These policies can be targeted to cover the hitherto uncovered or partially covered population. Apart from bringing down the fertility rate quickly, such policies will also serve the broader goal of development of the country, bringing down child mortality, malnutrition among children, and poverty and vulnerability in general.

Concluding Comment

The fear that faster population growth rates of some communities will eventually overwhelm the population of the other communities in India is not well founded. Yet the facts remain that, if left unattended the population of some communities may continue to increase faster than other communities for some time to come. Hence to quell the apprehension that such communities are going to dominate in terms of numbers in the future, it is necessary to adopt some policy measures targeting reduction of fertility rates. Such policy measures should be more development oriented for left-behind segment of population rather than the coercive measures attempting directly to force couples to have fewer numbers of children.

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Determinants of Labour Productivity of Handloom Based Micro-Enterprises in Assam

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Abstract

The handloom industry in India is based on a large number of artisanal skill-based enterprises. Most of the workers in the sector are self-employed micro-entrepreneurs who produce a wide range of fabrics reflecting their culture and identity. In the current liberalized and competitive environment, the handloom sector needs to utilise resources efficiently and increase the level of productivity. Due to the labour-intensive nature of handloom products, it is necessary to raise labour productivity and take other measures to increase the profitability of the enterprises. The present paper examines the employment pattern in the handloom micro-enterprises and tries to identify the factors influencing labour productivity of handloom micro-enterprises in Assam. The study is based on primary data collected from four districts of Assam through a multi-stage sampling technique. It is observed that creation of mandays and labour productivity of multi loom enterprises are more than single loom enterprises. Regression result found that higher sales revenue, increasing labour cost and entrepreneurs with training trend to increase the labour productivity of handloom enterprises significantly. In contrast, higher capital intensity of the handloom enterprises trend to decline the labour productivity significantly

Introduction

The handloom industry is spread across the rural and semi-urban areas in India and is a crucial source of livelihood for many people in the country. The handloom industry employed 35.23 lakhs handloom weavers and allied workers in the country in 2019-2020 and constitutes nearly 12 percent of total supply of cloth in India (Ministry of Textile, 2020). However, the industry face competition from the power loom and is affected

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with various challenges such as low productivity, obsolete technology, unorganised production system, inadequate working capital, weak marketing link, conventional product range, overall stagnation of production and sales (Sudalaimuthu and Devi 2006; Dev, Golab, Reddy &Vinayan, 2008; Ramswamy & Kumar 2013; Nadh, Rao & Harshavardhan 2013; Goswami& Jain, 2014). Over the years employment in handloom industries have fallen continuously (Baruah & Saha, 2022).Despite the challenges, the industry has enormous advantages, such as less capital intensive, unique, eco-friendly, less use of power, flexibility of small production, openness to innovation and flexibility to market requirements (Ministry of Textiles, 2020). In order to be competitive, the handloom sector needs to utilize resources efficiently and increase the level of productivity. Due to the labour-intensive nature of handloom products, it is necessary to prevent declining employment, raise labour productivity, and take other measures to increase the profitability of the enterprises.

The performance of a firm or industry unit is usually measured in terms of productivity or efficiency. Productivity refers to the amount of output per unit of input achieved by a production unit. Labour productivity implies a firm's capability to generate higher production or value added (Heshmati & Rashidghalam, 2018). Higher labour productivity of small medium enterprise shows the higher likelihood for growth of enterprises (Okumu & Buyinza, 2018). In the case of single factor productivity, it is commonly estimated as the ratio of outputs to single input. The different studies measure inputs and output of labour productivity differently. Labour productivity can be measures in terms labour hours or mandays or per workers. Studies like Grzes (2019); Susilowati, Ananda, Ashsar & Susilo (2020) defined labour productivity by dividing production by the number of employees in a manufacturing sector. Thomas & Sudhakumar, (2014), measuredlabour productivity by dividing output by labour hours and mandays.

Although labour productivity has been widely studied in economic literature, but studies on labour productivity of handloom sector at the national and international levels are few. A study (Chowdhary, 1989) in Bangladesh found that technology, finance, value of production and environment variable have significant positive influenced on labour productivity of handloom industry. Another study (Shetgaokar, 2022) in India found that capital intensity, skill, wage, and capacity utilisation have significant positive impact on labour productivity of textile industry. Regarding employment pattern of handloom sector in Assam, it is observed that annual labour mandays employed in cooperative handloom households are more than in independent handloom households. It is also noted that family labour employment is negatively related to firm size, while hired labour is positively associated with firm size (Gogoi & Saikia, 2014).A study (Khasnabis & Nag, 2002) in West Bengal observed that the skill-based division of labour and hired labour are highly employed in multi-loom enterprises. Subhan (1989) observed that small handloom enterprises with less number of looms are plagued by surplus labour and underemployment problems in Bangladesh. It is noted that large enterprises earn two times higher profits than small enterprises

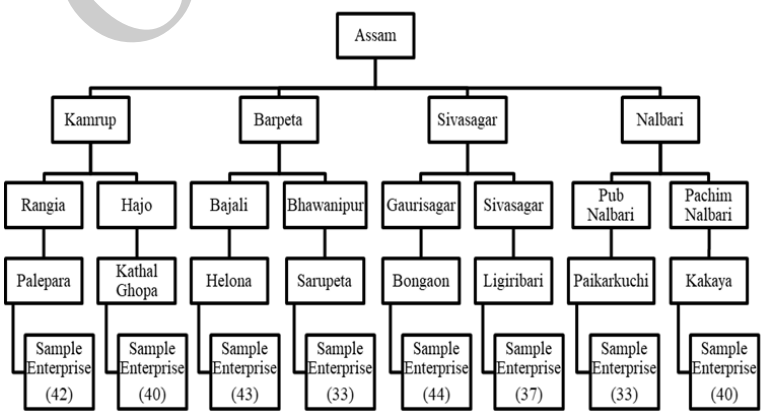
In India, more than one third (12.84 lakhs) of total handloom workers live in Assam where majority of the workers are self-employed micro-entrepreneurs (Ministry of Textile, 2020a). Assam is the third largest state in India in terms of silk production. Assam is the largest producer of muga silk in the world and produces 85 percent of the world's muga silk. Regarding eri silk production, Assam ranks highest in the nation and produces 62 percent of eri silk in India (Central Silk Board, 2019). The weavers in Assam produce diversified handloom products using different types of yarn like cotton, mulberry silk, muga silk, eri spun silk, etc. Assamese handloom products have high demand at the local, regional and national levels. Weaving activity also occupies an important space in Assamese culture. The weavers in the state are preserving their traditional arts and skills and representing culture through their weaving fabrics and designs. The level of artistry and complexity accomplished in handloom fabrics is unmatched, and it cannot be mechanically reproduced on a large scale.

In the current liberalized and competitive environment, the handloom sector needs to utilise resources efficiently and increase the level of productivity. It is thus important to locate the determinants of labour productivity, which is the primary objective of the present paper. In this background the present paper intend to examine the employment pattern in the handloom micro-enterprises and tries to identify the factors influencing labour productivity of handloom micro-enterprises in Assam.

The paper is consists of four sections including introduction. In Section 2 presented the methodological issues such as data source, sampling design and analytical framework. The empirical findings are reported and discussed in the section 3 and the section 4 contained concluding observation and few policy suggestions in the light of the finding.

Methodology

Sources of Data and Sampling Technique



The study is based on primary data. It is obtained through a field survey of 312 handloom enterprises spread over four districts of Assam using semi structural interview schedule, during October, 2021 to February 2022. A multi stage sampling technique is used for selection of samples for the study. In the first stage four districts of Assam are selected purposively on the basis of the concentration of the highest number weavers as data obtain from Handloom Weaver Information System, Office of the Development Commissioner (Handloom), Ministry of Textile (Government of India). Further, two development blocks from each selected district and one village from each selected development block are selected based on commercial concentration of handloom activities as per information of District Handloom and Textile Department. At the village level, lists of handloom micro-entrepreneurs were prepared after discussions with the head of the village, master weavers, and ward members. From the prepared list of each chosen sample village, 50 per cent of handloom micro-entrepreneurs were selected randomly. The handloom entrepreneur is defined as an individual who owns a micro enterprise with minimum one operating loom and produced cloth using family labour or hired labour

Analytical Framework

The labour productivity is estimated as the ratio of gross value added to the number of mandays worked for each enterprise or number of employees for each enterprise.

Labour productivity = Gross Value Added (GVA)/ Mandays worked

Or

Labour productivity = Gross Value Added (GVA)/ No.of employees

The mandays is calculated as follows

Mandays = Working hours per day × Number of working days in a year/ Eight hours

The gross value added shows the economic contribution of a particular sector. The GVA of a handloom micro-enterprise is calculated as

GVA = (Total sales revenue + addition of inventory) – (Cost of raw material + other intermediate cost)

Other intermediate cost includes the cost of colours, electricity consumption and miscellaneous. Inventory included mainly unsold products during the time of the survey.

Model Specification and Variable Descriptions

Multiple regression model is used to identify the factors influencing labour productivity of handloom micro-enterprises. Different factors might affect the labour productivity of the handloom enterprises. Capital intensity, production (sales revenue) and wage (Labour cost) are considered important determinants of labour productivity in

the existing literature. In addition to these, the study also considers factors such as experience, education, access to training and sex of entrepreneurs.The sales revenue of an enterprise is defined as the annual sales value and it is expected to impact on labour productivity positively. Labour cost is expected to be a positive impact on productivity. The imputed cost of family labour and self-employed workers are calculated based on the actual wage rate of hired workers in the particular survey area. The capital intensity of an enterprise is defined as the price ratio of fixed capital expenditure (looms and other accessories) to labour. Level of education of entrepreneurs is expected to be important determinate of labour productivity of handloom enterprises. The higher level education of entrepreneurs may have higher level of productivity as educated person is expected to acquire more skilled and manageable knowledge compared to low level of educated persons. It is measures as numbers of years spent in schooling. Like education working experience of entrepreneurs are expected to be positive impact on labour productivity. It is measures in terms of number of years working in the handloom activities. The variable such as the sex of entrepreneurs and access to training is taken as dummies.

The following regression model is used to investigate these manners in which the factors influence labour productivity of handloom micro-enterprises of Assam. The model considered the natural log of labour productivity as the dependent variable. Similarly, the independent variables, namely sales revenue and labour cost are also taking natural log for normalisation of data.

$$\ln LP = \beta_0 + \beta_1 \ln SR + \beta_3 \ln LC + \beta_2 CI + \beta_4 EXP + \beta_5 EDU + \beta_6 SEX + \beta_7 TRNG + ei$$

Where,

lnLP = Natural log of labour productivity of i^{th} handloom enterprises (Rs.)

lnSR= Natural log of sales revenue of i^{th} handloom enterprises in a year (Rs.).

lnLC= Natural log of labour cost of i^{th} handloom enterprises in a year (Rs.)

CI= Capital intensity of i^{th} handloom enterprises (Rs.)

EXP= Years of working experience in handloom activities of i^{th} enterprise owners

EDU = Number of years spent in the school of i^{th} enterprise owners

SEX = Sex dummy fori^{th} entrepreneurs (Female =1, Male =0)

TRNG = Access to training of i^{th} enterprises owners (Yes =1, No =0)

e_i= Error term

Results and Discussion

Handloom Based Micro-Enterprises: Sample Profile

The production units of the sample handloom enterprises in Assam are the self-employed micro-entrepreneurs. Table 1 shows the some important economic characteristics of sample handloom enterprises of Assam. It is observed that multi loom enterprise owners are engaged with minimum of two operating loom and maximum of 13 operating looms. The single loom enterprises are operated their production process within the household with the help of exclusively family labour. The multi loom enterprises are having separate loom sheds and produces fabrics with help of both hired labour and family labour.

Moreover, average expenditure on fixed capital (Excluding land and building) of multi-loom enterprises is Rs. 28420, while it is Rs. 20450 in case of single loom enterprises. It is mainly due to most of multi loom enterprise adopted jacquard machine with loom. The average annual consumption of raw materials by single loom enterprises is Rs. 50220 while it is Rs. 90910 for multi loom enterprises. It is might be due to use of high quality yarn and high volume of production. Thus it is observed that investment on both fixed capital and working capital of multi loom enterprises are more than single loom enterprises. As a return annual sales turnover and GVA of multi loom enterprises are more than single loom enterprises. The annual sales turnover of single loom enterprises is Rs. 1.39 lakhs and multi enterprises is Rs. 2.44 lakhs.

Table 1: Profile of Sample Handloom Micro-Enterprises in Assam

Particulars	Single Loom Enterprises	Multi Loom Enterprises
Number of enterprises	202	110
Number of loom/looms	1	2 to 13
Nature of work place	Within the household	Separate loom shed
Type of labour	Family labour	Both family and hired labour
Fixed capital expenditure per loom (Rs/year.)	20450	28420
Cost of raw materials per loom (Rs./year)	50220	90910
Sales turnover per loom (Rs./year)	1.39 lakhs	2.44 lakhs
Gross Value Added per loom (Rs./year)	88360	155540

Source: Computed from primary data, 2021-22

Employment Pattern in the Sample Handloom Enterprises

In the present study, employment refers to total persons engaged in the sector, including self-employed workers, family workers, and hired workers. The distribution of workers by type and gender is presented in Table 2. In the sample enterprises, 579 persons

are engaged in the sector, including self-employed (owners), family workers and hired workers. It is observed that 69.78 per cent of the workers in the sample enterprises are family workers and 30.22 per cent are hired workers. The proportion of female workers is higher than male workers. The female workers constituted 72.28 per cent in family labour and 70.29 per cent in case of hired labour. It is also observed that out of 164 male workers, 31.71 per cent are comprised of hired labour. Again out of 415 female workers, hired labour constituted 29.64 percent. Thus, the employment of female labour is higher than that of male labour in both the cases of family and hired labour. This is in conformity with the Handloom Census findings that proportion of women workers is high in handloom sector.

Table 2: Employment Pattern of Handloom Micro-Enterprises in Assam

Labour	Male	Female	Total
Family labour (Including self-employed workers)	112	298	404
	(27.72)	(72.28)	(100)
	(68.29)	(70.36)	(69.78)
Hired labour	52	123	175
	(29.71)	(70.29)	(100)
	(31.71)	(29.64)	(30.22)
Total	164	415	579
	(28.32)	(71.68)	(100)
	(100)	(100)	(100)

Source: Computed from primary data, 2021-22

Note: First rows of parenthesis represent the row percent and second rows of parenthesis represent the columns percent

Employment of Labour and Production Stages

Generally the production stages of handloom industry involved three types of activities: (i) pre-loom activities (dying of yarn, bobbin and pirn winding, warping etc.), (ii) loom activities (weaving and designing) and (iii) post-loom weaving activities (bleaching, calendaring, packaging etc.).

In the sample handloom enterprises in Assam, the production processes are classified into six stages**.** Firstly, rolling the yarn in a bobbin through a hand charkha (Jattor) or winding machine. Secondly, the threads are warping for the desired width and length of the warp sheet by combining many bobbins with the help of a warp machine or traditional system. The warp sheet's length and width depend on the fabrics produced. Thirdly, after the completion of the warping process, the warp sheet fits into the loom. In this stage, a highly skilled worker is needed. Fourthly, the yarns are rolled in pirns for weaving on the stage using charkha. Fifthly, weaving and designing are the crucial stages of the production process. The skilled weavers perform the weaving and designing. Weavers used either a modern jacquard/dobby machine or manually create

design on the clothes. Six, after completion of the weaving process, the products are calendared and packed for sale in the market.

Table 3: Annual Mandays Created Per Loom at Different Production Stages

Production Stages	Single loom enterprises	Multi loom enterprises	All sample enterprises
Bobbin winding	17.31	20.14	18.31
	(5.59)	(6.03)	(5.75)
Warping and Drumming	9.17	7.41	8.55
	(2.96)	(2.22)	(2.69)
Fitting into the loom	12.75	10.09	11.81
	(4.11)	(3.02)	(3.71)
Prin winding	35.79	35.50	35.69
	(11.54)	(10.64)	(11.21)
Weaving and Designing	221.15	248.29	230.72
	(71.34)	(74.41)	(72.47)
Separation and Packaging	13.82	12.26	13.27
	(4.46)	(3.68)	(4.17)
Total	310.00	333.69	318.35
	(100)	(100)	(100)

Source: Computed from primary data, 2021-22

Note: Parenthesis represents the percentage (1 mandays = 8 hours)

Table 3 revealed that on average 318.35 mandays are created per loom annually by the enterprises studied. It is observed mandays created in multi loom enterprises is relatively higher than single loom enterprises. The multi loom enterprises created annually 333.69 mandays while single loom enterprises created annually 310.00 mandays. In both types of enterprises it is the weaving and designing processes, that absorb more labour, being more labour intensive processes. As a result more than 70 per cent of mandays are created in these works. Stages of warping & drumming, separation and packaging process require relatively lower proportion of mandays. Thus, it is clarified that a higher proportion of labour supply is required in the weaving and designing process, followed by pirn winding and bobbin winding process. Since, pirn winding and weaving is a regular process for producing a piece of cloth. Thus the employment of mandays in multi loom enterprises is more than in single loom enterprises. It is might be due to involvement of hired labour in the multi loom enterprises.

Labour Productivity

Labour productivity is an essential indictor of performance of the enterprises. Labour productivity of handloom micro-enterprise may be defined either as the ratio of gross value added to mandays or as the ratio of gross value added to number of workers. In the first case, it is the productivity level per day per worker. In the second, it is annual productivity per worker. The average labour productivity of single loom and multi loom enterprises are presented in Figure 1 and 2.

The average labour productivity of all enterprises is Rs.386.45 per mandays and Rs. 109859 per employees in year. The labour productivity of multi loom enterprises is more than single loom enterprises in both figure 1 and figure 2. It might be due to the use of skilled hired labour, relatively large scale of production and other marketing advantages of multi loom enterprises. In contrast the single loom enterprises entirely based on family labour and scale of production is very low. This finding is similar to the finding of Subhan (1989), who observed that productivity and income of small handloom enterprises are less than large enterprises.

Figure 1: Labour Productivity as the Ratio of GVA (in Rs.) to Mandays

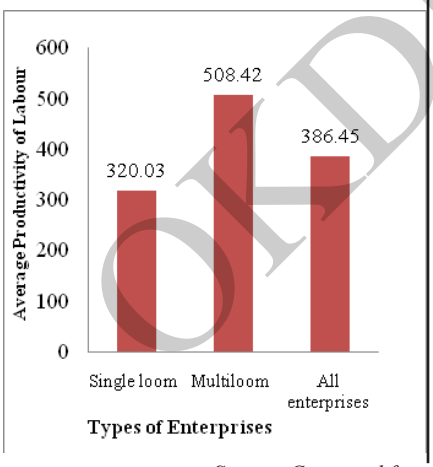
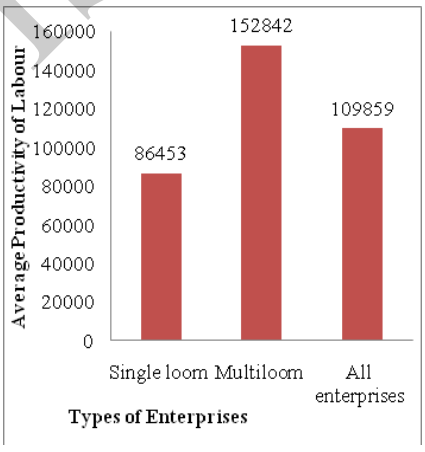


Figure 2: Labour Productivity as the Ratio of GVA (in Rs) to Number of Workers



Source: Computed from primary data, 2021-22

Determinants of Labour Productivity

The productivity of labour may depend on different factors. The present paper considered factors such as sales revenue, capital intensity, labour cost, experience, education, sex, types of enterprises and access to training, which may be influence the labour productivity of handloom micro-enterprises in Assam. The descriptive statistics of the determinants of labour productivity of handloom micro-enterprises in Assam are presented in Table 4. The average annual sales revenue of sample handloom enterprises

is Rs. 386644.25, the capital intensity is Rs. 22901.37, and the average annual labour cost is Rs. 46383.09. The standard deviation of sales revenue, capital intensity, and labour cost are very high. It might be due to the factors such as the scale of operation, the number of looms, values of fabrics and the use of different types of yarn etc. The mean value of work experience is 10.43 years and the minimum and maximum years of schooling of handloom entrepreneurs were 0 and 15 years.

The factors influencing labour productivity of handloom micro-enterprises in Assam are presented in Table 5. The value of the F test in ordinary least square (OLS) estimation implies that the model is significant at a 1 per cent level with an F value of 103.27. The R square value is 0.70, which indicates that the regression model explains 70 per cent of the total variation in labour productivity.

Table 4: Descriptive Statistics of the Variables for the Regression Model

Name of the variables	Mean	Standard Deviation	Min	Max
Labour productivity	386.45	293.74	49.03	1635.81
Annual Sales Revenue	386644.25	567991.3	20300	4328700
Annual Labour cost	46383.09	28867.2	6000	171275
Capital intensity	0.52	0.22	0.20	1.42
Experience	10.43	6.41	2	40
Education	9.7	3.68	0	15
Sex Dummy	0.76	0.43	0	1
Access to Training Dummy	0.41	0.49	0	1

Source: Computed from primary data, 2021-22

The influence of sales revenue on labour productivity is found to be significant at a 1 percent level. It implies that, keeping other factors constant, 1 percent increase in sales revenue leads to a 0.37 per cent increase in labour productivity per day. A similar result in the context of handloom industry in Bangladesh is reported by Chowdhary (1989). Thus productivity level of handloom enterprises can be improve by increasing the sales revenue as sales maximization leads to high profit and it gives incentives to weavers or entrepreneurs for more production. It means that by maximizing sales revenue, higher amount of incentives shall be offered to weavers which in turn will enhance their productivity.

The co-efficient of labour cost is found to be significant with a positive sign. It implies that a 1 per cent increase in labour cost leads to a 0.27 per cent increase in labour productivity, while other factors remained unchanged. It might be so that high increases in wage may increase the willingness to work. From the evidence of field survey, it is also observed that majority of weavers getting wages on fixed rate per piece. As a result the weavers who gets high wage rate per piece might give more efforts and time in productions. Studies like Chowdhary (1989), Ngoc & Huoc (2017) found similar result of which labour cost positively influenced on labour productivity.

Table 5: Determinants of Labour Productivity of Handloom Micro- Enterprises in Assam

Explanatory variable	Co-efficient	Standard Error	t-statistics	p value	VIF
Constant	-1.393**	0.573	-2.43	0.016	
Sales Revenue (SR)	0.370***	0.032	11.623	0.000	2.789
Labour cost (LC)	0.266***	0.063	4.246	0.000	3.143
Capital intensity (CI)	-0.308***	0.125	-2.464	0.014	1.561
Experience (EXP)	-0.006	0.004	-1.453	0.147	1.538
Education (EDU)	-0.008	0.008	-1.114	0.266	1.586
Sex (SEX)	0.076	0.058	1.297	0.195	1.257
Training (TRNG)	0.118**	0.05	2.364	0.019	1.226
F value	103.27***				
R- squared	0.704				
Adjusted R-squared	0.697				
Observation	312				

Source: Computed from primary data, 2021-22

Note: Dependent variable is the labour productivity as the ratio of GVA (in Rs.) to mandays

****and ** Significant at1 and 5 per cent levels.*

The influence of capital intensity on productivity of labour is found to be negative and it is statistically significant at 1 percent level. It indicates that more capital expenditure in comparison to labour leads to decreased productivity. It is because most of the handloom industry is household-based and labour-intensive nature. Thus, it is noticed that, with available fixed capital, the handloom micro-enterprises in Assam have the potentiality to increase productivity by creating more mandays. But in case textile industry in India, Shetgaokar (2022) found that capital intensity has a positive impact on labour productivity. It might be due to growth of powerloom and mill sector.

In the handloom enterprises of Assam, productivity of labour does not depends on work experience, years of schooling and sex of the entrepreneurs. The work experience of entrepreneurs is found to be insignificant having a p value of 0.15. It indicates that whether the entrepreneur has more experience or less, they will produce the same quantity simultaneously. It means that regardless of work experience, labourproductivity depends on other factors. Similarly, the influence of education level on labour productivity is also found insignificant. It means that whether the entrepreneurs are more educated or less, their productive capacity will be the same. As discussed with the entrepreneurs in the field survey, it is the skilled and efficiency of the entrepreneur that matters in the handloom micro-enterprises of Assam rather than his or her work experience and education qualification.

Labour productivity of handloom micro-enterprises of Assam does not depend on sex of the entrepreneurs and sex dummy is found to be insignificant. It implies that the productivity of male and female labour in the handloom enterprises in Assam is the same. The influence of training of entrepreneurs on labour productivity of handloom enterprises is found to significant at 1 percent level, which implies that who are trained, are owner of enterprises with higher level of productivity compared to the enterprises where the owners did not attain any training programme.

This result is quite expected, because trained entrepreneurs are more skilled and in addition have managerial knowledge for running the enterprises. Though, there are many training programmes and training institutions operating under different government agencies, only 126 entrepreneurs out of 312 entrepreneurs in the sample, have received any training till the time of conducting the survey. Directorate of Handloom and Textiles of Assam operate 102 Handloom Training Centres (HTC) and 4 (Four) Handloom Training Institutions (HTI), located in different districts of Assam. These training centres and institutions provide training on weaving and designing, and total intake capacity of HTC is 1645 persons per year and that of HTI is 97 persons per year. During the last fifteen years from 2006-07 to 2020-21, a total of 12938 persons from HTC and 758 persons from HTI were trained. Thus, these institutions together imparted training to 913 weavers per year on average[3].

Indian Institute of Entrepreneurship (IIE) also organise training programmes on weaving and entrepreneurship. During January to March, 2023, four such programmes were organised in each of the four districts of Assam namely Barpeta, Kamrup, Darang and Lakhimpur under Entrepreneurship Skill Development Programme (ESDP)[4]. IIE also organises Digi-Bunai skill training programs under the Ministry of Electronics and Information Technology to provide Computer Aided Design (CAD) training to traditional handloom weavers and artisans. As of March, 2023, IIE conducted seven Digi-Bunai Training programmes in Assam and Tripura where 210 participants were trained[5].

Conclusion

The weavers included in the sample are self-employed micro-entrepreneurs that produce fabrics with the help of both family labour and hired labour. The multi loom enterprises are performed well in terms sales revenue, mandays creation and labour productivity than the single loom enterprises. Regression result found that higher sales revenue, increasing wages or labour cost and entrepreneurs with training trend to increase the labour productivity of handloom enterprises significantly. In contrast, higher capital intensity of the handloom enterprises trend to decline the labour productivity significantly.

[3] https://dht.assam.gov.in/schemes/state-govt-schemes

[4] https://iie.gov.in/training/#gsc.tab=0

[5] https://iie.gov.in/pr/projects/awareness-building-and-training-to-designers--weavers--artisans-on-digibunaitm-cad-software#gsc.tab=0

The above findings suggest that organizing the single loom enterprises into a collective will help them in reaping the economies of scale and other marketing benefits. It is observed that multi loom enterprises are more productive and producing more revenue than single loom enterprises. It is suggested that organising the single loom enterprises into a collective will help them in reaping the economies of scale and other marketing benefits. Policymakers may also take initiatives to establish institutional weaving units or loom sheds installed with modern jacquard looms and other common-use equipment for single loom enterprise owners.

Training of enterprise owners and the weavers is a significant factor in improving productivity of handloom enterprises. Though, there are many training programmes and training institutions operating under different government agencies, they are able to provide training to limited number of weavers and handloom entrepreneurs. Thus, there is a need for more training institutions and programmes. Policymakers may take initiatives to organise short-term training programmes in different handloom villages.

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Accountability at the Grassroots: A Study on Functioning of Panchayatiraj Institutions in Assam

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Abstract

Accountability is considered as a significant aspect which is essential for effective functioning of any government. It stands for fulfillment of functions and obligations of government authority and people's representatives. Higher the accountability of public authority, higher is the level of good governance. Accountability in local governance is not only about delivery of services but also about securing lives, ensuring liberties of citizens, generating an atmosphere of democratic participation and enriching quality of lives. The Panchayati Raj Institutions (PRIs) as local self-governments are essential institutional building blocks for local development. PRIs are based on the major assumption that transfer of power to people and their representatives enables them to take part in planning, decision-making and implementation. Secondly, PRIs promote socio-economic equality, ushering in a new social order in the rural society. However due to the lack of accountability in the PRIs they fail to take up their responsibilities. Therefore, the basic objective of this paper is to understand the level of accountability of in PRIs and also to deal with different functional aspects including delivery of service, involvement in governance, awareness and satisfaction level of the PRIs.

Accountability is considered as a significant aspect of democracy which is very essential for effective functioning of any government. It implies holding of people's representatives responsible for their actions. Good governance is only possible if political and administrative authorities are accountable to the people (Blair, 2000). Accountability is a democratic and administrative process implying responsibility of representatives and public officials.

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Accountability is an essential element of good governance. It refers to the ability of putting representatives or public officials to account for their actions, programmes and use or misuse of power and funds. In general, an organization or an institution is accountable to those who will be affected by its decisions or actions. It indicates whether the activities of public institutions or the services provided by the government are compatible with the norms and values adhered by society and whether the services are able to fulfill public needs. The World Bank has emphasized on accountability from the viewpoint of developmental management highlighting both economic and financial accountability. It needs reform of institutions responsible for service delivery with a view to improving its efficiency (World Bank, 1991). For financial accountability, project implementing agencies are more focused where one of the goals is decentralization to reduce loads of central government by relying on local decision-making helping to ensure accountability.

Higher the accountability of public authority, higher is the level of good governance. Therefore, it is an essential component of socio-economic development at the local levels (Asis, 2006). The Twelfth Five Year Plan of Government of India stated that accountability is a primary concern that needs to be addressed on an urgent basis, lack of which can results in corruption, maladministration and inefficiency of governments (Planning Commission, 2017).

During colonial period, accountability was directed towards the higher authority. Independent India needs its reversal. It needs therefore, an alternative paradigm of governance, where government and administration are made accountable to the people (Palanithurai, 2014). To mark it hands-on, local level government, specifically the Panchayati Raj Institutions (PRIs) needs to be accountable to the people for realization of decentralized democracy. Efficient Gram Sabha, active popular participation and active Citizen's Charters are imperatives for making panchayat representatives accountable (Vadiraja and Mehrotra, 2004). At the same time, there is an availability of a wide range of institutional arrangements through which people can regulate the elected representatives at their own places. An institution is to be accountable to those who will be affected by its decisions and actions and interestingly it cannot be enforced without a command of institutional transparency.

The objective of this paper is to understand the level of accountability at the grassroots specifically in the PRIs in Assam, a Northeastern state of India for which Jorhat District has been selected for field study. The district has been selected purposefully based on certain criterion. Based on overall values of Human Development Index (HDI) of Assam Human Development Report, 2003 (AHDR, 2003), Jorhat occupied top rank among the districts of Assam with HDI value of 0.650. Again, as per Assam HDR, 2014, Jorhat occupied the second rank with HDI value of 0.655 (ADHR, 2014). Literacy rate of the district is another important criterion for its selection. Jorhat is also at the top with rural literacy percentage of 80.36 percent (Census of India, 2011). Moreover, Jorhat Zilla Parishad was awarded the prestigious 'Panchayat Sashaktikaran Puraskar' by the Ministry of Panchayati Raj, Government of India for being the best panchayat in the state of Assam for the year 2012-2013 (Rural.assam 2013-14).

As rural local self-government, PRIs are functioning in Jorhat district according to the Assam Panchayati Raj Act 1994, which came into effect on 5 May 1994. The act was worked out to cover all the rural areas of the state except the areas covered by the Sixth Schedule of the Constitution of India. Theoretically it was already in force because panchayat bodies were constituted through elections held in 1992 under the Assam Panchayat Act, 1986. With change of the government in 1996, the new government headed by the Assam Gana Parishad dissolved all the PRIs in 1997. After that, the state government apparently prepared for panchayat elections in Assam in 2000 but elections were not held due to certain unresolved issues of autonomous councils of different plains tribes of the Brahmaputra Valley (Sangma, Jain & Mathew, 1992). Panchayat elections under the Asaam Panchayati Raj Act, 1994 were held for the first time in 2001. It was followed by elections in 2008, 2013 and 2018.

Accountability largely depends on the commitment, dedication and involvement of panchayat representatives. At the same time, it is also true that there is a close relationship between socio-economic backgrounds of the representatives and their role. As the accountability level differs with the variations in the socio-economic and political background of representatives; therefore, information about age, educational qualifications, occupation, marital status, family background, and party affiliations are taken into account [See Table 1].

Age of panchayat representatives is an important factor determining the nature of representation in governance. In the traditional Indian society, it was widely believed that elderly people are more influential in the PRIs. Table 1 pertains to the socio-economic background of panchayat representatives shows that the percentage respondents in the age group 31-40 are 37 percent. It is followed by the age group 41-50 with 34 percent and then by age group 51 and above with 25 percent. There are very less number of respondents (four percent) in the age group of 18-30 years. Therefore, it is evident that the middle-aged people are more dynamic and active in PRIs. Involvement of the younger group is less significant compared to the middle-aged group. Caste is also an important factor affecting people's involvement in local governance. The influence of caste as a social category in rural society is well marked. Traditionally, the rural leadership in India has been a monopoly of people belonging to the upper caste (K.C. Sharma, 1996). People of the lower strata remained detached from the formal process of representation. Table-1 depicts that 37 percent respondents belong to general castes followed by OBC with 31 percent. The panchayat representatives of SC, ST and tea-garden community are 18 percent, 12 percent and 2 percent respectively.

Equal representation for all religions can lead to efficient functioning of PRIs. In the present study, religion has been classified into four categories i.e. Hindu, Muslim, Christian and others. The other category consists of religions like Buddhist, Jain, Sikh etc. In this study, 85 percent respondents are Hindu whereas Islam and Christian respondents consist of nine percent and six percent respectively. There is no respondent in the other religion category.

Effectiveness of panchayat representatives varies between the married and unmarried representatives. Table 1 depicts that 83 percent respondents are married, whereas single and widow/divorced are of 13 percent and four percent respectively. It is clear that participation of married representatives is higher and the reason maybe the unwillingness of unmarried people in contesting in local bodies or less acceptance by the people. Moreover, there is a relationship of unmarried women with the factors of social security, safety, convenience etc.

It has been observed that highly educated people are less interested in local politics and avoid taking part in local self-government [See Table 2]. It is found that majority of panchayat representatives have very minimum educational qualifications. The general precondition is that people's representatives should inhabit in the village and their primary occupations should not hinder them from performing as panchayat representatives. Occupation also provides economic security due to which panchayat representative can deliver on their responsibilities in an efficient manner. Cultivation is one of the main sources of income in rural areas of Assam but due to various factors like decline of cultivated land, growth of the private sector, changes in work culture, lack of modern cultivation tools etc. occupational patterns in Assam have changed. Table 2 shows that 30 percent of PRI representatives are self-employed, 24 percent are cultivars and 20 percent do business. The self-employed PRI representatives were shop owners, fabrication center operators and ran rice mills, NGOs etc. Some deal in small trades, contracts and cooperatives centers.

Table 2 also shows that 13 percent PRI representatives are housewives and some of them are earning money from family sources like weaving, poultry firm, and house-rents. Some of the housewives get financial support for running the family through engagement in Self Help Groups (SHGs). Income of the PRI representatives indicates economic and social status. In rural society, it has been seen that people possessing high income generally receive respect of villagers. Some people become popular by virtue of earning high incomes. Monthly income is a vital factor for PRI representatives. Ironically, contesting in elections indicates big expenses in contemporary times because of which it is expected that people with sound economic backgrounds only could contest in these elections. However, the practical scenario is somewhat opposite. According to findings, affluent persons are less likely to participate in PR elections. It also shows that the elusive nature of people not wanting to disclose the monthly incomes leads to ambiguity. In rural Assam, poverty, unemployment and natural disasters are the main problems against economic prosperity. The number of people belonging to below poverty line indicates that living standards are still pathetic in the study area.

Political Background of the PR Representatives

Political experience and affiliations, motivating factors etc. plays a very important role in accountability. Political parties are vital force in politics; however political parties were not directly involved in panchayat election in earlier times as the elections were not held in party lines. They were not allowed to contest elections with party symbols although they were associated with political parties. After the enactment of the new PR

Act, the importance of political parties has been increasing and the political parties also became interested in grassroots elections in order to ripen mobilizing force for assembly and parliamentary elections. Panchayat representatives started associating with political parties for using the networks of political parties. Here, it is found [See Table 3] that 70 percent panchayat representatives are associated with political parties whereas only 30 percent are independent. It is also observed that political parties play a prominent role in successful completion of the panchayat election process. It is commonly considered that experience of panchayat representatives can aid their political knowledge, helping them to understand their roles and responsibilities. Without experience, it is difficult to sustain in the panchayats as a leader. It is found that two percent representatives have experience of three tenures in PRIs, 15 percent experiences of two tenures whereas 83 percent representatives have been experiencing for the first time. The study depicts that 38 percent respondents contested in the elections for serving people as well as for the welfare and development of rural mass. On the other hand, 29 percent respondents contested in the elections as political party nominates them. It is interesting to note that political parties also choose local leaders. 21 percent of the representatives take part in panchayats due to wishes of the family and only 12 percent due to demands of the public. The present study reveals that most panchayat representatives became member of panchayats due interest of serving people and doing something for society.

Use of Information and Communication Technology (ICT) not only reduces the cost of the government but also makes it more transparent and efficient in its day-to-day interactions. In this context, ICT helps PRIs to function smoothly and transparently. The present study reveals that 62 percent panchayat representatives do not have any computer skills for performing basic e-panchayat activities whereas 38 percent representatives have computer knowledge; however, they too are not efficient in executing the work related to e-panchayats. From the findings, it is clear that most of the panchayat representatives are not capable to perform e-panchayat applications due to lack of needed skill.

SHGs are increasingly becoming a medium for routing government sponsored developmental schemes. Memberships of SHGs have an influence upon women representatives. The SHG is a powerful community-based organization and its democratic functioning and mode of activities help women representatives in performing their duties in PRIs. Apart from that, SHGs have enhanced the financial capabilities of ordinary people, largely women. Through thrift and credit operations, women acquire financial security against vulnerabilities. It is observed that 37 percent woman representatives are belonging to SHGs [See Table 4].

Exposure to mass media and habit of reading newspapers makes elected representatives aware of their role and also make them accountable. The study reveals that a considerable number of respondents have no habit of reading newspapers. The study shows that 58 percent of panchayat representatives are not habituated in reading newspapers. In contrast to this, 42 percent respondents are regular readers of daily newspapers, mostly vernacular language newspapers [See Table 5]. A smaller number of respondents read

English newspapers. All of them acknowledged that newspapers are the sources of information of different activities of panchayats as well as for government initiatives. However, respondents are dissatisfied with the news in the newspapers as they hardly cover the success stories of PRIs.

Awareness Level of Panchayat Representatives

The Assam Panchayati Raj Act has made a considerable number of provisions for making the PRIs as third tier of government. In this study, an attempt has been made for knowing the level of awareness amongst the representatives about the important provisions. Awareness of various aspects of PRIs is essential for the panchayat representatives for proper performance of duties by panchayat representatives. The term awareness is related to knowledge of the members of PRIs. It helps to enhance accountability. Study identifies that 98 percent of panchayat representatives are aware about all provisions of the Assam Panchayat Raj Act, 1994. Out of this, 52 percent fully aware and 46 percent are partially aware. It is also significant that 90 percent of the respondents have idea and knowledge about funds released to the panchayats under various schemes. On the other hand, 10 percent respondents are unaware of the sanctioned funds available to the panchayats. The awareness level of respondents is also high with 91 percent knowing about the sources of revenue. It is reflected that respondents are only aware of the traditional sources of revenues but they are not familiar with revenue sources received from locally organized cultural functions and programmes, circus, mobile dramas etc. They never generate any revenues from fees, fines and penalties and 22 percent respondents are unaware of revenue generation from penalties. All the sample gram panchayats did not have any income sources such as from fruits or vegetable farming, small-scale industry and small manufacturing factory, which are common in the states of Kerala and Maharashtra. Study shows that due to absence of revenue sources PRIs need to depend on state government for financial assistance.

To ensure accountability of the panchayat representatives, a number of initiatives have been taken by the government, incorporating citizen's concerns in the formulation of plans such as citizen's charter, social audits and Right to Information. Citizen's charter is a kind of commitment made by an institute for quality, standard and time-frame of service delivery. It is an instrument that makes governance transparent, accountable and citizen-friendly. On the other hand, social audit is an auditing process that is conducted jointly by the panchayats and the people, especially by those people who are affected or are intended beneficiaries of schemes. Provisions have been made in the Assam Panchayati Raj Act for the conduct of social audit of gram panchayat work by the gaon sabha. For the audit, the gram panchayat will make available all relevant documents including the muster rolls, bills, vouchers, data register, measurement books, copies of sanction orders, photos before, during and after the execution of the work and other connected documents. People also have the right to know all aspects of the government which affects their lives. The study reflects that only 36 percent respondents have knowledge about social audits. On the other hand, only 12 percent of respondents are aware and rest 88 percent are unaware of citizen's charters. Awareness

of Right to Information Act is found to be among 22 percent of the total respondents. Hence, from the study, it is clear that although the panchayat representatives are very much aware about fund and schemes, awareness of the mechanism of accountability is very low [See Figure 1]. It is evident that awareness of the panchayat representatives is schemes-orientated.

Performance and Involvement

PRIs offer enormous opportunities of making local governance and rural development process more need-based, people-oriented and productive, while at the same time being accountable. The involvement of panchayat representatives in various activities reflects the level of accountability. In the present study, activities were divided into two categories *viz* general activities and official activities. The study depicts that 99 percent representatives attend gram panchayat meeting and gram sabha meeting regularly. 91 percent respondents take part in various discussions of the gram panchayats. Regarding agenda setting, 95 percent respondents mentioned that they resolved different problems faced by the gram panchayats. 66 percent respondents observed regular display of notice boards in the gram panchayats. The notice boards are fixed in concerned gram panchayat offices and others public places where people gathered in large numbers. Through notice boards, people get full details of their village and activities undertaken by the gram panchayat. On the other hand, 33 percent respondents never display notice boards in gram panchayat office. The study identifies that 98 percent of panchayat representatives regularly prepare annual plan for the PRIs. Regarding implementation of development schemes and plans, 95 percent of the respondents are regularly working. The fiscal matter is managed by the officials in the gram panchayats. In this context, the present study reveals that panchayat representatives have less holding on the financial matters [See Figure 2].

Gram panchayats work for the holistic development of villages in their jurisdiction. As mentioned earlier, the Constitution gives panchayats the power of planning and implementing schemes for economic development and social justice. Effective delivery of amenity services improves quality of lives of villagers through ensured safe drinking water, sanitation, healthcare, roads and streetlight etc. PRIs are acting as implementing agents of government sponsored developmental programmes such as for sanitation, drinking water, housing, health food security etc. The findings reveals that 97 percent respondents are regular in maintaining infrastructure within the gram panchayats. The respondents were observed to maintain facilities like drinking water and sanitation remarkably regularly (percentages of 98 percent and 95 percent respectively). However, some sort of irregularities in maintaining street-lights, drainage and burial grounds etc were observed. Although registration of birth and death is one of the important activities of panchayat, very low numbers of respondents are regular in this. On the other hand, regularity in maintenance of statistics of people is extremely poor [See Figure 3].

The study reflects that 64 percent respondents are not regular in mobilizing relief at the time of natural calamities whereas only 36 percent respondents are regular in the same. The preservation and protection of the public land or properties is an important function

of the panchayat representatives as a part of their community services. The findings shows that 26 percent respondents regularly prevent any kind of encroachments on public properties. However, 74 percent respondents are not regular in performing this. On the other hand, a smaller number of respondents is regular in organizing voluntary services for any social service purpose. The panchayats can play a significant role against social evils like alcoholism, consumption of narcotics, dowry and child abuse etc through conducting of awareness camps. However, the table shows that only 23 percent of the respondents have conducted awareness meetings for preventing social problems [See Table 6]. Since water crisis is one of the major problems of the study area, regular work of the respondents in maintaining traditional water sources could be beneficial in combating the problem. The panchayat representatives are observed to be more regular in preserving and maintaining traditional sources of water. It is also observed that panchayat respondents are very regular in maintaining social harmony.

Satisfaction Level of the Panchayat Representatives

The performance of the panchayat representatives depends on the satisfaction levels. The satisfaction of panchayat representatives encourages them to work for people as well as for development of the local area.

The study reflects the responses respondents about their satisfaction levels. Only two percent respondents are fully satisfied and 98 percent of the respondents are dissatisfied with the remuneration they receive as members of the panchayat [See Table 7]. It is significant that financial grant is important for well-functioning of the various developmental programmes in the gram panchayat. Here in this Table, it is reflected that only five percent respondents are satisfied with the financial grants of the central government and state government. On the other hand, 95 percent respondents are dissatisfied with the grants. There is a close relation between panchayat representatives and panchayat administration. Since the panchayat representatives are elected members, they are not familiar with the administrative process. Their working pattern is different from administrative officials. The working environment has influences on the performance of panchayat representatives. It reveals that 25 percent of the respondents are satisfied with working environment in the panchayat office and 41 percent respondents are satisfied with the working process of panchayat administration. On the other hand, a high percentage of respondents are not satisfied with the working process as well as with the working environment. According to 46 percent respondents, panchayat officials are cooperative whereas 54 percent respondents said panchayat officials do not cooperate with them. The above Table also shows that 63 percent of the respondents are satisfied being representatives of the local people. It is also revealed in the study that an inadequate fund is one of the major problems in panchayat and thereby it hinders the execution of various developmental programmes. Respondents also mentioned that government funds sanctioned to the panchayats comes through a chain of administrative process which causes delay in receiving the funds.

Key Findings of the Study

Regarding accountability of the panchayat representatives, socio-economic factors have a deep influence. Majority of panchayat representatives are from Below Poverty Line and very a smaller number of representatives are from Above Poverty Line. In rural Assam, poverty, unemployment and natural disasters are the main problems. In spite of having income, most of the people belong to Below Poverty Line. It indicates that incomes and living standards in the area are still in a pathetic condition. Participation of more educated people in panchayats is a healthy sign for proper functioning of PRIs.

The educational qualifications of panchayat representatives are very low. The research also reveals that participation of married representatives is higher than of the unmarried. The probable reason for this could be either unwillingness of unmarried people to contest in local politics or less encouragement for single and unmarried people to take in panchayats. Moreover, there is a relationship of unmarried women with factors such as social security, safety, convenience etc.

The experience as panchayat representatives can aid knowledge and management capability of representatives. It reveals that most of the panchayat representatives are middle-aged and, at the same time, they are new entrants to panchayats.

The panchayat representatives are aware of various provisions in the Assam Panchayati Raj Act. They are also aware of development schemes entrusted to gram panchayats for implementation. However, they do not have adequate knowledge of provisions and tools of implementing these schemes. It ultimately results in failures of good governance. The awareness level of tools of good governance –social audit, citizen charter and right to information, amongst panchayat representatives is very low. Publishing citizen's charters aim at improving the quality of governmental services. It makes governance transparent, accountable and citizen-friendly. The Ministry of Panchayat Raj issued notice to publish citizen charters for circulating the vision and mission of PRIs. In this study, however, it was found most of the panchayat representatives are unaware about provision of citizen charter.

Right to Information is a powerful instrument for increasing involvement levels of people in the PRIs. The Right to Information would ensure greater accountability in the administrative system. However, the study has found that people are not aware about provisions of the Right to Information Act. Majority of them do not have any idea about provisions of this act and do not know how to exercise their right to information. Only a few young and educated people are familiar with it.

The accountability of panchayat representatives is correlated with performance of activities. Representatives are not giving much priority to deliver basic and community services though they are aware of their roles and responsibilities. Panchayat representatives are regular in panchayat meetings and attend gram sabha meetings. Most of the representatives are active in resolving different problems faced by gram

panchayats. Notice boards are displayed in concerned gram panchayat offices where people gather in large numbers regularly.

Satisfaction levels increase service delivery but there is no provision of monthly salary for panchayat members. Therefore, due to lack of financial security the representatives do not wish to actively perform their duty and responsibilities. The gram panchayats do not have specific financial powers. Due to lack of financial devolution, representatives cannot raise revenue locally. The gram panchayats have been suffering because of inadequate fund causing hindrance to the proper functioning of panchayats.

The present findings reveal that panchayat representatives never face any kind of social and religious discrimination within gram panchayats. They enjoy respect and importance with respect to their caste and religion in their localities. Gram panchayat representatives seek to preserve harmony in the society.

The study also reveals that gram panchayat meetings for ward members in the sample gram panchayats are never held regularly as per prescribed guidelines. They do not maintain any specific rule or time for convening the meetings. Most of the time, discussions are held informally. Moreover, lack of proper co-ordination among ward members is a common issue. It often hampers the implementation of decisions. Focused group discussions have revealed ward members never give value to working collectively for any issue of their area.

Regarding political party affiliations of panchayat representatives, it has been found most of the panchayat representatives are associated with political parties. The number of panchayat representatives without party affiliations is very low. It is also observed that political parties play a prominent role in panchayat election process.

Improving accountability in the functioning of panchayats is very important for enhancing their reliability. The panchayat representatives are very much aware of various provisions of the panchayat act and schemes entrusted to gram panchayat for implementation. On the other side, the structure and provisions for better governance in panchayats are less known to gram panchayat representatives. They have also put less importance on tools of good governance *i.e.,* social audit, citizen charters etc. From the findings, it is clear the accountability is correlated with different stages of activities of panchayat representatives. Representatives are not giving much more priorities to delivery of basic amenity services and community services though they are aware of their roles and responsibilities. The finding showed that accountability is associated with the idea of answerability, based on the premise that individual identity is determined by one's position in structured relationships. Accountability of panchayat representatives is limited. The panchayat representatives are aware of various provisions of the panchayat act and schemes entrusted to gram panchayats for implementation but the awareness levels are inadequate for execution of its power.

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Table 1: Social Background of Panchayat Representatives

Variables	Category	Frequency	Percent
Age	18- 30	4	4.0
	31 – 40	37	37.0
	41 – 50	34	34.0
	51 – 60	25	25.0
Sex	Male	52	52.0
	Female	48	48.0

Caste	General	37	37.0
	OBC	31	31.0
	SC	18	18.0
	ST	12	12.0
	Others	2	2.0
Religion	Hindu	85	85.0
	Islam	9	9.0
	Christian	6	6.0
Material Status	Single	13	13.0
	Married	83	83.0
	Widow/Separated	4	4.0

Source: Field Data

Table 2: Economic and Educational Background of Panchayat Representatives

Variables	Categories	Frequency	Percent
Educational Qualification	Below Matriculation	31	31.0
	Matriculation	26	26.0
	HS	31	31.0
	Graduation	12	12.0
Occupation	Unemployed	13	13.0
	House Wife	13	13.0
	Agriculture	24	24.0
	Self Employed	30	30.0
	Business	20	20.0
Monthly Income	Below Rs.3000	26	26.0
	Rs.3000-7000	49	49.0
	Rs.8000-20,000	25	25.0
Economic Status	APL	28	28.0
	BPL	72	72.0

Source: Field Data

Table 3: Political Affiliation and Experience

Variables	Categories	Frequency	Percent
Party Affiliation	Yes	70	70.0
	No	30	30.0
Experience	Once (1 term)	83	83.0
	Twice (2 terms)	15	15.0
	Thrice (3 terms)	2	2.0

Motivating Factors	Serving People	38	38.0
	Party Interest	29	29.0
	Public Demand	12	12.0
	Family Support	21	21.0

Source: Field Data

Table 4: Computer Knowledge and Membership in SHGs

Variables	Categories	Frequency	Percent
Computer Knowledge	Yes	38	38.0
	No	62	62.0
Member in SHG	Yes	37	37.0
	No	63	63.0

Source: Field Data

Table 5: Exposure to Print and Electronic Visual Media

Variables	Categories	Frequency	Percent
Newspaper	Yes	42	42.0
	No	58	58.0
Electronic Visual Media	Yes	60	60.8
	No	38	38.2

Source: Field Study

Table 6: Involvement of PRI Representatives in Community Services

Variables	Regular		Sometime Regular		Neutral		Rarely		Never	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
Mobilization for relief in calamities	11	11.0	25	25.0	0	0	14	14.0	50	50.0
Removal of Encroachments on public properties	8	8.0	18	18.0	0	0	23	23.0	51	51.0
Organizing voluntary labours for community	22	22.0	25	25.0	1	1.0	20	20.0	32	32.0
Preservation and maintenance of Community assets	14	14.0	31	31.0	0	0	18	18.0	37	37.0
Awareness building against social issues	18	18.0	5	5.0	0	0	23	23.0	54	54.0

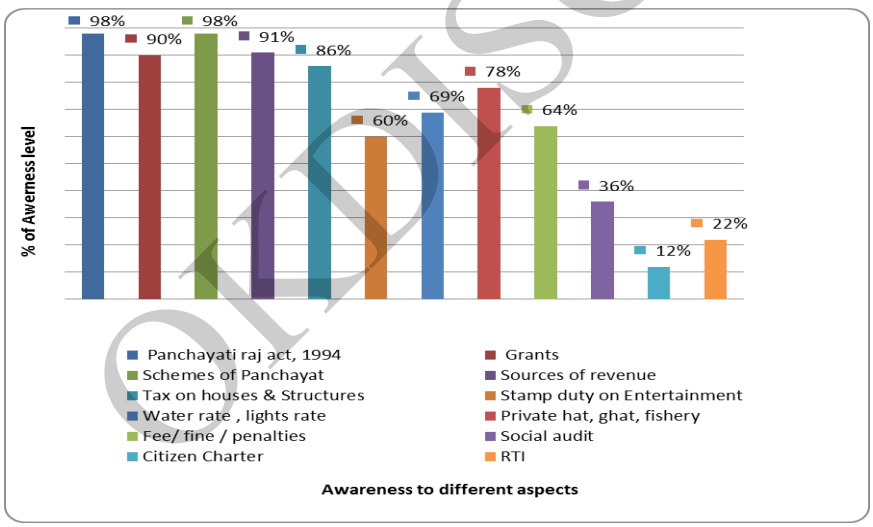
Source: Field Data

Table 7: Satisfaction Level on Structural Arrangement

Variables	Fully satisfied		Satisfied		Neutral		Dissatisfied		Strongly dissatisfied	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
Remuneration of representative	2	2.0	0	0	8	8.0	53	53.0	37	37.0
Financial grant for panchayat	4	4.0	1	1.0	9	9.0	64	64.0	22	22.0
Working environment	11	11.0	14	14.0	19	19.0	51	51.0	5	5.0
Working process in panchayat administration	8	8.0	33	33.0	18	18.0	40	40.0	1	1.0
Cooperation with Panchayat Officials	11	11.0	35	35.0	22	22.0	32	32.0	0	0

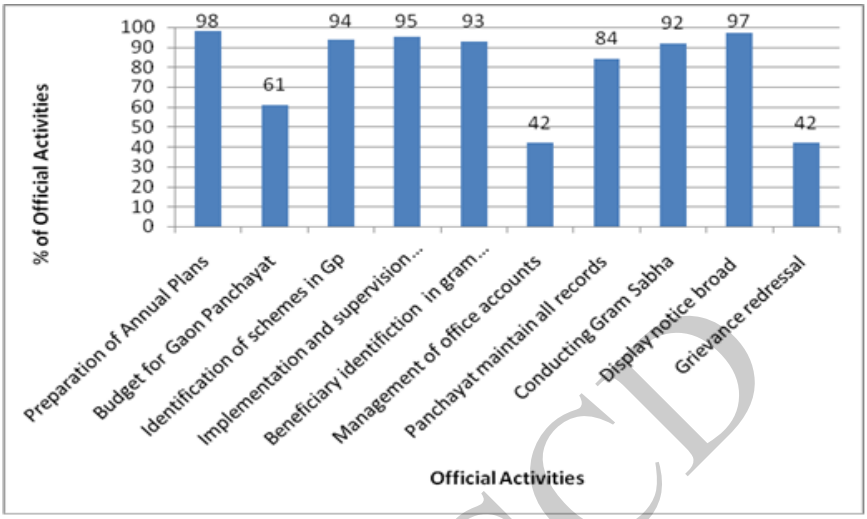
Source: Field Study

Figure 1: Awareness Level of the Respondents



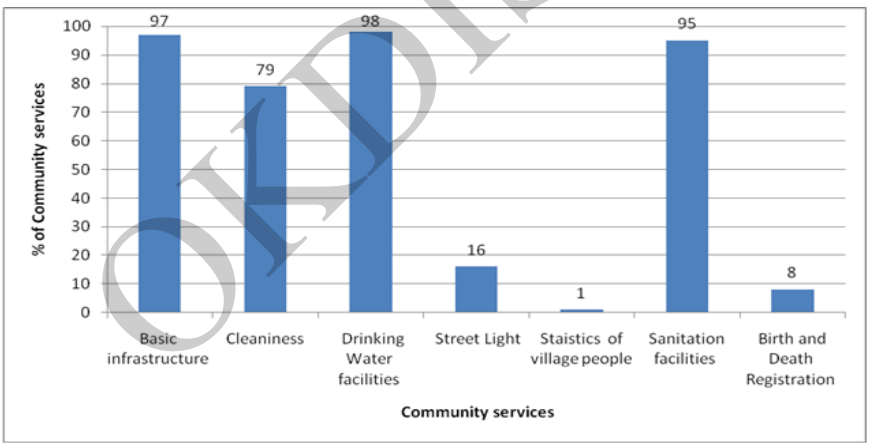
Source: Field Data

Figure 2: Performance Level in Official Activities



Source: Field Study

Figure 3: Involvement in Community Services



Source: Field Study

'We Suffer, They don't Bother': Narratives of Primary Healthcare Vulnerabilities during Floods in Assam, India

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Abstract

Public health research across the globe shows increasing inequalities in healthcare, especially among the marginalized sections of society. This paper aims to explore primary healthcare vulnerabilities during floods among socio-spatially marginalized groups in Assam, a state in northeast India. The paper delves into the ideas of 'equity' and 'justice' in primary healthcare policies and their implications during flood-like disasters. Using a 'grounded theoretical approach,' the paper argues that floods severely disrupt primary healthcare services and increase healthcare vulnerabilities among socio-spatially marginalized groups, while state support to provide basic healthcare requirements during floods remains totally disrupted. Largely, there is an inadequacy of policy frameworks in addressing the primary healthcare issues of the marginalized communities living in flood-prone areas in Assam. Therefore, based on the findings, we propose 'five building blocks' for the primary healthcare system during disasters like floods: proper implementation of boat clinics, equitable healthcare financing and equity budgeting, inclusive governance systems, collaborations between NGOs and the state health machineries, and gender-sensitive disaster policies with a focus on 'equity' and 'justice'.

Introduction

Floods are the most common natural disaster occurring worldwide, with their impact expected to grow in the future because of climate change and population shifts (Paterson et al., 2018). The growing body of research significantly shows that socially marginalized and spatially excluded groups are particularly vulnerable to floods (Soetanto et al., 2017; Oulahen et al., 2015; Lowe et al., 2013; Lein, 2009; Walker

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& Burningham, 2011; Zahran et al., 2008; Tapsell et al., 2002; Tunstall et al., 2006). Although key drivers of health-related vulnerability to floods have been identified, studies are not convergent on the demographic and societal factors associated with health outcomes that are the product of flood events. Studies are also inconclusive on the effect of flood on health issues and mortality (Rufat et al., 2015, p. 475). Social demographic studies during floods reveal that very young and elderly people are the most vulnerable sections during floods (Lowe, 2013; Ashley & Ashley, 2008). Young and old people tend to suffer from higher psychological distress due to their dependency on other family members (Kar et al., 2004; TT et al., 2012). Similarly, gender status is also closely associated with flood vulnerabilities, where women are disproportionately affected by various harms that occur during floods, which have been worsened by their lack of access to various social and material resources (Walker & Burningham, 2011; Rofi, 2006). During floods, women's mental health illnesses tend to be higher than their male counterparts (Kumar et al., 2007). Women's mental illness during flood-like disasters has also been associated with lower birth weights and diminished social functioning in their children (Hilmert et al., 2016; Simcock et al., 2017).

Research also shows that lower socio-economic households are disproportionately affected by floods. Lower socio-economic status often hinders post-flood recovery and rebuilding processes. Various power interactions, social arrangements, and social connections have also influenced their access to various resources during and after floods. These marginalized groups are frequently disregarded and underserved by state support and other disaster management authorities (Fothergill & Peek, 2004; Kamel, 2012). Other social factors, such as race, ethnicity, and immigration status, have also been closely linked with flood-related harms or other environmental hazards (Cutter, 2003).

In Assam, floods have always been a regular phenomenon. Though different parts of the country are suffering from flooding, the range and magnitude have been high in Assam. Almost every year, three to four waves of floods ravage the flood-prone areas of Assam. Most of the areas under the Brahmaputra Valley have had devastating floods. During the post-independence period, Assam faced major floods in 1954, 1962, 1972, 1977, 1984, 1988, 1998, 2002, 2004, and 2012. The average annual loss due to floods in Assam is to the tune of Rs. 200.00 Crores, and particularly in 1998, the loss suffered was about Rs. 500.00 Crores, and during the year 2004, it was about Rs. 771.00 Crores (Water Resource Department, GoA, 2024). It has been reported that in 2019, around 3,705 villages in 29 revenue circles of 27 districts were affected by floods, and a total of 50 people died (Singh, 2019). Till June 2024, over 1.17 lakh people from around 969 villages in 27 revenue circles in Assam were affected by floods (*The Hindu*, 2024). However, it is the marginalized population that has always suffered from floods, and no significant efforts have been made by the state to control or mitigate flood-related hazards. Instead, floods have been a weapon for the political parties in Assam.

Historically, most of the marginalized people in Assam, such as the Scheduled Caste (SCs),[3] Scheduled Tribes (STs), *Char Chapori dwellers*,[4] and immigrants, have been living in vulnerable flood-prone areas. They are often referred to as the riverine community in Assam and have been dealing with the devastating incidences of floods in Assam (Borpujari, 2014; Morang, 2017; Sharma, 2021). Therefore, in this paper, we aim to explore primary healthcare vulnerabilities during floods among socio-spatially marginalized groups in Assam, India. We also aim to highlight the ideas of 'equity' and 'justice' (Benfer, 2015; Borras, 2020) in primary healthcare policies and their implications during flood-like disasters. To fulfill these objectives, the following research questions have been formulated: (a) What is the status of primary healthcare services during floods among socio-spatially marginalized groups? (b) How do they experience and negotiate primary healthcare accessibility, vulnerability, and health outcomes during floods? (c) How do they view state interventions in reducing primary healthcare issues during floods? And (d) what are the possible ways to address the issues of primary healthcare inequalities and inequities for marginalized sections during floods?

Using a 'grounded theoretical approach,' we explored the existing inequalities and inequities in primary healthcare services during floods and showed the inadequacy of policy frameworks in addressing the primary healthcare issues of the marginalized communities living in flood-prone areas in Assam. We argue that floods cause significant disruptions to primary healthcare services and heighten healthcare vulnerabilities among socio-spatially marginalized groups. Despite this, state support often fails to meet basic healthcare needs during such crises. Based on the findings, we propose 'five building blocks' for the primary healthcare system during disasters like floods, viz., proper implementation of boat clinics, equitable healthcare financing and equity budgeting, inclusive governance systems, collaborations between NGOs and the state health machineries, and gender-sensitive disaster policies with a focus on primary healthcare 'equity' and 'justice'.

Following this introduction, the article is structured as follows: The second section delineates the field settings and methodologies employed in this study. The subsequent three sections present the lived experiences of research participants concerning primary healthcare vulnerabilities during floods. The next section provides narratives from primary healthcare workers regarding the challenges encountered while delivering primary healthcare services during floods. The following section discusses the findings and offers recommendations to enhance primary healthcare services during flood like disasters. The article concludes by arguing for intersectional socio-ecological health disparities research to inform the development of more inclusive primary healthcare policies and practices for marginalized sections of society.

[3]STs and SCs are constitutionally designated groups of people in India. They are also known as the Dalit-broken, scattered, or depressed section. Mahatma Gandhi calls them Harijan—the Man of God.

[4]A low-lying flood- and erosion-prone riverbank, primarily inhabited by the Muslim people of Bengali origin in Assam.

Field Settings and Research Methods

The study was conducted from October 2020 to March 2021 in the flood-affected Muttak Kaibarta village, located in the Dibrugarh district of Assam, India. The selection of this village was based on two criteria: first, the Scheduled Caste (SC) background of its residents; and second, it is an isolated riverside geographical location prone to flooding. According to the 2011 Census, Muttak Kaibatra Gaon is a medium-sized village in the Dibrugarh West Circle of Dibrugarh district, Assam, with 176 families residing. The village has a population of 979, with 519 males and 460 females. Of the village population, 95.30% belong to the SC category, while 1.12% belong to the ST category. The sex ratio of the village is lower (886) than the state average (958), whereas the child sex ratio is higher (1033) than the state average (962). The village has a higher literacy rate of 81.91%, with male literacy at 86.93% and female literacy at 76.13% (Census of India, 2011a, b). Although there are no written records about the history of the village, the *Gaon Burha*[5] (the village head) stated that the village was established in 1955.

Figure 1: The Broken Embankment of the River

Source: Field

The village is situated on the banks of the Burhi Dihing River, covering 133.24 hectares of land (Indian Village Directory, 2024).The Burhi Dihing River is the largest south-bank tributary of the Brahmaputra River in the North Eastern Region of India. It originates in the Patkai Hills at an elevation of 2375 meters. After flowing for about 80 kilometres, it meets the plains and runs through the alluvium of Assam Valley for another 300 kilometres before joining the Brahmaputra (Sarma & Sudhir, 1986). As observed during our fieldwork, this river is a lifeline for the villagers despite the flooding issues. Most families depend heavily on the Burhi Dihing River for fishing as their primary

[5]Appointed as per the Constitution of India and Panchyati Raaj Act, 1989.

livelihood. Over time, they have also engaged in agriculture on the fertile banks of the river. However, they cannot pursue agricultural activities throughout the year due to annual flooding from June to September, which forces them to live on the river's embankment. Some families rely on daily wage labour to sustain themselves, and only a few villagers have government jobs. Families with better economic conditions are found migrating to Dibrugarh town and other areas to escape the floods.

Figure 2: A Difficult Life!

Source:Field

This study employed a 'grounded theoretical approach' (Glaser & Strauss, 1965, 1967, 1968; Charmaz, 2006). Glaser and Strauss (1965, 1967, 1968) argued that this approach helps researchers focus sequentially on the most critical aspects or issues within a specific study field, facilitating the development of grounded concepts or insightful theories. Thus, grounded theoretical research adopts a bottom-up perspective, moving from phenomena and practice to theory and explanation (Flick, 2007), often transcending mere description by constructing new concepts to explicate observed occurrences. Furthermore, it provides researchers with more analytical power from fewer data points (Charmaz & Thornberg, 2021, pp. 307–308). Drawing on grounded research frameworks, we approached 25 village inhabitants for this study, of whom 10

(seven males and three females) agreed to participate. Additionally, to corroborate the narratives collected from the villagers, we interviewed healthcare workers, including the Community Health Officer (CHO), General Nursing and Midwifery (GNM) staff, Accredited Social Health Activists (ASHA), and Auxiliary Nurse Midwives (ANM) working at the Mini Primary Health Centre (MPHC) and sub-centres in the area. In-depth qualitative interviews were conducted to gather the participants' grounded narratives, with each interview lasting approximately 2–3 hours. Non-participant observation was also utilized throughout the fieldwork.

The second author collected, recorded, and transcribed the data, while the first author audited and systematically cross-checked it. To maintain the integrity, sense, and accuracy of the collected data, both authors carefully reviewed all transcripts, followed 'line-by-line' (Charmaz & Thornberg, 2021) coding, and identified meaningful themes to understand the participants' lived experiences of primary healthcare vulnerabilities during floods in Assam. Charmaz and Thornberg (2021, p. 307) suggested that this form of understanding can lead researchers to rethink or relinquish cherished disciplinary concepts that they previously believed would fit their data. Finally, thematic narrative analysis was employed to present the participants' lived experiences of primary healthcare vulnerabilities during floods. All narratives were recorded with the written and verbal consent of the participants. Moreover, this research was conducted according to the convenience of our participants.

Life in a Boat: Lived Experiences of Disease and Issues of Primary Health Care During Floods

During floods, personal boats are the only available transportation system for the inhabitants of the selected village. The inhabitants of the village travel approximately 12 kilometres to access PHC services, whereas the all-India average distance to government Primary Health Centres (PHCs) centres is 6.6 kilometres. When we asked research participants about health-related issues during floods, Debeshwar Das,[6] a 55-year-old male participant, shared, "You just cannot imagine the situations during floods! We have to suffer from various skin diseases, but due to disruptions in communications, we are not able to access primary healthcare during floods." In another interview, Bikash Das, a 25-year-old young man, shared, "There is always a serious issue with clean water during and after periods of flooding, and we have to rely on river water, which is very harmful for our health." Rupam Das, a 34-year-old participant, noted, "Due to consuming contaminated water, most of the people from our village are suffering from diarrhoea and pneumonia." According to the World Health Organization (WHO), the major risk factor for outbreaks associated with flooding is the contamination of drinking-water facilities. There is also an increased risk of infection with water-borne diseases contracted through direct contact with polluted waters, such as wound infections, dermatitis, conjunctivitis, and ear, nose, and throat infections (WHO, 2005).

[6]Names have been changed for ethical reasons.

One of the major issues indicated by our research participants was respiratory infection. Benudhar, a 39-year-old male participant, narrated, "During floods, we all have to suffer from cough and sore throat issues. Headaches are common among the inhabitants of our village, and our children have to suffer from runny noses and breathlessness." Despite these issues, our research participants informed us that there were absolutely no interventions from their PHC, located 12 kilometres away from the village. Even after floods, when they visit their PHC centre, the doctors often tend to refer their health issues as "normal". The common attitude of the doctor, as stated by our research participants, was "It happens; no need to worry."

During interviews, all the participants expressed that they usually depend on non-institutional treatments such as traditional healthcare practitioners in their locality and religious rituals. After the floods, their primary health centre becomes non-functional. They have to deal with many burdens, and due to disrupted communications and a lack of money, people cannot afford better healthcare services and resort to religious practices. During the post-flood period, they organize community prayers at the river embankment or at religious places such as the *Namghar*.

Figure 3: Water Born Skin Diseases among Research Participants (RP)

Source: Field (Taken on 27-12-2020 with the permission of RP and necessary permission has been taken to publish their pictures)

Interestingly, most of the people in the village are heavily dependent on Deben Gohai, popularly known as 'Deben Doctor,' who lives in the village with his wife and two sons. He completed a radiography course at Assam Medical College (AMC), Dibrugarh, and by profession, he is a farmer while also providing primary healthcare services in his locality. Many of our research participants referred to him when asked about the treatment of their primary healthcare issues. The participants helped us meet him, and we eventually interviewed him. During our conversations, he narrated a grim picture of healthcare vulnerabilities during floods in the village.He observed,

> *"During floods, most people depend on my services. I have to cover five villages. Actually, people have no other options. It costs Rs. 500–1000 to go to AMC, and it's very far. So, they don't go to AMC. Instead, people come to me for minor treatments. Sometimes I have to deal with serious cases. People don't understand that I am not a doctor. At their request, I have to go and provide my services. I travel everywhere by boat; even at night, people from another village will come by boat to take me to their home and later bring me back. After floods, people suffer from skin problems. People with critical conditions are admitted to Assam Medical College, Dibrugarh. But at night, people have no options except my service....."*

Thus, during floods, people in the village suffer from severe healthcare vulnerabilities. Despite these vulnerabilities and the limited healthcare services available during floods, people are forced to endure due to poor socio-economic conditions.

We Suffer, They Don't Bother: Flood, State and Primary Health Care Inequalities

During our visit to the village, the devastating effects of floods were still visible. Many parts of the riverbank were wrecked due to erosion, and many families were busy reconstructing their damaged houses. A few families were still living on the embankment of the river. Articulating his experiences of inequalities in primary healthcare during floods, Deba Das, a 45-year-old male participant, noted, "I showed my skin issues to the PHC workers during their visit, but they ignored me and were afraid to come closer to me." Similarly, in a different interview, Gunabhiram, a 44-year-old male participant, narrated,

> *"There are no significant efforts from the state to resolve the issues of floods and PHC; instead, whatever support we receive from the state during a flood emergency is just meagre and not up to the mark."*

Toramati, a 55-year-old female participant, sadly narrated, "Twenty years ago, I lost my child during a devastating flood as he suffered from pneumonia." She broke down while narrating the incident. She stated,

> *"In the last 35 years, I have seen so many ups and downs in this village. Many have died due to cholera, and people are still suffering from many diseases, but we have not been receiving minimal primary healthcare during and after floods from the state. We just suffer, but they don't bother."*

It was observed during all the interviews that participants expressed their dissatisfaction with the support received from the state. They also requested their local MLA (Member of Legislative Assembly) to address their issues, but nothing has been resolved, and the MLA has not visited them during or after flood periods. All research participants complained about the post-flood primary healthcare services provided by their PHC. They noted that their PHC offers them very poor medicine which is, according to them, is not effective, as echoed by participant Trishna. Trishna showed us her skin issues and narrated,

> *"During post-flood, whatever medicine we receive from the government is all very faku dorob (useless medicines)."*

She further explained,

> *"Therefore, even after suffering from skin diseases or other health issues during post floods, we don't visit our PHC. It's meaningless to visit as they always offer us medicines, which are not effective. We don't want faku dorob…."*

Significantly, in 2008, the Government of Assam started boat clinic services for the people and communities living on different islands of the Brahmaputra River.As per the National Health Mission (NHM), Assam, fifteen boat clinic units are operational in thirteen districts of the state, including Dhubri, Barpeta, Nalbari, Morigaon, Sonitpur, Lakhimpur, Dhemaji, Dibrugarh, Tinsukia, Jorhat, Goalpara, Bongaigaon, and Kamrup District, with one additional unit each in Dhubri and Barpeta District. Boat clinics provide health services including Reproductive and Child Care, Curative Care, Family Planning Services, Basic Laboratory Services, etc. (NHM, Assam, 2024). However, the people in this village are still deprived of these services. As reported, our research participants were unaware of the boat clinic despite the inclusion of their district, i.e., Dibrugarh, under the boat clinic scheme by the state.

However, they acknowledged the primary healthcare services provided by some NGOs during floods. As reported during interviews, NGOs were the only means to get quality primary healthcare services during floods while the state has failed. Rupama, a 33-year-old research participant noted,

> *"It is the NGOs who have been taking care of us and providing us with quality healthcare services during and post-flood periods. They*

> *were very helpful for women and children in our village during the floods, as they always brought sanitary napkins and other help."*

These findings indicate that the state has been sluggish about the healthcare issues of these populations living in such riverine areas. Interestingly, in a very negligent way, the NHM, Assam stated on their website that there are more than 2000 villages in these riverine areas, and it is not possible for them to cover the entire population and villages due to the lack of health facilities with little or no manpower (NHM, Assam, 2024). Research participants' narratives also reflect the poor attitudes they face and the kind of services they receive during and after floods from state healthcare facilities. This reveals the inadequacy of primary healthcare service delivery in Assam.

Gender, Floods and Primary Health Care Vulnerabilities

Flooding has been a significant challenge for the women and children of the village. Rupama, who delivered her baby on a boat, narrated her devastating experiences:

> *"I still remember the pain that I suffered through. It was raining, and we were living on the embankment when suddenly labour pain started. My husband somehow managed to get a boat to take me to the Assam Medical College (AMC), Dibrugarh. But unfortunately, I delivered my baby on the way. After delivery, my child suffered heavily from pneumonia and was admitted for 15 days at AMC, Dibrugarh. We were worried, but with the blessings of God, he is now well."*

We observed that while narrating her experiences, she became emotional and was visibly terrified by what she had gone through. She emphasized that her case was not unique; many women and their families had lost their newborn babies due to the lack of immediate post-delivery care hindered by floods. She further noted that due to the lack of post-natal care, newborn babies and children born during the floods often suffer from long-term health issues. Additionally, post-delivery recovery is prolonged as they have to live on the river embankment without proper sanitary systems, including access to clean water. This incident reveals not merely the physical trauma but also the psychological agony the patient suffers.

In a different interview, Trishna Das shared, "We women have to suffer from urinary infections and menstrual issues as we are not able to wash our menstrual rags properly due to privacy and clean water issues." Agreeing with Trishna, Toramati Das expressed, "During the floods, we women have to give up our shyness as there are toilet issues." Rupama also shared, "During floods, most of the time we have to wear damp clothes as there is no place to dry them. Sometimes we wear the same dress for many days."This is, however, a global gendered experience of floods among women. During the 1998 floods in Bangladesh, adolescent girls reported perineal rashes and urinary tract infections because they were not able to wash their menstrual rags properly in private,

often had no place to hang the rags to dry, or had access to clean water. They reported wearing the still-damp clothes, as they did not have a place to dry them (WHO, 2002).

We explored that while women suffer from menstrual issues and other primary healthcare issues, the male respondents we interviewed are exposed to more hazardous conditions. As reported, male research participants and other men of the village are often involved in rescue operations, construction, and repair work during and after floods, which significantly increases their exposure to a higher risk of injuries and waterborne diseases. As Bikash highlighted,

> *"During and post-floods, I have to take care of everything for our family, and being the only man in the house, it's very difficult for me to manage the effects of the disaster. I have to ignore my health to take care of other family members' health. Sometimes, I also feel very helpless as I can't take care of my family members' health."*

Bikash also highlighted the increased responsibilities in the aftermath of floods, such as the economic burden of taking care of other family members' health or rebuilding homes, which, according to him and other research participants, can be both physically and emotionally taxing. The burden of these responsibilities further aggravates their vulnerabilities. Additionally, as reported by male research participants, they mostly work in contaminated water bodies and environments, which is more injurious to their health. Moreover, the focus of relief efforts may sometimes prioritize women and children, including by NGOs, inadvertently neglecting the minimum health needs of men, pushing them into more vulnerable conditions. They also reflected an ignorant attitude toward their health, being 'men'. All these aspects severely harm their primary healthcare during and post floods. Disruptive primary healthcare services and a lack of proper access to healthcare in the aftermath of the flood make their primary healthcare more susceptible.

Primary Health Care Workers' Narratives on Primary Health Care Services during Floods

During our journey to the MPHC, we observed extensive flood damage to the roads. As reported by the research participants, there are still no adequate transportation facilities to reach the MPHC. While individuals with personal vehicles can access the centre more easily, others face significant difficulties. This raises concerns about the accessibility of primary healthcare services for marginalized populations during floods, which the WHO recognizes as a fundamental human right (WHO, 1946).

Through our interviews with healthcare workers, it became clear that floods severely disrupt primary healthcare services. The state fails to provide the necessary support to healthcare workers during such crises.The GNM (General Nurse Midwife) of the MPHC reported that from June to September, they cannot operate their centre due to heavy floods. She stated,

> *"During floods, we have to provide healthcare services by boat, and sometimes we are unable to reach the patients due to the rising water levels."*

The GNM highlighted the severe health issues women face during floods, especially concerning menstruation. She shared,

> *"During floods, women's and girls' situations become terrible, especially during menstruation. They suffer from urinary tract infections, and we cannot help. We feel so bad. It's also difficult to reach every village with a poor boat. Still, we always try to support them as much as we can."*

The Community Health Officer echoed similar sentiments, stating, "During floods, we can't do our duty properly since we don't have a proper transportation system. We also don't have a boat clinic. We are helpless!" She added that they try to reach the affected populations post-flood and provide better healthcare services. They organize health camps with the help of the Block Primary Health Centre (BPHC) and visit every village to ensure people's health. However, delivering services during the flood remains challenging.

The ANM (Auxiliary Nurse Midwife) also discussed how floods impede their ability to provide services. She mentioned that as healthcare workers, they always try to help those suffering from the flood's impact. However, the severe disruptions in communication and transportation make it nearly impossible to care for everyone's health. The ASHA (Accredited Social Health Activist) worker, who resides in the study village, shared her inability to help her fellow villagers during floods. She can provide pregnancy-related information and accompany pregnant women to health centres if necessary. However, she lamented that due to severe floods and lack of medicines and communication, she cannot assist the pregnant women in her area adequately.

These narratives highlight the challenges primary healthcare workers face during floods. The lack of proper infrastructure and support significantly hampers their ability to deliver essential healthcare services during such emergencies.Their narratives also reflect the inadequacy of health infrastructure of the state to provide necessary and adequate support to healthcare workers.This significantly hinders their ability to fulfil their responsibilities in caring for the health of people affected by floods.

Discussion and Policy Recommendations

Our aim in this paper was to explore primary healthcare vulnerabilities faced by socio-spatially marginalized groups during floods in Assam. The findings of this study demonstrate that residents of socio-spatially marginalized areas are more prone to various forms of risk during floods, which is further exacerbated by poor socio-economic conditions. The personal narratives and dialogues of the research participants

also illustrate how intersections of class, gender, and geography affect primary healthcare during flooding emergencies. Research participants' narratives including the healthcare workers, significantly reflect how the state fails to provide minimum and quality healthcare support during floods. The results largely highlight inadequacies in environmental and socio-ecological policy frameworks for protecting marginalized groups' lives during disasters like floods in Assam. Thus, socio-spatially excluded communities in India have historically received insufficient healthcare support during emergencies (Borooah, 2018; George, 2019; Ghosh, 2014; Sengupta et al., 2020).

Pinto (2021) argues that while philosophical discussions have reignited the discourse on health and justice, their impact on policies, the expansion of choices for marginalized populations, and the reduction of health inequalities appear negligible. Our exploration reveals that despite the critical impact of floods on public health, the state healthcare system often neglects flood related healthcare issues. Villagers' reliance on non-institutional primary healthcare practices reflects the failure of the state to implement inclusive measures in welfare and development policies.

Evidence indicates that robust and comprehensive primary healthcare services during disasters like floods significantly reduce associated morbidities and mortalities (WHO, 2008). Such services can serve as a vital support system for vulnerable and marginalized groups, who typically bear the brunt of disaster consequences (Lamberti-Castronuovo et al., 2022). However, studies have not adequately explored the intersections of primary healthcare initiatives with human rights, social justice, or health equity principles (Redwood-Campbell & Abrahams, 2011). Therefore, focusing on the principles of equity and justice, we propose five building blocks for the primary healthcare system during floods, outlined below.

Figure 4: Five Building Blocks for Primary Health Care Equity and Justice during Floods

Proper implementation of the boat clinic: Although the concept of a boat clinic exists in Assam, there is still inadequacy in its proper implementation. Permanent construction of healthcare infrastructure is not feasible in many flood-affected areas of Assam. Therefore, ensuring the proper maintenance and implementation of boat clinics in such

areas will assist thousands of people living on Brahmaputra Island across Assam in accessing primary healthcare during floods. To achieve this, we recommend that the state increase its funding specifically allocated to this project.

Equitable healthcare financing and equity budgeting: The concepts of health inequality and inequity often overlap, with scholars sometimes using these terms interchangeably. "Health equity" refers to the ability of all individuals to attain their full health potential without being disadvantaged by socially determined circumstances such as race, ethnicity, religion, gender, age, social class, socio-economic status, or other factors (NCCDH, 2013, p. 2). In contrast, "health inequalities" denote disparities in health outcomes among different population groups that are considered unjust and unavoidable, often defined by social, economic, demographic, or geographic factors. Moreover, health injustices arise from inequitable healthcare financing, as evidenced by declining investments in India's public healthcare system (Berman & Ahuja, 2008). Peripheral states like Assam face funding challenges that hinder effective healthcare policy implementation. Hence, we propose equitable healthcare financing to foster an inclusive healthcare system, especially keeping disaster situations like flood which is a perennial problem in the state. Additionally, we advocate for "equity budgeting," which involves preparing and analysing budgets from an equitable standpoint to assess the equitable impacts of budgetary decisions, particularly on marginalized populations in every region (Gogoi & Sumesh, 2022).

Inclusive governance system: We propose the adoption of "inclusive governance" to address socio-ecological health issues affecting marginalized groups. Such a governance framework would reinstate primary healthcare as a public good accessible to marginalized populations. It would also facilitate the implementation of equity budgeting across all levels of primary healthcare policy formulation, implementation, and evaluation.

Collaborations between NGOs and the State healthcare machineries: Research in India has shown that community-based interventions by NGOs significantly enhance healthcare delivery in remote areas (Shukla et al., 2011). During floods in Assam, NGOs like the 'Satya Shakti Foundation' and 'Helpage India' have played crucial roles in providing quality primary healthcare services. Therefore, we propose that the Government of Assam integrate NGOs into policy framework and evaluations, allowing them to monitor the performance of primary healthcare services during disasters such as floods. This could involve allocating specific funds to NGOs to address primary healthcare issues among flood-affected populations in the state.

Gender-sensitive disaster policies: National and international disaster management bodies often neglect women's representation, leading to insufficient consideration of their needs and interests in disaster management policies (Schwoebel & Menon, 2004). Our study highlighted how both women and men's issues were overlooked by the state and primary healthcare services during floods in Assam. Although gender-sensitive disaster policies have been proposed, Assam has yet to implement such schemes despite

its recurrent flood vulnerabilities. Therefore, we propose the formulation of gender-sensitive disaster mitigation plans and policies. This could involve organizing training programs for both female and male representatives to ensure their active participation and representation in disaster planning processes. Thus, by recognizing and addressing the unique primary healthcare vulnerabilities of both men and women during and post-floods, state can develop more effective and inclusive disaster response strategies. This gender sensitive framework not only support the well-being of both genders (including other gender specific to societies) but also strengthens the overall resilience of flood affected communities.

Conclusion: A Way Forward

This study illustrates how floods disrupt primary healthcare services and exacerbate healthcare vulnerabilities among marginalized populations. It highlights that during floods, people suffer from a range of healthcare issues, from minor to severe, compounded by inadequate healthcare infrastructure and poor economic conditions, forcing them to normalize both floods and diseases in their daily lives. They often resort to local traditional healers or religious rituals for treatment. Women's healthcare issues, such as urinary infections due to inadequate sanitation, become particularly vulnerable during floods. For instance, Rupama's experience of delivering her baby on a boat underscores the extreme challenges faced by pregnant women in accessing timely healthcare during floods. In such contexts, the state and its healthcare services often fail to reach these vulnerable populations.

Therefore, we argue that the state is yet to prioritize improvements in minimum healthcare services during floods or to address the spatial vulnerabilities of marginalized communities, such as those observed in the village we studied. Instead, the state has significantly failed to implement equitable healthcare policies to address the issues of marginalized people living in flood-prone areas in Assam.Based on these findings, we also argue for intersectional socio-ecological health disparities research efforts aimed at reducing spatial biases in healthcare and developing more inclusive public healthcare policies. Intersectionality acknowledges the importance of addressing individual, institutional, and structural levels of power within specific socio-historical contexts to advance health equity and social justice (López & Gadsden, 2016, p. 1). In summary, socio-ecological health inequalities pose significant challenges amidst rapid environmental changes, necessitating comprehensive future planning for equitable healthcare delivery among marginalized groups.

Ethical Considerations

The institutional ethical review for this study was done by the institution "Tezpur University" under its research ethical committee namely "Tezpur University Ethical Committee (TUEC)" with the approval number "DoRD/TUEC/10-14/2018/2(d)." The data underlying this article cannot be shared with anyone outside of the research team in order to protect the privacy of the individuals who participated in the study and consent requirements.

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Sustainability of Tenant Farming : A Case Study of Mishing Tribe from Majuli in Assam

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Abstract

When agricultural land is unequally distributed, the land lease market can be essential in balancing factor endowments among agrarian families. Against this backdrop,the study examines the sustainability of tenant farming among the Mishing tribe in Majuli, Assam. The study traces the economic dynamics of tenant farming by comparing the cost-benefit ratios of red and winter paddy cultivation. The analysis is grounded in primary data collected from the Mishing community through structured questionnaires and observations, further supported by descriptive statistical methods. The findings reveal a stark contrast in the profitability of different crops under tenant farming conditions, highlighting the economic challenges and decisions faced by the Mishing farmers. The findings on the cost of cultivation and returns structure among owner and tenant farmers have highlighted the adjustment required in the existing leasing characteristics for optimal utilization of available resources. It suggests a critical need for policy interventions to optimize resource use and ensure equitable land distribution.

Introduction

In the context of agricultural economics, the land lease market significantly addresses the imbalance in factor endowments among farm households, especially where agricultural land is uneven. This scenario typically sees families with excess labor but insufficient land entering lease agreements with land-rich but labor-deficient households. Such arrangements ensure a better alignment of resources, improving agricultural productivity and enhancing equitable income distribution in rural settings.

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Sharecropping and fixed rent are the two prevalent forms of tenancy in agricultural land leasing. Fixed rent tenancy, where a tenant pays a pre-determined rent to the landowner, is often cited as more efficient than sharecropping. This efficiency stems from its resemblance to fixed costs, which do not impact the marginal decision-making processes of tenant farmers. Under fixed rent, tenants are incentivized to maximize production since they retain all additional outputs, promoting optimal land use and investment in improvements.

Conversely, where tenants retain only a portion of the harvest (commonly half), sharecropping agreements can distort tenants' incentives toward optimal land use. The sharecropping system can lead to a situation known as Marshallian inefficiency, where tenants may not extend their best efforts since they receive only a fraction of the produced value, thereby potentially leading to underutilization of the land (Otsuka, 2007; Stiglitz, 1974). Despite its theoretical drawbacks, sharecropping is widespread due to its inherent risk-sharing attributes, which are precious in agriculture and susceptible to environmental and market uncertainties. The prevalence of sharecropping, despite its inefficiencies, can be attributed to its function as a risk mitigation strategy. In contrast to fixed rent arrangements, where tenants bear the complete risk of crop failure, sharecropping allows for the distribution of risks between the landlord and the tenant (Bell, 1977; Sadoulet & de Janvry, 1995). This shared risk is particularly appealing in areas with high agricultural uncertainty.

Empirical findings regarding the efficiency of sharecropping versus fixed rent are mixed, reflecting the complexity of agricultural production contexts. While specific studies indicate fixed rent arrangements might lead to higher productivity (Eswaran & Kotwal, 1985; Shaban, 1987), others suggest minimal differences when factoring in various environmental and socioeconomic conditions (Bell &Zusman, 1976; Cheung, 1969). These empirical variations imply that local conditions significantly influence the efficiency of different tenancy arrangements. Despite theoretical preferences for fixed rent due to its alignment with tenants' production incentives, sharecropping's prevalence is underlined by its risk-sharing benefits, which remain critical in volatile agricultural environments. Consequently, local conditions, including risk levels and social norms, heavily dictate the optimal choice between sharecropping and fixed rent arrangements. This emphasizes the necessity for policy frameworks considering these local dynamics in improving land leasing markets' efficiency and equity.

Migration was a way of life for the tribal people due to political and economic conditions (Lusome & Bhagat, 2020). It is reported to be a critical livelihood diversification strategy. The Mishings in Assam represent one such migratory tribal community. The Mishing[4] tribe, who once lived in the Siang and Lohit districts of Arunachal Pradesh, in the northern hills of the upper Brahmaputra basin (Kumari & Dutta, 2012), moved to the

[4] The Mishings belong to Indo-Mongoloid group of tribes. The various paths they traversed along their migration to Assam. The most important ones were the Pesha-Shayang route of Dambuk, the Tone and Jaging hill route, the Pangin-Pasighat route of Bapi Hills, and the old way of Adi, Pasi, and Mebo of Reagan Hills in the Arunachal Pradesh of Northeast India.

plain areas of Assam at the beginning of the 12th century in search of livelihood. The migrated Mishing finally settled in many districts in Upper Assam, including Dhemaji, Lakhimpur, Dibrugarh, Sivasagar, Jorhat, Sonitpur, and Tinsukia. After the Bodos, the Mishings are the second-largest tribe in Assam (Patir& Thapa, 2020).The Mishings are referred to as Miris in the Constitution of India. Officially, on the list of Scheduled Tribes, they are recognized as Miri (GoI, 2011). The word 'Miri' has been used for ignorance (Bhandari, 1984); in the context of the present study, the term Mishing has been used instead of Miri.

The case study of the Mishing tribe on the Island of Majuliis significant due to the unique socio-economic and environmental challenges this area and its inhabitants face. According to the census, 2011, the tribal population in the Majuli district constitutes 46.38 per cent of the total population, while the Scheduled Tribes (ST) constitutes 23.93 per cent of the total population in the Lakhimpur district. The Mishing tribe in Majuli, predominantly residing along the banks of the Brahmaputra River, is profoundly impacted by climate change, especially in terms of flooding, which leads to significant socio-economic distress. This is compounded by their reliance on agriculture, a sector highly vulnerable to climate shifts such as changes in rainfall patterns and temperature (Das, 2015). The innovative adaptation strategies adopted by the Mishing, particularly their traditional stilt houses known as "*chang ghars*," showcase their ingenuity in facing these challenges. These houses, built on bamboo stilts, demonstrate a practical response to the frequent floods affecting the region. Additionally, Assam and Majuli, in particular, are identified as highly vulnerable to the impacts of climate change due to their unique geographical and environmental conditions. Nearly 40 per cent of Assam's total area, including Majuli, lies within a flood-prone zone, underlining the critical importance of understanding and supporting adaptive practices within these communities (Vijayaraghavan, 2021).

Historically, the Mishings migrated from Arunachal Pradesh and have undergone significant occupational shifts from fishing and rearing to farming. This transition, coupled with the lack of land ownership and reliance on tenant farming, highlights the socio-economic vulnerabilities faced by the community. The socio-economic conditions, including high poverty rates and reliance on agriculture for livelihood, exacerbate the community's vulnerability to environmental changes. Efforts towards understanding and enhancing such communities' resilience and adaptation strategies are crucial for mitigating the adverse impacts of climate change and ensuring sustainable development (Vijayaraghavan, 2021).This aspect makes it a significant area of study to understand the interaction between tribal communities and their changing environment and livelihood.

The study made an attempt to understand the economic valuation of tenant farming among the Mishing tribe in Majuli; the alteration in primary livelihood activities necessitates an in-depth analysis, especially as land scarcity compels reliance on tenant farming. This study aims to elucidate the effectiveness and implications of tenancy farming practices among the Mishing people, foregrounding the distribution patterns and outcomes necessitated by their unique socio-economic conditions.

Methodology

Study Area: Majuli

Majuli is a riverine island district in Assam. It lies between 26°45′ N and 27°12′ N latitude and between 93°39′E and 94°35′E longitude. The rivers viz. Luhit or *Kherkatia Xuti* is in the northeast, the Brahmaputra is in the south, and Subansiri is in the northwest, which forms the island's borders. The district is 487.55 square kilometers (sq km) in area (Land et al., 2017) and extends 80 kilometers (km) east to west and roughly 10-15 KM north to south. 1,67,304 people live in the area (Census of India, 2011). The island comprises of four divisions or *Mauzas* viz.Salmora, Kamalabari and Ahatguri. There are 248 cadastral villages spread throughout 20 Gaon Panchayats. The island is roughly between 85 and 90 meters above Mean Sea Level (MSL).The tributaries of the Brahmaputra River bring floods to Majuli. It receives a substantial number of clayey sediments and fine silt. It is included in the preliminary list of world heritage sites maintained by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Method of Enquiry

The study employed purposive sampling to ensure a comprehensive and focused examination of the targeted population. In the first stage, the district of Majuliwas selected purposively due to its unique demographic, geographical, and socio-economic characteristics, as outlined above. In the second-stage, Developmental Blocks were chosen. Majuli consists of two blocks: Majuli (Kamalabari) and Ujani Majuli (Jengraimukh), and Ujani Majuli Block, having the majority of the tribal population was chosen for a more concentrated study to ensure representativeness and manageability. In the third Stage, Gram Panchayats (GP) were selected. Within the Ujani Majuli Block, two out of eight GP, Ratnapura-Gayan and Sriram, were chosen randomly. This stage aimed to narrow down the study area further while maintaining a random element to ensure objectivity. In the final Stage, one village was selected at random from the two selected GPs. The seleceted villages for the study are BonoriyaChopori consisting of 90 households from Ratnapura-Gayan GP and Bechamara village composed of 120 households from Bongaon GP. Within each village, 45 samples were chosen through purposive sampling, specifically targeting households to effectively meet the study's objectives and address the research questions. The case studies taken up helped to ensure a balanced and representative examination of the conditions and perspectives within the Mishing population in Majuli, thereby providing depth and specificity to the research findings.

Results and Interpretations

The Mishing tribes are indigenous to northeast India. These tribes have their roots in the Tibeto-Burmese, Proto-Austioloid, and various Indo-Mongolo ethnic groups. They can trace their lineage back to regions in South-East Asia and Mongolia. The integration of NER with the other parts of India at different historical periods led to socio-economic, political, and cultural transformations (Ali & Das, 2003). The indigenous people are

highly skilled in wood cane, agriculture, textiles, bamboo crafts, traditional medicine, and other sustainable means of subsistence. There is a gradual transformation in the life and livelihood of these tribal communities influenced by their interactions with the market economy, and occupational diversification has also emerged in tribal society (Marchang, 2019)

The Distributional Pattern of the Mishing Tribe

It is the tradition of the Mishing tribe to settle along the riverbank. Due to the periodic flooding and erosion caused by rivers in their habitats, they frequently retreat and change their place of residence. The migration of people from other communities in Mishing settlements since colonial times has also impacted the land use pattern of the Mishings.

Table 1: Major Scheduled Tribe's Population in Assam

Scheduled Tribes (STs)	2001		2011	
	Total Population	Proportion to the Total ST Population	Total Population	Proportion to the Total ST Population
All Scheduled Tribes	3,308,570	100	3,884, 371	100
Bodo	1,352,771	40.9	1,586,776	40.85
Mishing	587,310	17.8	680,424	17.51
Karbi	353,513	10.7	430,452	11.08
Rabha	277,517	8.4	296,189	7.62
Kachari	235,881	7.1	253,344	6.52
Tiwa	170,622	5.2	200,915	5.17
Dimasa	110,976	3.4	122,663	3.15
Deori	41,161	1.2	43,750	1.12

Source: Census of India, 2001, 2011

The Mishing community is dispersed throughout Arunachal Pradesh and the state of Assam. The river valleys where the Mishing people lived were the Brahmaputra Valley in Assam, the Yarlung Valley in Tibet, the Sun Valley, and Subansiri in Arunachal Pradesh. Due to various historical circumstances, the tribe moved to the Eastern Himalayan region. The Mishings are found mostly concentrated in Lohit, Upper Siang, and Lower Siang districts in Arunachal Pradesh. They moved to the Assam plains and settled in northern Assam's foothills, particularly in the Subansiri valley (Patir et al., 2020).

In Assam, the Dhemaji district has the highest settlement of the Mishing population, followed by the Lakhimpur district. The undivided district of Jorhat, which included Majuli, had a total 93,389 Mishing population as per the Census 2011. Subansiri is the principal tributary of Brahmaputra. The district of Lakhimpur is connected to Majuli

by the Brahmaputra River. The Mishing people migrated to the river island of Majuli and then progressively spread to the Upper Brahmaputra valley. Most of the Mishing settlements were located on the north bank of Majuli.

Table 2: District-Wise Population of Mishing in 2011

Sl. No	Districts	Population
1	Dhemaji	2,78,592
2	Lakhimpur	1,77,324
3	Sonitpur	48,713
4	Tinsukia	42,224
5	Dibrugarh	8,787
6	Sibsagar	20,117
7	Jorhat (Including Majuli)	93,389
8	Golaghat	14,024
Total		**683,170**

Source: Census, 2011

Status of Agricultural Economy of Majuli

Farming is the main occupation of the people of Majuli. As per records of the 2011 census, 80.63 percent of the total working population of the district is cultivators and agriculture workers. Paddy, oilseeds, Potato, Wheat, Garlic, Onion, Chilli, Banana, Pulses, Sugarcane, Vegetables…etc. are the main crops. Three types of Paddies are cultivated in this district, i.e., *Sali* (Winter), *Bao* (Red), and *Ahu* (Autumn) rice. The Net Cultivated Area (NCA)[5] of the district is 38.58 per cent and 0.95 hectares is the average land holding of the farmers.

Table 3: Status of Farmers in *Majuli* in 2021

Sl. No.	Particulars	Percentage
1	Nonagricultural workers	3.25
2	Agricultural laboureres	22.75
3	Agricultural workers	74

Source: District Agricultural Office, Majuli, 2022

The cultivation of vegetables is the primary source of livelihood for the people living in the *char–chapari* areas of Majuli. The *Vokotchapori* site is well-known for the cultivation of Sugarcane. Due to the favorable climatic situation, the use of chemical fertilizer is significantly less, especially in the cultivation of Paddy. Therefore, the farming in this district is organic by default. The soil type of the district is mainly sandy loam to silty loam (New Alluvial soil.), and the average soil pH is 5.5.

[5]Net CroppedArea(NCA): NCA is the Total area shown once a year.

The proportion of non-agricultural workers in the district is the lowest, while agriculture accommodates the highest proportion of the workforce. The economy of Majuli is based on farming activities.

Mishings are mostly riparians who make their living by farming, fishing, raising cattle, raising pigs, and other means. Before settling in the village under study, most people were engaged in the trade of carpentry. The people in the village of *Bonoriya Chapori* are involved in farming activities. As these households do not have ownership over cultivable land, they are, therefore, engaged in tenant farming.

Cost-Benefit Analysis of Tenant Farming of Paddy

In order to understand why tenant farming has continued in the two study villages despite the fact that the majority of households do not own cultivable land, a cost-benefit analysis of paddy farming by the sample households in the study area was taken up.The estimation showed that tenant farmers have a comparatively lower cost share to the overall cost of cultivation compared to owner farmers. Owner farmers reported slightly higher overall paddy cultivation costs than tenant farmers. The costs include the rental value of the leased land, the cost of labor, and the imputed worth of owned property. Tenant farmers' Benefit-cost Ratio (Gross Returns / Total Variable Cost) was somewhat more significant than the owner farmers.

Table 4: Landholdings and Cost-benefits of Tenant Farming
Panel (a): Landholdings (Unit = Hectares)

Sl. No.	Village	Tenant Farmers		Owner Farmers	
		Red Paddy	Winter Paddy	Red Paddy	Winter Paddy
1	V-1	0.678	0.530	0.537	0.470
2	V-2	0.694	0.666	0.572	0.510

Panel (b): Cost-Benefits (Unit = Rs.)

Sl. No.	Vil-lages	Tenant Farmers				Owner farmers			
		Cost		Income		Cost		Income	
		Red Paddy	Winter Paddy	Red Paddy	Winter Paddy	Red Paddy	Winter Paddy	Red Paddy	Winter Paddy
1	V-1	19,591	10,740	33,720	30,515	16,512	10,524	26,707	27,060
2	V-2	17,246	19,926	49,480	37,250	15,214	16,257	40,781	28,524

Source: Author's Field Study, 2023

Note:

V-1: Bonoriya Chapori

V-2: Bechamara

Calculation of costs

(Source: Commission for Agricultural Cost and Prices - CACP)

A1 = Human Labour (Causal and Permanent) + hired machinery + seeds + manure (owned and purchased) + fertilizers + plant §protection chemicals + herbicides + irrigation charges + land tax + other taxes + depreciation on farm implements and buildings + interest on working capital + Transportation.

A2 = Cost A1 + Rent paid for the leased land.

B1 = A1 + Interest on the value of owned fixed capital assets (excluding land)

It is found that tenant farmers used agricultural inputs more efficiently than owner farmers, as evidenced by the more excellent ratio of Gross Returns to Total Cost (1.52) in the case of tenant farmers compared to owner farmers (1.21).In both the villages of Bonoriya Chapori and Bechamara, cultivating the red paddy is profitable. However, in the village of Bechamara, it is more advantageous because the village of Bechamarais comparatively better linked with connectivity and is significantly less prone to floods and wild animal attacks.

On the other hand, in the village of Bonoriya Chapori, the people have migrated in the recent past for better livelihood strategies, employment...etc. There has been a constant process of assimilation ever since the Mishings migrated to the plains of Assam for livelihood. The livelihood practices have undergone significant changes over the years.Their cultural and socio-economic strategies have changed due to the constant assimilation of the people with the other non-tribal groups in Assam (Pamegam, 1989). The changes due to the assimilation with others are visible in every aspect of their life not just in economic sphere. The island has witnessed the conversion of Mishings to Christianity (Kuli, 1998) over the years, which has also consequently led to the loss of many rites and rituals from society. While observing festivals, it is seen that the traditional tract has been changed in some places in Majuli. The various socio-cultural and political institutions of the Mishing society requireattention for their structural development as these institutions symbolize the unity, identity, and integrity of the Mishing community (Morang, 2020).

Conclusion

The Mishing tribe is the second largest tribe in Assam, following the Bodos in Assam. In Assam, tenant farming is widespread. It is also a common practice among the Mishing people. The study tried to analyze the sustainability of tenant farming among the Mishing tribe in Majuli, underscoring the socio-economic intricacies tenant farmers face in land lease markets. The findings reveal a complex interplay between economic viability and agricultural productivity, highlighting the significant role of tenant farming in the livelihoods of the Mishing people.

Predominantly reliant on agriculture, the Mishing community faces unique challenges stemming from land scarcity and environmental vulnerabilities, notably frequent flooding and land erosion. The empirical findings emphasize a pronounced discrepancy between the economic outcomes of red and winter paddy cultivation under tenant farming arrangements. The findings on the cost of cultivation and returns structure among owner and tenant farmers have highlighted the adjustment required in the existing leasing characteristics for optimal utilization of available resources. Maximization of

income and cost minimization are observed for growing paddy in the study area. This might be due to the low investment made by tenant farmers in purchasing expensive farm machinery for land cultivation.

The analysis further elucidates the critical need for reforming existing leasing characteristics to enhance resource utilization and agricultural efficiency.The tenant farmers, despite low investment, have been able to realize a better cost-benefit ratio. While tenant farming remains their only source of sustenance, the absence of ownership over land holds them back from making significant investments in their leased land. The right to ownership becomes an important determinant in this regard for the community that has migrated to the study area and is dependent on tenant farming. Sociological factors, together with economic factors, determine and influence the farming practices of this migrant community on the island to a large extent. Long overdue tenancy reforms in Assam are one of the major reasons adversely affecting farm productivity. While steps have been taken in the state to update the land records under project Vasundhara, there are, serious challenges so far as tenancy reforms are brought in to augment better farm productivity in the agricultural sector across the state.

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An Assessment of Resilience during the Covid-19 Pandemic: Some Evidences and Implications from Jammu and Kashmir-India

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Abstract

The COVID-19 pandemic, declared a global health crisis in March 2020, prompted unprecedented global responses to curb its transmission. This paper focuses on Jammu and Kashmir, India, exploring the pandemic's implications in this unique region. The study acknowledges the global context before delving into the distinct challenges faced by Jammu and Kashmir. The pandemic induced transformative changes, notably the shift to remote work and online education. However, its impact on vulnerable sectors, the dynamics of public spaces, and the delicate balance between public health and economic stability were profound. The virus's transmission dynamics, particularly its introduction to India, and the subsequent challenges faced by Jammu and Kashmir due to its geopolitical complexities, form integral aspects of the research. Addressing a research gap, the study employs a comprehensive methodology, including surveys and descriptive statistics, to analyze the social and economic impacts on the local population. The findings contribute to a nuanced understanding of the region's experiences and inform future preparedness and recovery efforts globally.

Introduction

The COVID-19 pandemic, caused by the novel Corona-virus SARS-CoV-2, emerged as a global health crisis in early 2020. Originating in Wuhan, Hubei province of China, the virus spread rapidly leading the World Health Organization (WHO) to declare it as a

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pandemic on March 11, 2020. This declaration was prompted by the virus's unparalleled capacity to traverse international boundaries and its ability to elude containment efforts. The pandemic set in motion a worldwide transformation, prompting nations to institute a wide range of unprecedented measures in an effort to curb the virus's transmission. As this study centers on Jammu and Kashmir, India, this introduction explores the broader COVID-19 landscape before delving into the specific context and implications within this unique region. Wuhan's emergence as the epicenter of the virus marked the beginning of an extraordinary global crisis. This virus swiftly evolved into a formidable adversary, characterized by its high transmission rate and severe health implications; particularly for vulnerable populations. By March 2020, the pandemic had escalated to such an extent that the WHO deemed it necessary to classify COVID-19 as a pandemic, underscoring the urgency of a coordinated international response. This marked the first time a pandemic of this scale had been declared since the H1N1 influenza pandemic in 2009.

COVID-19 led to one of the profound and lasting influence of these transformative changes on various aspects of daily life. Perhaps one of the most noticeable shifts was the widespread adoption of remote work as an alternative to traditional office-based employment. Businesses, both large and small were compelled to adapt to the new reality, reconfiguring operations to accommodate remote work arrangements for their employees. This transition not only reshaped the dynamics of the workplace but also redefined the boundaries between personal and professional life. It presented opportunities for increased flexibility but also introduced unique challenges related to work-life balance, productivity, and technological adaptation. In the realm of education, the COVID-19 pandemic necessitated a rapid transition to online learning platforms. Educational institutions, from primary schools to universities, had to re-engineer their pedagogical methods to ensure that learning could continue in a safe and accessible manner. The shift to online education underscored the importance of technology in the modern educational landscape. While it opened up possibilities for flexible learning and the global dissemination of knowledge, it also revealed the disparities in access to technology and the need for digital literacy among students and educators. Moreover, public spaces that were once vibrant hubs of social interaction and economic activity became deserted as lockdowns and restrictions were imposed to limit physical contact and slow the transmission. This had a profound impact on businesses in the hospitality, entertainment, and service sectors. The pandemic highlighted the vulnerability of certain industries to unforeseen crises and illuminated the need for adaptability and resilience in the face of unexpected challenges. As nations grappled with the multifaceted challenges posed by the pandemic, they faced the complex task of balancing public health with economic stability. Governments around the world implemented a range of measures, from financial stimulus packages to social support programs, to alleviate the economic hardships endured by individuals and businesses. However, these measures came with their own set of challenges, including fiscal constraints, economic disparities, and the need for sustainable long-term strategies. The enduring effects of the COVID-19 pandemic on work, education, and daily routines were not only a response to a global health crisis but also represented a profound shift in how societies functioned. They laid bare the vulnerabilities of existing systems and illuminated the need for resilience and adaptability in the face of future challenges.

The COVID-19 virus primarily spreads through respiratory droplets, a characteristic that significantly contributes to its high contagiousness. Close contact with infected individuals or surfaces contaminated with the virus presents substantial risks. These transmission modes serve as the foundation for understanding the virus's rapid global dissemination. As for the virus's introduction to India, it predominantly occurred through international travellers who unknowingly carried the virus from affected regions. The first confirmed cases in India were reported in January 2020, marking the initiation of the country's battle against the virus. These initial cases triggered alarm bells within the nation and led to the implementation of various preventive measures. India's response included extensive testing, contact tracing, and the imposition of travel restrictions to minimize the further spread of the virus. To gain a comprehensive understanding of the context for our research study, it is imperative to delve into the intricate transmission dynamics and the introduction of COVID-19 into India, with a specific focus on its northern most union territory, Jammu and Kashmir. Within the specific region of Jammu and Kashmir, the virus made its debut in March 2020 when the first confirmed case was recorded. This case served as a poignant reminder of the virus's ability to reach even remote areas and led to a series of containment measures. Jammu and Kashmir, known for its unique geopolitical and geographic complexities, faced distinct challenges in dealing with the pandemic. The region's mountainous terrain, scattered population centres, and the influence of neighbouring countries all added layers of complexity to the response efforts. These regional characteristics played a pivotal role in shaping the trajectory of the pandemic in Jammu and Kashmir. The containment measures were tailored to address the specific needs and vulnerabilities of the local population.

This paper aims to address a significant research gap, which relates to the social and economic impacts of COVID-19 on the population of Jammu and Kashmir, India. Existing studies predominantly focus on the effects of the pandemic in more urbanized areas, often overlooking the distinct challenges faced by those living in regions with specific geopolitical and socioeconomic complexities. The need for this research, highlights the scarcity of studies that delve into the consequences of COVID-19 within the context of Kashmir. This study seeks to shed light on the experiences, vulnerabilities, and resilience of the local population during this global health crisis. It strives to provide a comprehensive understanding of the unique challenges and strengths of the people of Jammu and Kashmir as they navigated the complexities of the COVID-19 pandemic. The study seeks to provide a nuanced understanding of the consequences and resilience demonstrated by the people of Jammu and Kashmir in the face of the COVID-19 pandemic. The distinct circumstances of this region demand a tailored assessment of the social and economic implications of the crisis.

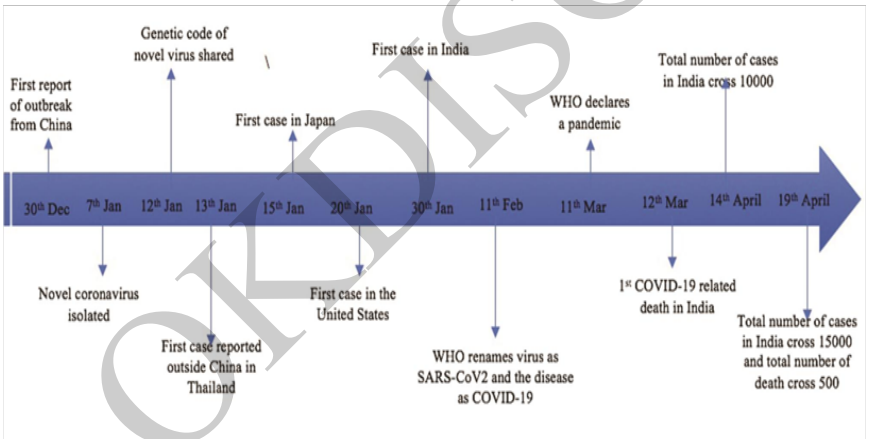
The study conducted surveys to collect primary data from residents of the region. Descriptive statistics was used to analyze the gathered data and derive conclusions. The study tried to analyse the experiences of the people of Jammu and Kashmir during the COVID-19 pandemic, and provide implications that can inform future preparedness and recovery efforts in the region and beyond.

Outbreak of Covid-19 Pandemic

Disease Background

The emergence of the Corona-virus disease 2019 (COVID-19) in late December 2019 in Wuhan, Hubei Province, China, marked the onset of a global health crisis. Initially linked to a seafood and wet animal wholesale market, the outbreak swiftly transcended these origins. Utilizing unbiased next-generation sequencing, an unknown beta Corona-virus was discovered from lower respiratory tract samples, subsequently named 2019–novel Corona-virus (2019–nCoV). This novel virus, later designated Severe Acute Respiratory Syndrome Corona-virus 2 (SARS-CoV-2), posing a formidable public health threat. Phylogenetic analysis uncovered a genetic connection to bat-derived Corona-viruses, exhibiting approximately 88% similarity. Person-to-person transmission rapidly became apparent, extending beyond the confines of the wet animal market and leading to cases within families and individuals not initially linked to the site.(Sudipta Dhar Chowdhury & Anu Mary Oommen, 2020) [1].

Figure 1: Timeline of Important Events between December 2019 to April 2020.



Source: Sudipta Dhar Chowdhury , Anu Mary Oommen (2020). Epidemiology of COVID-19. Thieme Journals

The clinical manifestations of COVID-19 present a spectrum of symptoms, with fever, cough, and fatigue being common initial signs. Additional symptoms include sputum production, headache, haemoptysis, diarrhea, dyspnea, and lymphopenia. Clinical assessments, including chest CT scans, reveal pneumonia, and severe cases can result in complications such as acute respiratory distress syndrome, acute cardiac injury, occasionally leading to fatal outcomes. The World Health Organization's declaration of COVID-19 as a pandemic on March 11, 2020, reflected its global impact. (Figure: 1) The virus's estimated reproduction number (R0) between 2.24 and 3.58 indicated a substantial potential for widespread transmission. The period from symptom onset to death, varying from 6 to 41 days with a median of 14 days, is influenced by factors such as age and

immune system status. Phylogenetic analysis classifies SARS-CoV-2 as a beta-CoV of group 2B, closely related to bat-derived strains, sharing 80% identity with SARS-CoV and 50% with MERS-CoV. This classification underscores the genetic similarity of the virus to Corona-viruses infecting humans, bats, and wild animals. In February 2020, the International Committee on Taxonomy of Viruses and the World Health Organization announced official names for both the virus and the disease it causes: SARS-CoV-2 and COVID-19, respectively. The name of the disease is derived from the words *corona*, *virus*, and *disease*, while the number 19 represents the year that it emerged.

In the examination of the global impact of COVID-19 as of May 2, 2023, a pivotal aspect involves a detailed country-wise analysis. This granular assessment allows for a nuanced understanding of the varied trajectories of the pandemic across different nations. It is essential to note that certain countries with negligible case numbers have been excluded for brevity [2] (Table 1). As of May 2, 2023, the outbreak of the Corona-virus disease (COVID-19) had been confirmed in almost every country in the world. The virus had infected over 687 million people worldwide, and the number of deaths had reached almost 6.87 million. Among the most severely affected countries, the United States of America emerges at the forefront, grappling with a substantial 59,862,833 reported cases. The intricate dynamics of its large and diverse population, combined with complex healthcare challenges, underscore the immense struggle in combating the virus. Following closely is India, reporting 43,289,365 cases, reflecting the unique challenges posed by its vast and densely populated landscape. Brazil, with 34,105,097 cases, secures the third position, emphasizing the global impact on nations with diverse socioeconomic backgrounds. On the flipside, the examination reveals nations that have experienced comparably minimal impact. Nauru, with only 36 reported cases, exemplifies the success of stringent control measures in a small island setting. Tuvalu, reporting a mere 15 cases, further underscores the effectiveness of insular environments in containing the virus. Kiribati, with only 11 cases, rounds out the list of least affected countries. These instances highlight the critical role of early and robust public health responses in mitigating the impact of the global pandemic, offering valuable insights into strategies for future preparedness.

Table 1: Country-Wise Analysis of COVID-19

Sl. No	Country/Territory	Total Population	Absolute no. of infected people	%
1	USA	339,996,563	103,436,829	30.42
2	India	1,428,627,663	106,678,503	7.47
3	France	64,756,584	44,949,671	69.41
4	Germany	83,294,633	39,991,340	48.01
5	Brazil	216,422,446	38,403,667	17.74
6	Japan	123,294,513	37,449,418	30.37
7	S. Korea	51,784,059	33,725,765	65.13
8	Italy	58,870,762	31,192,401	52.98

9	UK	67,736,802	25,788,387	38.07
10	Russia	144,444,359	24,569,895	17.01
11	Turkey	85,816,199	22,855,451	26.63
12	Spain	47,519,628	17,232,066	36.26
13	Vietnam	98,858,950	13,825,052	13.98
14	Australia	26,439,111	11,563,091	43.73
15	Taiwan	23,923,276	11,441,894	47.83
16	Argentina	45,773,884	10,239,998	22.37
17	Netherlands	17,618,299	10,044,957	57.01
18	Iran	89,172,767	8,610,372	9.66
19	Mexico	128,455,567	7,606,689	5.92
20	Indonesia	277,534,122	7,587,421	2.73
21	Poland	41,026,067	6,775,613	16.52
22	Colombia	52,085,168	6,513,902	12.51
23	Austria	8,958,960	6,364,636	71.04
24	Greece	10,341,277	6,065,711	58.66
25	Portugal	10,247,605	5,999,934	58.55
26	Ukraine	36,744,634	5,580,792	15.19
27	Chile	19,629,590	5,518,614	28.11
28	Malaysia	34,308,525	5,284,258	15.40
29	Israel	9,174,520	5,071,840	55.28
30	Belgium	11,686,140	4,821,891	41.26
31	DPRK North Korea	26,185,795	4,793,425	18.31

Source : John Elflein (2023). Number of Corona-virus (COVID-19) cases worldwide as of May 2, 2023, by country or territory. Statista Research Service

Geographic Origins and Spread

The emergence of the COVID-19 pandemic from its origins in Wuhan, China, has evolved into a global crisis of unparalleled proportions. As the virus spread rapidly, nations worldwide grappled with multifaceted challenges that transcended boundaries, affecting diverse populations. China, being the epicentre, faced the initial wave of the crisis, revealing the intricate difficulties in managing emerging infectious diseases within our interconnected world. The zoonotic transmission of the virus underscored the need for swift and comprehensive crisis management, exemplified by the Chinese government's response characterized by stringent lockdowns and extensive testing. These measures provided valuable lessons on an international scale.

Since the initial report from China, the disease spread rapidly, with the first case outside mainland China reported in Thailand on January 11. Within months, the virus reached all continents except Antarctica. India reported its first case of COVID-19 on January

30, 2020. By February 3, three cases had been confirmed, with no additional cases reported that month. However, by mid-March, the number of infected cases started to rise, leading to widespread reports from all over India. The first COVID-19 related death in India was reported on March 12, 2020. By the second week of April, the disease had spread to all states in India except Sikkim. As of the current date, there have been 2,170,265 cases and 135,163 deaths globally, with 15,712 cases and 507 deaths in India.

In the beginning, Corona-virus cases in India were primarily due to abroad connections rather than transmission within the country. The first three infection cases occurred on January 30 and February 3 in Kerala, as individuals returned from Wuhan, China. By March 3, two more cases were reported, one with a travel history from Italy and the other from Dubai. On the same day, additional cases were observed in Jaipur.

As the COVID-19 pandemic unfolded its impact across the vast expanse of India, the union territory of Jammu and Kashmir, situated in the northern part of the country, did not remain immune to the contagion. The initial incursion of the virus into this region was marked by two suspected cases with a high viral load, detected and isolated on March 4, 2020, at the Government Medical College in Jammu. Both individuals, later confirmed as the first positive cases on March 9, had a crucial commonality — a travel history to Iran. This underscores the early pattern observed in India, where the genesis of Corona-virus cases was intricately linked to international travel, reflecting the globalized nature of the virus's transmission pathways.

Fast-forwarding to the latest available data in October 2023, Jammu and Kashmir has witnessed a significant caseload in the course of its battle against the pandemic. The total reported cases stand at 482,034, a testament to the persistent challenges posed by the virus. However, a glimmer of hope emerges in the form of 477, 242 individuals who have successfully navigated the journey from diagnosis to recovery, underscoring the resilience and efficacy of healthcare efforts in the region. Unfortunately, the toll of the virus is also reflected in the reported deaths, numbering 4,792, highlighting the gravity of the situation and the imperative to continually enhance public health measures.[3]

In the broader context of the pandemic's trajectory in India, the experience of Jammu and Kashmir aligns with the national narrative. In the early stages, the primary mode of transmission was through individuals returning from international destinations, echoing the global patterns observed in the spread of the virus. The proactive response of health authorities, as evidenced by the isolation and testing protocols initiated in Jammu and Kashmir in March 2020, mirrors the collective efforts undertaken nationwide to curb the virus's advance. As India grappled with the complexities of the pandemic, interventions such as travel advisories, quarantine rules, and social distancing measures were rolled out, forming a mosaic of strategies to mitigate transmission rates and minimize the impact on public health.

To curb the spread, the Ministry of Health and Family Welfare (MoHFW) issued travel advisory restrictions, imposing self-quarantine rules for 14 days on all international

travelers entering the country. Travel visas were restricted until April 15 for other countries. On March 16, 2020, MoHFW proposed interventions such as social distancing of ≤ 1 m to decrease disease transmission rates, morbidity, and mortality. On March 22, Prime Minister Narendra Modi encouraged people to follow a 14-hour Janata curfew in India. The first phase of a 21-day lockdown commenced on March 24, reducing mobility in grocery and pharmacy, recreation, retail, transit to station visits to parks, and workplaces by significant percentages. Due to the growing infestation from COVID-19, on April 14, the Indian government declared an extended second-phase lockdown until May 3, further extended until May 17, and later imposed until May 31. To make the lockdown and social distancing effective, India also invoked the quarantine law under the Epidemic Disease Act, 1897. [4]

Public Response / Resilience to Pandemic

Implications of COVID-19

Published research that examined the influence of COVID-19 on the community's mental health clearly pinpoints its negative psychological impact. For instance, the research conducted during the early stages of the COVID-19 pandemic (March, 2020) indicated that 36.6% of the 3055 participants experienced psychological distress. Similarly, another research conducted highlighted the impact of the pandemic on the mental health of individuals. These researchers found that the mental health of 78% of their sample deteriorated since the outbreak of COVID-19.

Social support is essential during stressful situations. On the one hand, it positively affects one's mental health, and on the other, it acts as a protective factor reducing the negative psychological impact. Existing literature suggests that in periods of a pandemic, family and friends' perceived support increases. For the study participants were asked to report the support they received from family and friends before the SARS pandemic outbreak, compared to the support they received two months following the outbreak. They found that 28.4% of participants reported increased support from friends (3.8% reported decreased support), and 39.1% of participants reported increased support from family members (1.7% reported decreased support). In addition, they found that for a large proportion of their participants, the expression of emotions towards others and interest in the emotions of others, increased in the period after the outbreak of the pandemic. The increase in social support acts as a significant "cushion" protecting participants from negative mental health impact. Similar results were obtained in another study which examined perceived support from family and friends during the COVID-19 pandemic in China. These researchers found that 64.6% of participants reported increased support by friends and 63.9% reported increased support by family members. In addition, they also found that the expression and interest in the emotions of others increased during the outbreak of the COVID-19 pandemic.

The literature suggests that females are more susceptible to experience negative mental health impact, such as higher levels of distress, anxiety, and depression, during stressful situations. More specifically, in a cross-sectional study of the UK population, Smith et

al. [5] found that females had higher levels of poor mental health during March 2020. Similarly, in their research with the Indian population, Varshney et al. [6] found that females experience the pandemic's greater psychological impact. This finding has been replicated in many countries, such as China, Turkey, Spain, Austria and Australia. The findings from the ongoing research of the non-profit international organization CARE International, which collected data from many countries concerning the impact of COVID-19 in challenging environments, further support this claim concerning females. CARE International has published a number of Rapid Gender Analysis Data that aimed to provide initial analysis on the Gender Impacts. A recently published report of CARE International [7] of almost 10,000 people in 38 countries shows the striking differences between men and women regarding mental health. According to CARE International's findings, while both men and women report experiencing worry, anxiety, and overall emotional fatigue due to the pandemic, women (27% as compared to 10% of men) report suffering from anxiety, inability to sleep, loss of appetite and trouble completing everyday tasks.

Additionally, the area of residency appears to influence the experience of the pandemic. Existing literature suggests that the risk of mental health problems varies depending on whether people live in rural or urban areas. However, there are contradicting results in the literature, and therefore, it is still unclear whether residents in rural or urban areas are more negatively affected by the pandemic. [8]

Individual Protective Measures and Health Practices during the COVID-19 Pandemic

The COVID-19 pandemic triggered a global response, prompting individuals worldwide to adopt an array of preventive measures in a collective effort to safeguard their health and that of their communities. Central to this response was the guidance provided by the World Health Organization (WHO), offering comprehensive recommendations aimed at mitigating the spread of the virus [9].

A critical dimension of the COVID-19 response was the swift and widespread adoption of vaccination campaigns. People globally recognized the importance of receiving vaccines as soon as they became eligible, aligning their actions with WHO guidelines and local health authorities. This concerted effort sought to establish immunity within populations and, consequently, reduce the severity of illness.

In acknowledgment of the highly contagious nature of the virus, individuals adhered to physical distancing guidelines, diligently maintaining a minimum distance of 1 meter from others. Recognizing the challenges of maintaining such distances in certain situations, the correct and consistent use of masks became paramount. Individuals ensured that masks covered the nose, mouth, and chin, supplementing these practices with meticulous hand hygiene whenever handling masks.

Beyond official guidelines, there emerged a noteworthy trend of individuals proactively taking steps to enhance their overall health during the pandemic. This included a heightened emphasis on consuming clean and nutrient-rich foods. A balanced diet was viewed not only as a means of supporting general well-being but also as a potential factor in boosting immune function, gained increased attention.

In the pursuit of minimizing the risk of infection, regular hand hygiene practices became ingrained in daily routines. The use of alcohol-based hand rubs or thorough hand-washing with soap and water became commonplace, contributing to the elimination of germs that might be present on hands. This commitment to hygiene extended to the immediate environment, with individuals frequently disinfecting commonly touched surfaces such as doorknobs, faucets, and electronic devices. Amid the uncertainties of the pandemic, individuals explored various home remedies as supplementary measures to fortify their health. Practices such as gargling with warm water gained popularity, with some believing it could help eliminate viral particles in the throat. While the scientific efficacy of such practices varied, their adoption reflected a widespread desire for proactive health measures. This multifaceted approach to health and safety underscored the adaptability and resilience of individuals facing the challenges posed by the ongoing pandemic. It exemplified not only a response to immediate public health concerns but also a broader societal commitment to collective well-being and the cultivation of resilient communities in the face of unprecedented global health challenges.

People Affected and their Recovery

The research illuminates a compelling narrative in the context of South Asian countries, particularly India, where the convergence of a sizable population and constrained healthcare infrastructure has not translated into the high incidence and mortality rates witnessed in several developed nations grappling with the COVID-19 pandemic. Focused on positive COVID-19 cases reported in India from March 1, 2020, to March 31, 2020, and employing a 25-day follow-up period, the study zeroes in on a critical aspect—the estimation of recovery time. Within this framework, the average recovery time for COVID-19 patients in India emerges as a significant parameter, projecting at 25 days, accompanied by a 95% confidence interval ranging from 16.14 to 33.86 days.

The investigation deepens its exploration by disaggregating recovery time data based on gender and age groups. Notably, male patients exhibit an estimated average recovery time of 23 days (95% C.I. 12.71 to 33.29), while their female counterparts experience a slightly lengthier period at 25 days (95% C.I. 14.65 to 37.34). A granular examination of different age cohorts reveals that patients aged 60 years and above align closely with the overall average, with an estimated recovery time of 25 days (95% C.I. 17.22 to 32.78). In contrast, patients under 60 years of age showcase a shorter estimated recovery time of 21 days (95% C.I. 12.82 to 29.32).

Zooming out from individual demographics, the study also ventures into the distribution of recovery times amidst the broader patient population. An intriguing revelation

emerges here as the recovery duration is diverse, with half of the patients being discharged after 25 days, a substantial portion (40%) experiencing discharge after 20 days, and a minor fraction (4%) being released within the relatively shorter span of 10 days. This distribution underscores the inherent variability in recovery durations within the COVID-19 patient population in India.

Beyond these detailed recovery trends, the study provokes contemplation on the potential strain that the persistently high daily diagnosis rates could impose on India's healthcare system. With approximately eight to nine thousand new cases diagnosed daily and considering the average 25-day recovery period, there arises a legitimate concern about the capacity of the country's limited hospitals, doctors, and medical staff to meet the escalating demand for care. This finding necessitates a thoughtful consideration of strategic planning and resource allocation to effectively navigate the challenges posed by the ongoing pandemic.

In this context, the study makes a robust contribution to the understanding of the nuanced dynamics of COVID-19 recovery in the Indian context. Its findings urge further scientific exploration for comprehensive insights into the factors influencing recovery times, fostering a more informed approach to public health policy and intervention strategies in the face of the persisting pandemic.[10]

Data & Methodology

Our research is anchored in a rich dataset, meticulously gathered through a comprehensive questionnaire designed to explore the multifaceted impacts of COVID-19 on individuals. This primary data is invaluable, as it encapsulates responses from those directly affected by COVID-19, along with insights from their relatives, close contacts, and healthcare workers. Our questionnaire, featuring 33 detailed questions and constructed using Google Forms, covers a diverse spectrum of parameters, including gender, age, country, qualification, occupation, employment type, severity of current health, count of family members, family members affected by COVID-19 (along with their ages), pre-existing medical conditions, and more.

The data collection process spanned 19 days, from September 14, 2023, to October 3, 2023, yielding a dataset with 113 responses. To ensure a comprehensive representation of experiences and outcomes associated with the pandemic, we deliberately engaged a diverse participant pool, including students, residents from different localities, relatives, close contacts, friends, and colleagues.

Our dataset, constituting primary data, mirrors the diverse demographic backgrounds of the respondents. Rigorous efforts were made to enhance reliability and representativeness by including participants from different age groups, educational qualifications, and family structures. This deliberate selection of respondents from various walks of life enriches the depth and diversity of our dataset. The parameters captured in our questionnaire cover a wide array of aspects, from health outcomes and COVID-19

implications to post-COVID health outcomes and broader societal implications. These parameters include severity of health, family impacts, pre-existing conditions, vaccination status, lifestyle changes, financial impacts, and perceptions of technology and social media during and after the COVID-19 period.

Results & Discussions

In the Jammu and Kashmir region, the impact of COVID-19 reveals a stark gender-based disparity, where 63% of cases affect males compared to 37% among females. This gender imbalance can be attributed to prevailing societal roles, where men typically bear the primary responsibility as breadwinners, necessitating their sustained exposure to external environments regardless of prevailing conditions. This inherent need to provide for their families is a significant factor contributing to the higher percentage of male Covid-19 cases. Moreover, additional factors, including the perceived behaviour of men and the declining health status of males in India, as corroborated by studies like George M. Bwire (2020) [11] and J. Fabião et al. (2022) [12], also play a role in this gender disparity. Nevertheless, it's crucial to acknowledge that women in the region actively engage in various forms of employment and daily activities, and their increased exposure to the virus, given its highly communicable nature, may account for the rise in female infections. This discrepancy is rooted in societal roles, with men, typically primary breadwinners, facing heightened exposure due to sustained engagement in external environments. Factors such as perceived male behavior, declining health status, and women's increased activity contribute to this gender gap. Simultaneously, the distribution of cases significantly skews towards younger age groups, notably 15-25 and 26-35, accounting for 51.8% and 39.3% of infections, respectively. In contrast, the remaining age categories exhibit markedly lower infection rates, with 36-45 year-olds at 4.5%, 46-55 year-olds at 2.7%, and those above 55 years of age at 1.8%. This significant variation can be attributed to the characteristics of the younger age groups, particularly those between 15-35, who tend to exhibit a more carefree and casual approach to potentially serious situations. This elevated rate of infection among young adults can be associated with their higher mobility and propensity to venture outdoors, supported by research findings in a study by India Today[13]. They often disregard advice from elders and healthcare professionals, as indicated in a study conducted by The Indian Express [14]. Their carefree approach and higher mobility contribute significantly to their infection rates. A comprehensive breakdown of the educational qualifications of individuals affected by Covid-19 is concentrated in the below UG, UG, and PG categories, representing individuals primarily within the age group of 15–35 sometimes even forgoing the use of masks. In contrast, individuals with PhD & above qualifications are predominantly situated in the age group of 35 and older, typically displaying a heightened awareness of the seriousness of the situation and a greater propensity to adhere to guidelines issued by healthcare organizations, medical professionals, and government authorities. This interplay between educational qualifications and age groups underscores the influential role of education in shaping compliance with pandemic measures. It was observed that full-time employees, part-time workers, and freelancers face substantial impact, potentially due to varying

levels of daily interactions. A high proportion of freelancers contracting the virus raises questions, possibly linked to the prevalence of freelancing among young adults, a group we have identified as significantly affected. It's essential to address gender disparities in full-time and part-time employment, as indicated by the research of David Richardson and Richard Denniss (2020) [15], showing a male majority in full-time roles and significant female representation in part-time positions. The rapid decline in part-time work, particularly impacting women, resulted in them staying home and being relatively safe. Furthermore, the study by Alison Aughinbaugh and Donna S. Rothstein (2022) [16] supports this observation by demonstrating that men are more likely to work full-time compared to women and have less access to remote work, a significant factor influencing the high infection rates among full-time workers. The sample data also highlights gender disparities in employment, contributing to higher infection rates among men. Overall, these analyses underscore the intricate interplay of gender, age and employment status, shaping the distribution of COVID-19 cases in the region, revealing multifaceted influences on infection rates across different demographic groups.

Table 2: Count of Family Members

Count	%
1	0.9
2	2.8
3	6.7
4	20.5
5	47.9
6	13
7	8.4
8	2.8
Total	**100**

Source: Author's compilations from primary data

Table: 2 illustrates the distribution of family member counts among individuals impacted by COVID-19. Notably, a significant 81.4% of cases are associated with family sizes of 4, 5, or 6 members, suggesting that these family configurations might be more susceptible to the virus due to their inherent dynamics. In contrast, smaller families, reflected by the lower percentages for counts seem better equipped to maintain social distancing and reduce exposure. Consequently, the correlation between family member counts and COVID-19 cases underscores the critical role of household size in virus transmission, with higher family sizes of demonstrating the highest vulnerability to infection. The data also indicates that households with 7 or 8 members exhibit a relatively lower percentage of COVID-19 cases, with 7 members representing 8.4% and 8 members representing 2.8% of cases. This lower prevalence in larger households may be attributed to the fact that such family sizes constitute a smaller proportion of the overall population, in line with a study conducted by Global Data that reported

India's average household size as 4.44 people in 2021 [17]. Consequently, the data reveals a non-linear relationship between family size and COVID-19 cases, with higher prevalence in households comprising 4, 5, or 6 members and relatively lower incidence in families with 7 or 8 members.

Table 3: Severity of Current Health

Sl. No	Current health	%
1	Fully recovered	93.3
2	Partially recovered	6.7
3	Not recovered	0
Total		**100**

Source: Author's compilations from primary data

The data presented in Table 3 shows the current health status of individuals affected by COVID-19. Notably, a substantial 93.3% of the cases reflect full recovery, underscoring the resilience and effective medical interventions that contribute to the majority of patients overcoming the virus's effects. This positive trend aligns with findings from a study by Akancha Singh and Aparajita Chattopadhyay (2021) [18], emphasizing the significance of factors like death rate, hospitalization, healthcare quality, and discharge policies in determining a country's recovery rate. In this context, India's recovery rate has shown a steady increase, highlighting the improvements influenced by healthcare investment, urban living conditions, non-slum and non-poor populations, and effective governance. Moreover, the absence of cases indicating "not recovered" (0%) is a reassuring sign, underlining the importance of real-time monitoring and reporting of health outcomes. This information is invaluable for healthcare professionals, policymakers, and the broader public in understanding the evolving dynamics of the pandemic and the success of recovery efforts.

Table 4 summarizes the extent to which different family members were affected by COVID-19, providing a glimpse into the familial dynamics during the pandemic. The data signifies the varying degrees of impact on family members and their susceptibility to contracting the virus. Notably, the data reveals that sister-in-laws were the most affected among the listed family members, with 11.6% reporting COVID-19 infections, possibly due to their extensive involvement in family activities and interactions. Samia Hanif foundwomen in Kashmir often find themselves in the position of being the sole manager of the household, sole parent, or caretaker of elders, which can lead to increased suffering [19]. Mother-in-laws (10.6%) were the second most affected, possibly because of their close-knit roles in household responsibilities. In contrast, spouses (2.9%) had a lower infection rate, likely owing to their reduced exposure, and a notable 11.6% reported that no family member was affected, indicating that some households managed to shield themselves effectively from the virus. This data underscores the critical role of family structures and interactions in the spread of the virus within households and can serve as a valuable resource for understanding transmission patterns and developing targeted preventive measures. It reflects the intricate web of relationships and contact

dynamics within families, shedding light on the vulnerabilities and safeguards that different family members experienced during the pandemic. This understanding is pivotal for improving public health strategies and strengthening protective measures to mitigate the impact of COVID-19 within households.

Table 4: Family Members Affected

Sl. No	Relation	%	Total %
1	Father/in-law	8.7	100
2	Mother/in-law	10.6	100
3	Spouse	2.9	100
4	Brother/in-law	6.7	100
5	Sister/in-law	11.6	100
6	Grandfather	3.8	100
7	Grandmother	1.9	100
8	Children	3.8	100
9	Others (nephew, uncle, aunt)	1.9	100
10	None	11.6	100

Source: Author's compilations from primary data

Table 5 shows the presence of pre-existing medical conditions among the surveyed individuals, thus revealing the prevalence of underlying health concerns within the context of COVID-19 infections. About 10.7% of the respondents acknowledged having pre-existing conditions, while a substantial 89.3% reported not having such underlying health issues. These pre-existing conditions encompass a range of chronic ailments, such as diabetes, hypertension, respiratory disorders, or cardiovascular diseases, all of which have been recognized as factors that may elevate an individual's vulnerability to severe COVID-19 complications. These findings align with the results of various studies, including one conducted by Colin Pawlowski et.al [20] that demonstrated higher rates of pre-existing conditions, such as acute kidney injury, anaemia, and cardiac arrhythmias, among hospitalized COVID-19 patients who were readmitted to the hospital after viral clearance. This implies that pre-existing conditions served as risk factors for post-clearance COVID-19 complications necessitating hospitalization. Several meta-analyses have also identified individuals with pre-existing medical conditions like cancer, cerebrovascular disease, type 2 diabetes mellitus, chronic obstructive pulmonary disease (COPD), hypertension, and chronic kidney disease as being at higher risk of contracting COVID-19. However, it's important to note that in Kashmir, hospitalizations and the severity of cases remained relatively low. As a result, we can infer that the population with pre-existing conditions in the region may have been comparatively safeguarded from COVID-19's severe impact. These insights are valuable for understanding the interplay between pre-existing conditions and COVID-19 outcomes.

Table 5: Pre-Existing Conditions

Pre-existing conditions	%
Yes	10.7
No	89.3
Total	**100**

Source: Author's compilations from primary data

However there has been a stark contrast in hospitalization rates among respondents, with a significant 95.5% indicating they did not require hospitalization (Table: 6). This divergence can be attributed to various factors, primarily the relatively lower death rate in Kashmir, which led many individuals to believe that hospitalization was unnecessary. This perception is corroborated by data from the Government of India's state-wise COVID-19 patient dashboard, which reports that Jammu and Kashmir had a total of 482,034 COVID-19 patients, with 477,242 recoveries and 4,792 deaths [21]. Additionally, the cases in Jammu and Kashmir displayed less severity, as reported by Irfan Tramboo in 2021, highlighting almost zero hospitalizations in the region due to milder COVID-19 symptoms [20]. The data underscores the significant impact of the local context and the perceived virus severity on individuals' decisions regarding hospitalization during the COVID-19 pandemic, emphasizing the importance of region-specific factors in healthcare decisions.

Table 6: Hospitalization Required

Hospitalization required	%
Yes	4.5
No	95.5
Total	**100**

Source: Author's compilations from primary data

The study also found persisting symptoms experienced by individuals after their recovery from COVID-19. It indicates that 14.3% of respondents was observed reported enduring symptoms, while a substantial majority of 85.7% did not experience any post-recovery issues. These findings highlight the phenomenon commonly referred to as "long COVID" or "post-acute squeal of SARS-CoV-2 infection" (PASC), emphasizing that the impacts of the virus can extend beyond the initial acute phase of the illness. Lingering symptoms can encompass a broad spectrum, ranging from fatigue and respiratory difficulties to cognitive impairments. Additionally, studies by Amy D. Proal and Michael B. VanElzakker [22] suggest that a variety of additional biological factors, including alterations in host micro biome composition and activity, contribute to PASC cases, where SARS-CoV-2 infection may initiate or exacerbate various biological irregularities in diagnosed patients. Recognizing the prevalence of these persistent symptoms is critical for healthcare providers and policymakers to deliver appropriate care and support to COVID-19 survivors and prepare for the potential long-term health consequences of the pandemic.

Table 7: Lingering Symptoms since Recovering from COVID-19

Lingering symptoms	%
Yes	14.3
No	85.7
Total	**100**

Source: Author's compilations from primary data

Table 8: Affected by Which Wave

Affected by	%
Ist wave	14.5
2nd wave	38.2
Both waves	10.9
Not affected	36.4
Total	**100**

Source: Author's compilations from primary data

Another important determinant has been the waves of the COVID-19 pandemic that affected respondents in Jammu and Kashmir, shedding light on the underlying reasons for these impacts. Notably, the data reflects a pattern where the second wave had a more significant impact on participants compared to the first wave, a trend that can be directly attributed to the alarming surge of COVID-19 cases witnessed in India during the second wave. This stark contrast is reinforced by findings from a study by Kapil G Zirpe et.al [23] indicating a substantial increase in both ICU and hospital mortality rates at 7 and 14 days for patients admitted to ICUs in western Maharashtra during the second wave of the pandemic, underscoring the severe healthcare crisis during that period. Conversely, the 36.4% of respondents who remained unaffected by either wave can be partly attributed to the relatively lower number of COVID-19 cases in Kashmir.

An important aspect in this regard is how respondents in Jammu and Kashmir adhered to different COVID-19 preventive recommendations (Table: 9). Notably, a remarkable 96.3% of participants reported consistent mask-wearing, showcasing a commendable commitment to this fundamental preventive practice. Furthermore, 77.8% of the respondents dilligently adhered to hand hygiene by washing their hands for a minimum of 30 seconds and regularly using hand sanitizers, reflecting the widespread recognition of the significance of these practices in reducing viral transmission. It's worth mentioning that 60.2% indicated that they routinely sanitized gates and their homes, contributing to a safer environment. Encouragingly, 42.6% expressed the habit of supplementing their health by taking essential vitamins, potentially boosting their immune systems. Nonetheless, these statistics reveal scope for enhancement in compliance with preventive measures, mirroring findings from another study conducted by Kumar Saurabh & Shilpi Ranjan [24] that underscored the suboptimal overall adherence of 7.43%. Interestingly, adherence rates varied between guidelines, with higher compliance observed in measures aimed at preventing community transmission

(17.35%) than those focusing on household transmission (10.71%). The distinct patterns of compliance among children and adolescents, with relatively lower adherence rates, raise concerns as they could potentially pose risks to their families and communities. In line with prior research done by Dr. Sabina Kleitman [25], .The present study shows that individuals more likely to comply with COVID-19 restrictions tend to be younger, educated, or face higher health risks. They exhibit qualities such as being female, experiencing elevated worry, and holding trust in government-mandated protective measures. They also demonstrate constructive coping strategies for stress and anxiety, including distraction and planning. Conversely, the non-compliant segment, which is characterized by being predominantly male, less agreeable, less inclined toward intellectual curiosity, and more extroverted, tends to engage in riskier behaviors, such as socializing with friends or family, attending religious gatherings, pursuing leisure activities due to boredom, or asserting their freedom to move about.

Table 9: Followed all the COVID-19 Instructions Issued by WHO

Followed	%	Total
Wearing mask	96.3	100
Washing hands for 30 seconds or longer	77.8	100
Constantly using sanitizer on hands	77.8	100
Sanitizing gates and your home	60.2	100
Taking essential vitamins	42.6	100

Source: Author's compilations from primary data

The study tried to get an insight into the psychological distress experienced by COVID-19 patients in Jammu and Kashmir, revealing the profound impact of the pandemic on their mental well-being (Table: 10). Notably, 27.3% of patients reported experiencing extreme anxiety, a significantly high level attributable to the unprecedented and uncertain nature of COVID-19. In contrast, 19.1% described their anxiety as mild, suggesting a relatively more manageable level of psychological distress. An additional 15.5% of respondents acknowledged experiencing anxiety to varying degrees, signifying a moderate level of distress, likely tied to concerns about health, the well-being of loved ones, and the economic implications of the pandemic. It is noteworthy that 11.8% of patients reported experiencing notable anxiety levels marked as "8," while an additional 8.2% reported an anxiety level of "6." Furthermore, 4.5% of patients experienced anxiety levels represented by scores "1," "3," and "4," underscoring the diverse spectrum of distress levels prevalent among COVID-19 patients in the region. Research studies conducted by Sheikh Shoib (2020) [26] revealed that 45% of Kashmir's adult population (1.8 million) experienced some form of mental distress, with preventive measures like social distancing potentially exacerbating feelings of loneliness and neglect, particularly among the elderly population, leading to mental health issues. Additionally, research by Bilal Ahmad Bhat et al. on the people of Jammu and Kashmir concluded that 55% of respondents exhibited anxiety symptoms, 55% displayed depressive symptoms, around 53% reported poor quality of sleep, and approximately 30% employed maladaptive coping skills (2020) [27]. These findings further emphasize the profound psychological

impact of the pandemic and underscore the necessity of prioritizing mental health support for individuals affected by COVID-19.

Table 10: Anxiety Level

Least anxious							Most anxious			
Anxiety level	1	2	3	4	5	6	7	8	9	10
Percentage of people	4.5	0.9	4.5	4.5	19.1	8.2	15.5	11.8	3.6	27.3

Source: Author's compilations from primary data

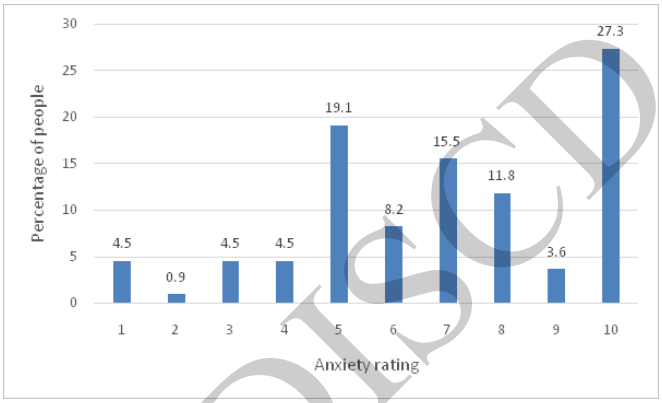
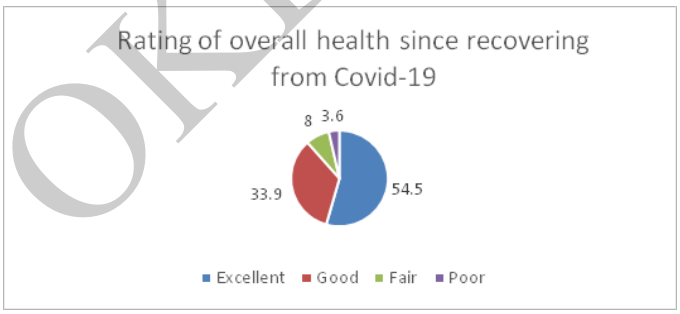


Figure 2: Rating of Overall Health since Recovering from COVID-19



Source: Author's compilations from primary data

A hierarchical rating of health of respondents is shown in Figure: 2 since recovering from COVID-19. Almost 54.5% of participants reported their overall health as "excellent," signifying a significant number of individuals who experienced robust recovery post-infection. An additional 33.9% rated their health as "good," reflecting a positive trajectory for a substantial portion of respondents. However, it is crucial to acknowledge that some individuals faced post-recovery health challenges, with 8% rating their health as "fair" and 3.6% rating it as "poor." These findings echo the results of studies such as the one conducted by the WHO [28], emphasizing that while

most people fully recover from COVID-19, around 10–20% experience mid and long-term health effects following their initial illness. This variation in post-recovery health highlights the necessity of tailored healthcare support and underscores the importance of ongoing research and monitoring.

Table 11 shows the status of body weight among respondents after their recovery from COVID-19. This table provides crucial insights into the physical well-being of individuals who have experienced the virus and the subsequent changes in their weight. Notably, the majority of respondents, at 67%, reported no significant change in their weight, a finding that may be linked to the relatively lower COVID-19 cases in the region, suggesting that a considerable portion of the population remained unaffected by the virus. However, the table also highlights that some individuals experienced a reduction in their weight, with 17% reporting weight loss. This decrease in body weight is an important observation and could be associated with the toll that COVID-19 takes on patients. Many people who contract the virus report experiencing weight loss, particularly muscle loss, a condition known as "cachexia." A study reviewed by Darragh O'Carroll [29] found that 30% of COVID-19 patients 1 month after hospital discharge had lost more than 5% of their baseline body weight. More than half were at risk for malnutrition, suggesting that COVID-19 may lead to weight loss and nutritional issues. Conversely, 16.1% of respondents reported an increase in their weight. This increase in body weight may be linked to efforts to regain weight lost during COVID-19 infection, as supported by another study conducted by Luigi Di Filippo et al. [30], which concluded that COVID-19 might negatively impact body weight and nutritional status. Some individuals may have faced muscle loss during their illness, and the desire to rebuild muscle mass and regain lost weight could account for this observed increase. Studies [31] also propose various methods for regaining weight lost due to illnesses, such as consulting with nutritionists or healthcare professionals, considering medications that stimulate appetite, or following specific caloric intake guidelines. Another reason for the weight gain is the lethargic lifestyle people had to abide by during nation-wide lockdowns and restrictions. During pandemic, almost negligible people were involved in exercises and physical activities.

Table 11: Status of Weight since Recovering from COVID-19

Status	%
Increased	16.1
Decreased	17
No change	67
Total	**100**

Source: Author's compilations from primary data

Details regarding how sample respondents from Jammu and Kashmir perceived their immunity changing following their recovery from COVID-19 are shown in Table: 12.The data reveals that a significant majority, 65.2%, reported a sense of improved immunity following their recovery, while 34.8% did not report any noticeable

improvement. The increased sense of immunity among respondents may be attributed to natural immunity developed after contracting COVID-19. Natural immunity involves the body's production of antibodies that can specifically recognize and neutralize the virus. Research has shown that natural immunity can be robust and long-lasting, although it can vary among individuals and may decline over time. Jennifer Abbasi's [32] study emphasizes the potential for lasting immunity after COVID-19, which can be significantly augmented by vaccination. This suggests that individuals who have recovered from COVID-19 may have strong and durable protection against re-infection. Stefan Pilz's et al. [33] study also supports the idea that natural immunity can provide substantial protection against re-infection, even with the presence of various SARS-CoV-2 variants.

Table 12: Improvement in Immunity since Recovering from COVID-19

Improved	%
Yes	65.2
No	34.8
Total	**100**

Source: Author's compilations from primary data

Table 13: Vaccination Status

Vaccinated	%
One dose	58.3
Both doses	12
None	29.6
Total	**100**

Source: Author's compilations from primary data

Table: 13 provides information on the vaccination status of sample individuals within the age groups of 15 to 70 in Jammu and Kashmir. The data outlines the extent to which these individuals have received COVID-19 vaccines, shedding light on the vaccination coverage in the region. In particular, it reveals that 58.3% have received at least one vaccine dose, while 12% have completed their vaccination regimen with both doses. However, a notable portion, 29.6%, remains unvaccinated. To understand the factors contributing to these vaccination rates, one has to consider the broader context. The hesitancy toward vaccines in the population of Kashmir is an important element to consider. A study conducted by Syed Najmul Ain et al. [34] has quantified this hesitancy, identifying that concerns about the safety of COVID-19 vaccines (67%) and a lack of trust in vaccine manufacturers (15%) are the primary reasons for complete non-acceptance of vaccination or extensive vaccine hesitancy. This suggests that efforts to address safety concerns and build trust in vaccine manufacturers are essential to enhancing vaccine acceptance. Additional, disparities in vaccination coverage may be attributed to varying levels of education and awareness within the population. The prevalence of misinformation and rumours surrounding vaccines can contribute to

hesitancy. On a positive note, the government had taken proactive steps to increase vaccination rates by implementing compulsory vaccination requirements for employees and students. These measures have played a pivotal role in boosting vaccine uptake.

Figure 3 represent the additional health complications faced by sample respondent.

Figure 3: Additional Health Complications Faced by Sample Respondent

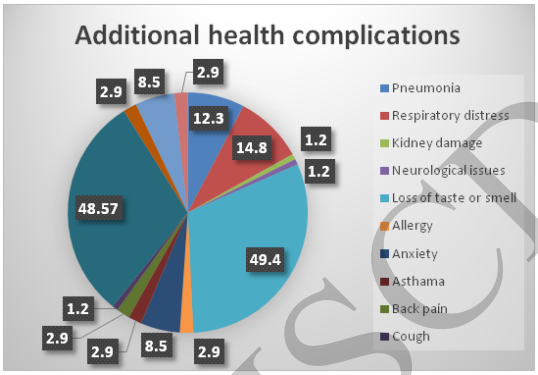


Table 14 : COVID-19 Technological Perception

Perception	%
Embraced technology more	41.1
Used technology and traditional methods equally	38.3
Reverted to traditional methods	3.7
Prefer not to say	16.8
Total	**100**

Source: Author's compilations from primary data

Table 14 sheds light on the profound societal shift towards increased technology integration during the COVID-19 pandemic. The data vividly illustrates a notable surge in technology adoption, with 41.1% of respondents indicating that they embraced technology to a greater extent. A substantial contributor to this surge is the widespread adoption of the Work from Home (WFH) [35] and online education culture across the globe, revealing the adaptability of individuals to the digital realm. Moreover, studies suggest that individuals born during the pandemic, colloquially known as "Covid babies," exhibit a natural inclination towards technology. [36]. Additionally, the economic repercussions of the pandemic led to job losses [37], but many found new opportunities as content creators, primarily on platforms like TikTok and YouTube. These shifts in behavior also extended to seeking COVID-related information, daily updates, home remedies, and personal experiences. It is noteworthy that 38.3% of respondents reported balancing technology with traditional methods, highlighting

a nuanced approach to staying connected and informed. This phenomenon partly stems from the desire to reduce screen time and strengthen familial bonds, as people discovered more leisure time.

Table 15: Post COVID-19 Social Media Engagement Status

Status	%
Increased significantly	39.8
Increased somewhat	16.7
Stayed the same	29.6
Decreased somewhat	4.6
Decreased significantly	0.9
Prefer not to say	8.3
Total	**100**

Source: Author's compilations from primary data

An important behavioural change during the period was the post-COVID social media engagement of sample individuals (Table 15). It was found that, 39.8% reported a significant increase in their social media engagement, reflecting the continued prominence of these platforms in people's lives. An additional 16.7% experienced a moderate increase, further underscoring the enduring relevance of social media. Meanwhile, 29.6% indicated that their engagement remained unchanged, suggesting a stable relationship with these online networks. A smaller percentage, 4.6%, reported a slight decrease, possibly due to a shift in priorities or changing routines. Only 0.9% reported a significant decrease, indicating that social media remains integral to most individuals in the region. Additionally, 8.3% chose not to disclose their engagement status, reflecting personal preferences for privacy. These findings align with broader trends in social media engagement observed globally. During the COVID-19 pandemic, social media served as a vital communication tool, enabling individuals to stay connected with friends and family during times of physical distancing and lockdowns. It facilitated the sharing of information, emotional support, and entertainment, making it an essential component of people's lives during the crisis. Global statistics [38] show that users spent an average of 2 hours and 27 minutes per day on social media in 2023, up from 2 hours and 22 minutes in 2022. The data suggests that even as the world began to reopen, people continued to allocate a significant portion of their daily routines to social media activities. This is also due to the social media addiction during COVID-19 which does not seem to waver off so easily even after COVID-19. This trend demonstrates the lasting impact of the pandemic on online behavior.

The findings presented in Table 16 shed light on criminal activities observed and reported by sample respondents. 7.4% of the respondents reported instances of theft, which is the highest percentage among all categories. This could be attributed to the economic challenges posed by the COVID-19 pandemic. The lockdown measures led to financial hardships for many households, especially when the region already faced alarmingly high unemployment rates. A study conducted by Soumya Bhowmick and

Suyash Das [39] found that during the pandemic, there was an increase in economic crimes, including theft, in many parts of the world. The economic hardships faced by the population can lead to an upsurge in theft-related incidents in addition to theft, domestic violence is reported at 3.7%. The COVID-19 pandemic and associated lockdowns and restrictions created a stressful environment for many families. Increased time spent at home and potential financial difficulties have been linked to higher stress levels, which contributed to domestic tensions and conflicts. A study conducted by Anayat Ul Lah Mugloo, Imran Ahmad Khan et al. [40] found that job loss suffered due to COVID-19 lockdown led to increased acts of domestic violence in Kashmir. These findings underscore the multifaceted impact of the pandemic on various aspects of society, including the socio-economic and interpersonal dimensions.

Table 16: Criminal Activities Observations

Status	%
Street fight	1.9
Harassment	1.9
Domestic violence	3.7
Theft	7.4
Other	3.7

Source: Author's compilations from primary data

There has also been substantial financial impact of the COVID-19 pandemic on Kashmir, a region already grappling with economic challenges. The sample data (Table 17) shows that 2.8% of respondents reported an improvement in their financial condition. However, a significant proportion of respondents, 30.8%, indicated that there was no significant change in their financial situation. In contrast, 27.1% reported that their financial condition had slightly worsened, while another 30.8% reported that it had significantly worsened. Additionally, 8.4% of respondents preferred not to disclose their financial status. The pandemic has further exacerbated these pre-existing issues, leaving a lasting imprint on the region's economic landscape. One of the sectors most severely affected by the pandemic is tourism, a cornerstone of Kashmir's economy. Kashmir relies heavily on revenue from tourists, but the pandemic has led to a sharp decline in tourist arrivals, resulting in significant losses for the tourism sector and its associated businesses. Another critical component of the Kashmiri economy is the handicraft industry, known for its exquisite products like carpets, shawls, and papier-mâché items. However, the pandemic disrupted the supply chain and reduced demand for these products, severely impacting the livelihoods of Kashmiri artisans and related businesses. The economic repercussions of the pandemic extend beyond tourism and handicrafts, affecting other sectors such as agriculture, manufacturing, and trade. Disruptions in supply chains, a decline in demand, and operational challenges have led to job losses and reduced incomes for many in Kashmir. Several studies underscore the magnitude of the economic losses and increased unemployment rates during the pandemic. The Kashmir Chamber of Commerce and Industry reported a staggering loss of Rs 50,000 crore due to the pandemic in 2020-21. The tourism sector, contributing

approximately 15% to Kashmir's GDP, experienced a 70% decline in tourist arrivals in 2020-21, as indicated by studies conducted by Lone et al. and Showkat Ahamd Dar and Naseer Ahmad [41]. Furthermore, Bilal Ahmad et al. [42] found that the handicraft industry, which employs over a million people in Kashmir, reported a 50% decline in sales during the same period. Kashmir's unemployment rate surged from 7.4% in 2019 to 15.5% in 2020, exacerbating the economic challenges faced by the region. Kashmir now confronts the ongoing challenge of economic recovery while addressing these pressing concerns.

Table 17: COVID-19 Impact on Financial Condition

Status	%
Improved	2.8
No significant change	30.8
Slightly worse	27.1
Significantly worse	30.8
Prefer not to say	8.4
Total	**100**

Source: Author's compilations from primary data

The statistics presented in Table 18 provide insights into the recovery status of financial losses in Kashmir resulting from the COVID-19 pandemic. It is noteworthy that 54.5% of the respondents reported that they have completely recovered from the financial setbacks they experienced during the pandemic. These individuals likely faced minimal financial hardships during the pandemic or had robust strategies in place for recuperation. In contrast, 26.7% mentioned partial recovery, suggesting that they have made progress but continue to grapple with economic challenges. The remaining 18.8% acknowledged that they have not yet recovered from these economic challenges, indicating that they are among the significantly affected individuals who continue to face financial difficulties. The slow but steady recovery in these areas indicates the broader context within which the respondents' financial recovery status can be understood. The Jammu and Kashmir Tourism Development Corporation (JKTDC) reported a 20% increase in tourist arrivals in the first quarter of 2023 compared to the same period in 2022. Furthermore, there has been a 10% rise in new business registrations in the region during the first nine months of 2023, in comparison to the same period in 2022, [43] which signifies promising economic progress and reconstruction efforts.

Table 18: Financial Losses Recovery Status

Status	%
Completely recovered	54.5
Partially recovered	26.7
Not yet recovered	18.8
Total	**100**

Source: Author's compilations from primary data

The quality of life in Kashmir was affected by the COVID-19 pandemic (Table 19). The data reveals that 27.1% of respondents reported significant changes in their lifestyles, while 46.7% mentioned experiencing some degree of alteration. For 22.4%, their lifestyles remained largely unaffected, while 3.7% chose not to disclose their response. These findings align with studies conducted during the pandemic. A study by Dimple Rawat et al. [44] indicated that lifestyle was profoundly impacted by COVID-19, with weight gain observed due to changes in daily routines. The study also highlighted a negative shift in sleep patterns, a matter of concern reflected in the data. Dr. Divya R Nair's [45] research explored the influence of lockdown on lifestyle, psychosocial stress, and quality of life (QOL). The study revealed that lockdown had a significant effect on lifestyle, leading to increased psychosocial stress. However, it also showed that people continued to experience a fair QOL during this challenging period.

Table 19: Quality of Life

Quality of changed	%
Yes, significantly	27.1
Yes, to some extent	46.7
No, not really	22.4
Prefer not to say	3.7
Total	**100**

Source: Author's compilations from primary data

The Covid -19 also impacted eating habits.The data given in Table 20 reveals that 25.7% of respondents reported significant changes in their eating habits, while 40.4% mentioned experiencing some alterations in their dietary routines. For 31.2%, there was minimal to no impact on their eating habits, while 2.8% preferred not to disclose their response. These statistics align with findings from various studies conducted during the pandemic. Research by Waseem N. Ahmed et al. [46] highlighted that over 80% of participants reported unchanged physical activity and dietary habits. However, there was a notable increase in the consumption of vegetables (80.9%) and fruits (42.7%), coupled with a reduction in unhealthy snacking (63%). This shift toward healthier eating habits likely corresponds to an increased focus on boosting immunity during the pandemic. Another study conducted by Paul G et al. [47] reported an increased consumption of fruits, particularly for their immunity-boosting properties. Furthermore, a rise in the intake of vitamins, herbal tonics, and a growing trend of adopting a vegan diet were observed as individuals proactively sought to enhance their overall health. These findings signify that individuals in Kashmir, like many others globally, recognized the importance of nutrition and dietary choices in supporting their overall well-being during the pandemic.

Table 20: Eating Habits Changed

Changed	%
Yes, significantly	25.7
Yes, to some extent	40.4
No, not really	31.2
Prefer not to say	2.8
Total	**100**

Source: Author's compilations from primary data

Table 21: Travel Patterns Altered

Altered	%
Yes, significantly	30.9
Yes, to some extent	20
No, not really	41.8
Prefer not to say	7.3
Total	**100**

Source: Author's compilations from primary data

The Pandemic also affected and transformed travel patterns among Jammu and Kashmir residents. Approximately 30.9% of respondents reported substantial alterations in their travel routines, a change primarily induced by the stringent lockdown measures that led to cancelled trips and a significant reduction in non-essential travel (Table 21). Notably, this group was largely reliant on public transport, and a preliminary study conducted by Sheikh Nadeem Qasim and Ashish Kumar (2023) [48] indicated that the local public transport sector suffered severe setbacks during the pandemic. Public transport restrictions and various control measures, such as school closures, restrictions on large gatherings, and the avoidance of public spaces, had an immediate impact on travel patterns, causing many people to postpone or cancel nonessential travel and pushing a majority to work from home or face temporary unemployment. An additional 20% experienced partial adjustments in their travel behavior due to the evolving circumstances and safety concerns linked to COVID-19. Conversely, a significant 41.8% indicated that their travel patterns remained largely unaffected, possibly due to the relatively lower death rate in Kashmir, leading some to perceive the virus as a less severe threat. Lastly, 7.3% of respondents chose not to share their experiences. The insight provides a comprehensive understanding of the ways people responded to a crisis that fundamentally altered their daily lives, which is essential for informed pandemic responses, future preparedness, and reshaping the travel industry in a post-pandemic landscape.

Coping Mechanism and Resilience

People in Kashmir have developed resilience and coping mechanism due to regular unrest and curfews, which are not an unfamiliar concepts to them, hence they were not

greatly impacted by the country-wide lockdowns. People in Kashmir were suffering in 2016 under a six-month curfew with no internet. And just one year prior to COVID, Article 365 was repealed, which led to the curfew that covered the entirety of Kashmir and included no connectivity. People were forced to stay at home by army forces stationed at every gate. Thus, the premise of COVID-19 remained the same; in fact, for Kashmiris, access to the internet and connectivity was far easier than for the rest of the country.

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A Review of Perspectives on Transformation of English Language due to Social Media

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Abstract

The English language has undergone continuous evolution since the fifth century, marked by significant transformations attributed to a variety of factors. Among these, technological advancements have exerted the most profound ied a pivotal role in instigating substantial shifts in the patterns of English language usage. An observable and noteworthy correlation exists between the rapidity of language transformation and the exponential rise in the user base of social media platforms. A comprehensive exploration of the existing body of literature within this domain offers a comprehensive vantage point to discern the potential avenues for future investigations concerning the ramifications of social media on the linguistic forms and expressions of the English language.

Introduction

From ancient cave drawings to contemporary Emojis, the evolution of language as a medium of communication has continually aimed to refine and enhance the clarity and complexity of both verbal and visual expressions. The English language stands as no exception to this trend, having undergone a gradual and transformative process over the course of time (Crystal, 2019). The inception of the English language can be traced back to the fifth century, during which the Angles, Saxons, Jutes, and Frisians, speakers of a shared West Germanic tongue yet possessing distinct dialects, converged to forge a novel Germanic language (Bernstein, 1997). This amalgamation, now recognized as Anglo-Saxon or Old English, marked the nascent stages of English's development. Across successive centuries, English underwent a series of transformations spurred

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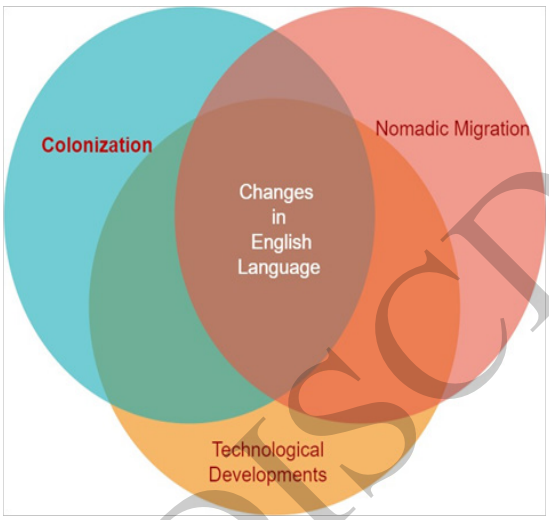
by a myriad of influences such as migration, colonization, and, notably, technological advancements (Johnson, 2003). These influences contributed to the language's gradual evolution, shaping it into its present form.

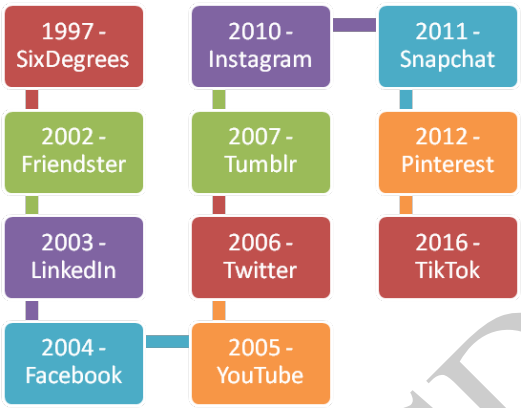
Figure 1: Evolution of English Language



Language evolution can be perceived as the diffusion process of novel linguistic elements, often denoted as linguistic innovations, within a given linguistic community (Chambers, Trudgill and Schilling-Estes, 2004). This progression can be partitioned into two sub-processes: "innovation" and "diffusion" (alternatively labelled as "propagation"). In tandem with technological advancement and particularly the emergence of the Internet, fresh vocabulary within the English language emerged (Yancey, 2004). Over time, English solidified its role as the preeminent language for most forms of Computer Mediated Communication (CMC) (Halim & Maros, 2014). As technology grew increasingly user-friendly, the proliferation of new terms surged, eventually embedding themselves into common parlance, thereby enriching the lexicon (Mustaeva, Mukhabat and Mamajanova, 2022). However, a prominent shift within the linguistic landscape became evident with the advent of social media. Since the onset of the early 21st century, diverse social networking platforms have seamlessly woven themselves into the fabric of social interaction and content dissemination (Asur and Huberman, 2010).

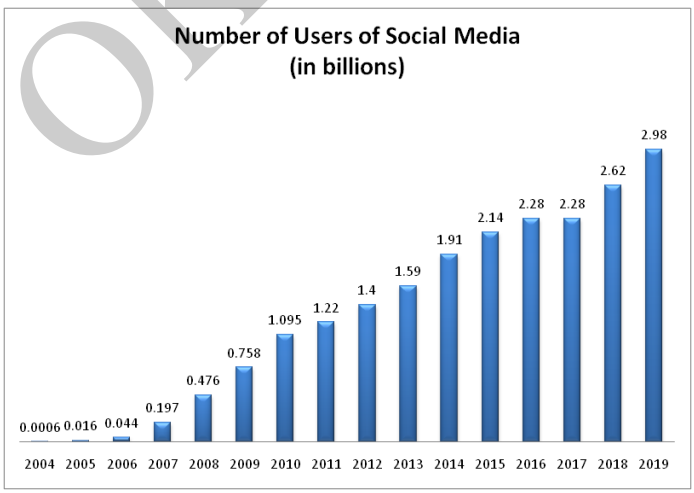
The genesis of social media can be traced back to 1971 when the inaugural email was dispatched (Barron, 2004); yet it was only in 2002 that the concept of social media, as recognized today, was pioneered through the launch of Friendster. Subsequently, an array of other social media platforms emerged in succession, as illustrated in the diagram below.

Figure 2 : Timeline of Development of Social Media (Ortiz-Ospina, 2019)



Social Networking Sites have facilitated the expansion of individuals' connections and social bonds, particularly among those sharing similar interests, activities, social contexts, and even real-life affiliations (Leskovec, Backstrom and Ravi Kumar, 2008). These platforms empower their users to exchange ideas, engage in activities, discuss events, and explore shared interests within their own personal networks. Their influence transcends various age brackets, spanning diverse educational, cultural, professional, social, and linguistic backgrounds. This broad reach is attributed to their widespread availability, open accessibility, and language adaptability(Kachhia and Kachhia, 2016), resulting in a surge of users, many of whom actively participate across multiple platforms.

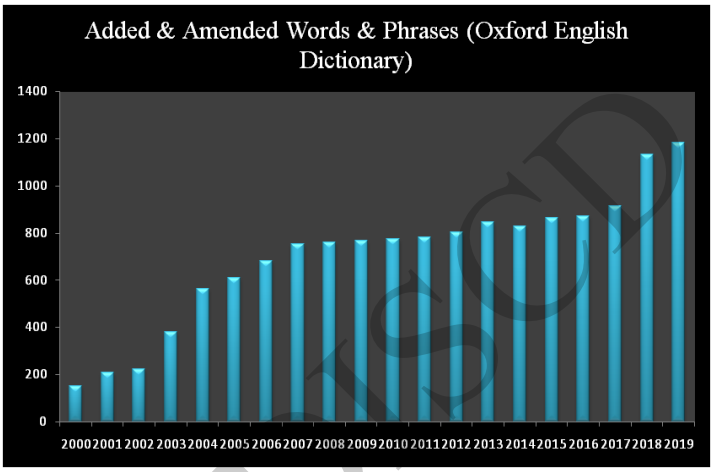
Figure 3: Number of Users of Social Media - (Ortiz-Ospina E, 2019)



A shared attribute among these various social media platforms was their adoption of the English language as a means of communication (Herring and Kapidzic, 2012).

Nevertheless, the language employed across these platforms frequently deviates from standard English, giving rise to the emergence of novel phrases and terms that hold a distinct usage within the realm of social media. Over time, these terms have gradually integrated into the established and accepted lexicon of English. This integration has not only expanded the vocabulary but has also introduced fresh grammatical dimensions to the utilization of these words (Herring, Kouper and Kutz, Vaisman & Zhang, 2012).

Figure 4: Words Added to the English Dictionary (Ratih and Gusdian, 2018)



Evident from both Figure 3 and Figure 4, a noticeable correlation exists between the quantity of social media users and the expansion of the English language lexicon. While a causal relationship remains undetermined at present, this paper conducts an examination of literature authored by diverse experts and researchers (Deng, Sinha and Zhao, 2017). The focus of this review is on the potential causal interplay between distinct social media platforms and the transformative influences they exert on the formal and informal usage of the English language in communication.

Methodology

Through this section, the research paper outlines the methodology employed for conducting the review paper on the transformation of the English language prompted by the influence of social media. The objective of this paper is to present a comprehensive synthesis of existing perspectives and insights on how social media has impacted the English language. The methodology encompasses the following steps

Literature Search Strategy

This review is done by formulating a structured search strategy to identify relevant scholarly articles, research papers, reports, and publications related to the transformation of the English language due to social media. Databases such as Google Scholar, JSTOR, and relevant academic journals were extensively explored. Keywords and phrases such

as "English language transformation," "social media impact on language," "linguistic changes in social media," and related terms were used to ensure the inclusivity of relevant sources.

Inclusion and Exclusion Criteria

Identified sources were screened based on predefined inclusion and exclusion criteria. Included sources were required to discuss the influence of social media on the English language, offering distinct perspectives, empirical studies, theoretical frameworks, and anecdotal evidence. Non-English sources, duplicates, and materials that lacked substantial relevance were excluded.

Data Extraction and Categorization

Extracted data from selected sources were categorized according to key themes and perspectives. These categories include (but are not limited to) linguistic changes, sociocultural impacts, implications on education, shifts in vocabulary, grammatical alterations, and variations across different social media platforms.

Synthesis and Comparative Analysis

We conducted a comparative analysis of the diverse perspectives presented in the selected sources. This involved identifying commonalities, contradictions, and emerging trends across the literature. By systematically synthesizing these perspectives, we aimed to present a comprehensive overview of the transformation of the English language influenced by social media.

Critical Evaluation and Framework Development

A critical evaluation of the reviewed literature was performed to assess the robustness of the arguments and the methodologies employed by the authors. We identified gaps, limitations, and areas warranting further research. Additionally, a conceptual framework was developed to organize the diverse perspectives and provide a coherent structure to the review paper.

Discussion and Implications

The synthesized perspectives were discussed in light of their implications for language evolution, communication norms, educational practices, and cultural dynamics. Potential future directions for research and the broader significance of understanding the transformation of English due to social media were explored.

Conclusion

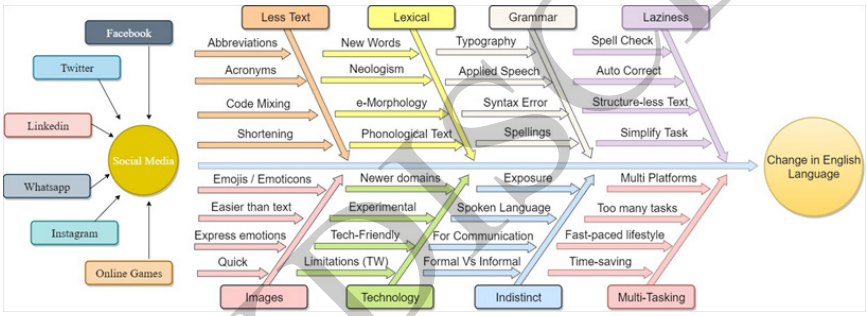
The methodology section concludes by summarizing the approach taken in conducting the review paper. It underscores the rigorous selection process, categorization, and synthesis of perspectives from diverse sources to present a holistic view of the topic.

Through this methodology, we aim to provide an insightful and comprehensive examination of the transformation of the English language resulting from the pervasive impact of social media.

Discussion

Well-established research and studies centring around the interrelation of Social Media and shifts within the English language reveal ten overarching classifications that shed light on the evolving patterns of linguistic utilization (Onyedum, 2012). This comprehensive overview accentuates extensively substantiated inquiries that highlight the potential factors contributing to modifications in English language usage, particularly within user groups for whom English serves as a secondary language. Ultimately, these changes are poised to pave the way for a novel rendition of the English language.

Figure 5: Reasons and Impact of Social Media on Changes in English Language



1. Deliberate Use of Less Text: In the realm of social media, the rapid exchange of messages has spurred a deliberate shift towards brevity in language usage(Amedie, 2015). This necessity to maintain pace has led users to opt for fewer words to convey their messages. The origins of this preference for shortened language can be traced back to the era of 'telegraph technology,' which laid the foundation for the evolution of fragmented language, ultimately perpetuated through SMS and other forms of social media (Kenning, 2007). This transition towards a more lenient orthography has become commonplace in various forms of electronic communication, encompassing a range of linguistic alterations, including abbreviations, acronyms, clippings, vowel omissions, and phonetic substitutions (Shortis, 2016). These changes have emerged both unintentionally and as a result of creative experimentation. Non-standard spellings emerged in humorous contexts but eventually gained traction due to their efficiency in conserving keystrokes (Baron, 2010). Additionally, phonetic representations of words have enabled explicit expression of emotions (Ge, 2019).

A substantial portion of research examining the intersection of social media and linguistics has concentrated on Facebook, a prominent social networking platform rife with abbreviated language and code-switching, particularly among multilingual users (Lomicka and Lord, 2012). However, this trend has been associated with a

detrimental impact on written skills (Omar and Miah, 2012). Surveys conducted at Tlemcen University in Algeria indicate that approximately 82% of social media users employ abbreviations due to time-saving convenience, a practice that has even infiltrated academic writing (Zeitzoff, 2017). The extensive use of shorthand in digital conversations has been observed to negatively influence students' formal writing abilities, evident in their tendency to employ similar shortened language in exam papers (Obi, Bulus, Adamu and Sala'at, 2012).

Another perspective that has been put forth by researchers focuses on the 'Global Village' concept of the social media (Wellman, 1999). With users from different nationality, the platform becomes a melting pot of language and creating of alternate dialect; especially acronyms, bring about a connect between the users, a sense of life-like conversations (Seeger, Auer and Schwarz, 2016). This commonality of acronyms or neologism, despite being a liability in use of English, can convey more with fewer words and also probably expunge any grammatical obstacle for non-native speakers (Goddard and Wierzbicka, 2018). A number of research studies conducted among the student community across the world, to study the impact of social media on academic writing indicate that usage of abbreviations, non-standard spellings, neologism by way of using a combination of numbers and words are all rampant (Peersman, Daelemans and Vandekerckhove, 2016). Cited here are a few relevant studies that indicate a high influence of social media language seeping into academic writing.

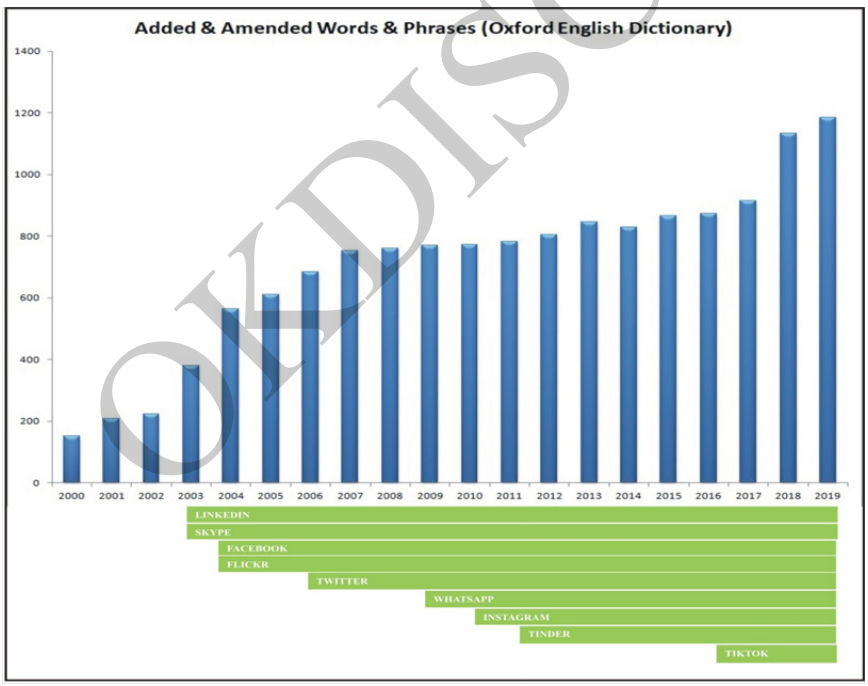
1. Australian students by Bushiness C et al (2011)
2. Saudi Arabian students by Albasheer NAA et all (2012) at Jazan University in Saudi Arabia
3. South African social media users (with focus on WhatsApp) by Songzaba L et al (2019)
4. Jordanian college students by Al-Qudah M A(2016) at Princess Sumayya University for Technology, Jordan
5. Ghanian students by Dansieh S (2011)

Linguists believe that these changes in the way language are expressed in merely a natural progression. Similar to distinct and unique styles of English across geographical and cultural domains, technology is creating a form of English which is common across social networking sites which allows coinage of new words, changed collocations, new derivations of existing words, eponym, pseudo-neologism and blends of different words (Behera and Mishra, 2013). Topological analysis indicate new meanings of words and formation of new compound nouns like netiquette and frenemy, indicating a paradigm shift of English language usage(Kachhia and Kachhia, 2016).

2. Emergence of New Vocabulary: In the wake of the emergence of social media, the English language has experienced a decentralization, transcending borders and adapting to specific communities (Crystal, 2019). The influential capacity of social media has reshaped English communication patterns (Amedie, 2015). Alongside the formation of novel acronyms, abbreviations, and various neologisms, there has been a notable

surge in fresh vocabulary that has been integrated into standardized language usage. Unconventional typography and orthography have manifested in words across diverse social networking platforms, seamlessly blending into everyday language (Herring, Kouper, Kutz, Vaisman &Zhang, 2012). The realm of multiplayer online games has given birth to innovative e-morphology due to the intense and rapid communication between players (Ruiz and Nilsson, 2022). Many online games incorporate voice chat and text functions, significantly impacting player interactions. As these games often unite participants on a global scale, English assumes the role of a Lingua Franca, facilitating the influx of loanwords from other languages. Consequently, the English lexicon expands and undergoes standardization (Mangiron and O'Hagan, 2006). Furthermore, the multi-user dimension of online games and the linguistic adventurousness of younger generations have sparked diverse connotations in previously established vocabulary (Carlsson and Gustafon, 2000). This exploration of languages among younger users contributes to a tapestry of linguistic richness (Baron, 2010).

Figure 6: Correlation between Increase in Words in English and Launch of Various Social Media



Research has demonstrated that social media platforms such as Facebook serve as a convenient tool for enhancing language skills, particularly among individuals who are not native English speakers (Slim H and Hafedh M, 2019). Moreover, users who have mutually connected friends on social media have been observed to exhibit improved English performance (Lavy V & Sand E, 2012). Nevertheless, it's important to note that these studies lack empirical validation.

In contrast to the findings of various studies, some researchers, including Al-Qudah M A. (2016) and Thurairaj S et al. (2015), argue that the language utilized in informal chats and on social media platforms differs significantly from formal contexts. They suggest that this informal language use does not significantly impact the English language proficiency of its users. Social media has developed a sort of "Meta language," influenced by the incorporation of an individual's native tongue, which is shared within closed communities. This linguistic phenomenon is not evident in academic writing.

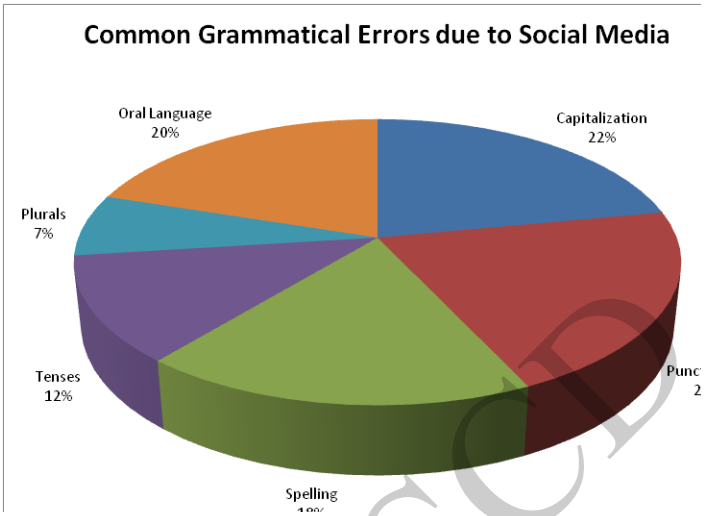
3. Disregard to Standardized Grammar: Inherent in every language are structural regulations that dictate the arrangement of words, phrases, and sentences, all aimed at effective communication. Traditional language purists adopt a critical stance, suggesting that computer-mediated communication is eroding the integrity of the English language. However, contrasting perspectives from scholars perceive the impacts less detrimentally. These scholars regard the language employed in digital media as applied speech, wherein the chosen words bear resemblance to spoken language. Some researchers contend that, being in its early stages, the language used in electronic communication lacks the time to establish a standardized structure (Herring S, 2012).

Given that electronic communication users are dispersed across diverse geographical locations and diverse socio-economic backgrounds, their native language's grammatical patterns often seep into their English usage on social media (Bieswanger, 2007; Herring, 2007; Johanyak, 1997). Common language errors observed include unconventional capitalization, extensive use of emoticons and keyboard symbols mirroring facial expressions, as well as 'Leet,' a language prevalent in gaming communities that involves replacing letters with similar-looking characters to convey impact or emotions (Dresner & Herring, 2010).

Anticipations from scholars indicate that, over time, e-grammar will undergo rapid evolution and ultimately establish a distinctive identity apart from traditional grammar (Herring SC. 1998). A survey conducted among Malaysian students revealed that a significant number of social media users were unaware of the grammatical inaccuracies they were employing (Thurairaj S et al., 2015). As social media communication has evolved, so has the language associated with it, commonly referred to as 'Netspeak.' This form allows a high degree of grammatical flexibility, encompassing absent punctuations, open sentence structures, symbol-substituted words, and capitalization for emphasis (Para I, 2018). This transformation of language has led to a negative influence on grammar skills in academic writing (Larocque, P. 2011).

The personal nature of social media communication dissuades teacher interventions, reinforcing poor grammar and writing skills, particularly when English isn't the users' native language (Shaver). Another contributing factor to the rise of subpar grammar skills among social media users is the lack of proofreading before posting, resulting in a loss of coherence and coherence (Alhusban A M, 2016).

Figure 7: Impact of Social Media on Grammatical Errors in Academic Writing



4. Technology: In the evolving technological landscape, user-friendly interfaces have made it increasingly effortless to incorporate features that streamline tasks for individuals. These advancements, such as spell checks, auto-corrections, and phrase suggestions, have lessened people's reliance on their own language skills and learning (Kozhin Omer, Kochar Ali, Airin Shwan & Shawkat, 2022). This trend is particularly noticeable in various forms of Computer Mediated Communication. The drive for brevity and urgency is often cited as the driving force behind the use of acronyms, improper grammar, and the neglect of relevant punctuation in social media communication (Mworia, 2015). The convenience of spell-check and emoticons, however, has contributed to a decline in users' willingness to engage their standardized language proficiency (Chih-Hsiung, 2022).

These technological conveniences expedite and simplify tasks, leading to a mindset of minimal effort invested in writing fostering a tendency to opt for shortcuts without a comprehensive grasp of the writing process (Alhusban, 2016). This inability to apply grammar skills and proper language usage is noticeable in academic writing, where assistive features are typically disabled. Millennials, growing up in an era of accessible assistive technologies, exhibit a high dependency on language assistance provided by these tools, often experimenting with language (Purcell, Buchanan and Friedrich, 2013). The significant time millennials spend on social networking sites, averaging 7.5 hours a day, underscores their reliance on technology for communication and multitasking (Allahverdi, 2022).

As technologies become increasingly user-friendly, individuals lean more heavily on these features to articulate themselves, fostering a perception that shortcuts can be taken without fully understanding the writing process. Students may justify their lack

of correct language usage by downplaying its significance (Adely, Mitra, Mohammed, Shaham, 2021). The progression of social media has expanded its language options from English to encompass almost all languages and scripts worldwide, allowing situational code-switching between English and vernacular languages (Aarts, McMahon and Hinrichs, 2020). The more time users spend on social media language, the more it influences standard language usage (Twenge, 2019).

Certain social media platforms, like Twitter, impose character limitations on posts, prompting users to resort to abbreviated words (Indu and Thampi, 2021). To maintain connectivity on social media, individuals often use mobile phones, historically equipped with smaller screens. This constraint has popularized the use of word and sentence acronyms (Hossain and Hussain, 2020).

The proliferation of communication platforms driven by technology has led to an increased reliance on virtual communication rather than face-to-face interactions. While this facilitates global connections, it presents challenges in conveying emotions accurately through text alone. In response, the integration of emojis, emoticons, GIFs, and images within social media allows non-verbal information to be conveyed through visual symbols closely representing different facial expressions, scenarios, and phrases (Zhang and Cassany, 2023). These computer-generated images not only simplify the expression of intended emotions but also reduce the number of keystrokes required (Herring, Kouper, Kutz, Vaisman & Zhang, 2012).

These new technological landscapes, with their unique linguistic features, have transformed language usage on social media, leading to a surge in chat-like language adoption across diverse contexts.

5. Blurred Boundaries Between Virtual and Real Scenarios: The prolonged periods spent on diverse social media platforms have given rise to a complex issue wherein users struggle to differentiate between communication in the physical world and that which occurs within virtual spaces (Ruwe, 2023). Adolescents devoting over 30% of their day to social media often perceive computer-mediated communication not as writing, but merely as a means of interaction. As a result, the necessity for formal language usage is diminished (Belqassim and Saadi, 2021). This difficulty in discerning the language style suitable for social media versus academic or official contexts has posed challenges for graduates, particularly in adopting formal language within the workplace. A hybrid of text slang and formal language has become commonplace in educational institutions and professional environments (Burgstahler, 2023).

The primary goal within social media is to convey messages in an attention-grabbing manner, prioritizing appearance over the precision of writing skills. Consequently, the significance of using proper language in formal communication appears to have diminished, hinting at a potential decline in structured language usage over time (The Semantics and Pragmatics of Three Potential Slurring Terms). While this perspective might appear pessimistic regarding the future of the English language, certain studies

highlight that teenagers indeed possess the ability to differentiate between writing suited for academic or formal scenarios and that intended for casual communication (Ansari and Nawab, 2010).

Conclusion

In spite of social media's existence since the previous century, it's only been in the past fifteen years that specific social networking platforms have garnered popularity and evolved to user-friendly interfaces. Social and language researchers continue to delve into the ramifications of this digitized communication platform on diverse facets of human existence, including the English language. An extensive exploration has been undertaken, encompassing research articles, blogs, online content, white papers, and dissertations, all in pursuit of pertinent insights. The deductions drawn from the referenced literature underline a positive association between the rising user count on social media and the augmentation in dictionary entries during the corresponding period. Nevertheless, it is essential to recognize that correlation doesn't necessarily signify causation, necessitating further in-depth exploration.

All the aforementioned papers and articles unequivocally assert that the emergence of social media has induced a metamorphosis in the English language. This transformation manifests through the introduction of novel words, adaptations to existing terminology, and shifts in word combinations. Factors contributing to this linguistic evolution include personalization, a lax approach towards grammatical norms, the utilization of imagery, and the integration of user-friendly technology.

Scope of Further Research

Future research can be delved into the impact of social media on the way English is used in Formal and academic context using empirical research tools. Areas that can be looked into to extend the research can be

1. Statistical validation of social media being the biggest impact factor
2. Clarity in terms of whether the transformation of English is reflected in formal, informal or only social media environments
3. Substantiation of the extent of impact that various social media has had in the transformation of the language
4. Verification as to the alteration in usage of English across different professions where English proficiency is mandated

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A Study on the Marginalised Loi Communities of Manipur

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Abstract

This paper makes a humble attempt to explore the marginalised Loi communities in Manipur, and historical discourses. It also attempts to examine the socio-religious movements of Lois, and their development challenges in contemporary Manipuri society. The study is based on the descriptive and analytical research. The Loi Communities settled in four districts of Manipur, and only eight villages were identified as Scheduled Caste by the Government under the Scheduled Caste and Scheduled Tribes Order Amendment Act, 1956. The post-independence period significantly impacted the Lois people's social, political, and economic life. Historically, they were found engaged in various industries to pay tribute to the king but considered these occupations degraded and hesitated to take them up. Agriculture was the primary driver of the Lois economy leading to poor economic growth. The study identifies a system of social stratification in Manipur as early as 18th century when Hinduisation process was strong during the successive periods of Kings. In the contemporary Manipuri society, there is marginalisation of Loi Communities due to a lack of job prospects, high rate of educated youth unemployment, lack of a proper market, with many villages lacking hospitals or primary health clinics. The present study also finds that despite sociocultural shifts and difficulties, the Lois has managed to preserve the pure tradition and culture of the Meitei. Modern education has allowed younger people to mix between classes and castes, and the Lois and Meiteis are now interacting and marrying each other.

Introduction

Manipur, surrounded by nine mountainous terrains endowed with natural beauty, is located in the north-eastern region of India with a total area of 22,327 sq. km. and a diverse population of almost 3 million people. Data showed that Meiteis constituted more than 50 per cent of the total population, while the Scheduled Tribes and Scheduled

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Caste (mainly Lois) constituted approximately 40 per cent and 4 per cent respectively. Muslim community contributed about 8 per cent of the total population in Manipur. Studies revealed that in the early 18th century, the Meiteis, who had followed their ancient Meitei religion, started adopting Hinduism, while the tribal ethnic communities in the hilly regions, who followed their animistic tribal religion, converted to Christianity in the 19th century A.D. Tribal communities living in the hilly areas have their own unique cultures and racial identities. According to a study by Thiyam, S. Bharat and Ningthoujam Yaiphaba (2024), it is found that the caste system per se as prevalent in other parts of the country was a non-existent entity in Manipur in the past. In contrast, the Manipuri society was grounded on seven clans: Ningthouja, Khuman, Moirang, Angom, Leishangthem, Chenglei, and Luwang. The clans possessed their own position, dignity, and respect and formed the foundation of the Meities' social and political systems. In this context, it would be highly relevant to examine here how the word Meiteis has been derived. The word 'Meitei' has been interpreted differently by different scholars. According to Hodson, the word "Meithei" or Meitei has been derived from mi = man and thei = separate. For Constantine, the term 'Meitei' applies to anyone belonging to the seven clans. To Kirti, the term "Meitei" primarily meant the people of the Ningthouja clan who had entered Manipur in 33 A.D.At present, the Meiteis can be classified into two religious categories: the Gouriya Meiteis and the Sanamahi Meiteis. Various scholars defined Lois in different ways. Maibam Mangoljao (2018), who studied on the socio-economic conditions of Lois in Manipur, said the word 'Loi' is generally associated with the degraded, subdued dependents, outcaste and low caste people of Manipur. N. Khelchandra (1978) defined the term Loi as those who either subdued or paid tributes to the sovereign. M. Kirti Singh (1980) opines that "Loi means subdued, dependent, outcaste, backward and to complete or to be completed". The Lois of Manipur has been designated the status of low-caste people as the Dalits of mainstream India and has been pushed to the divergent areas of Manipur. Social intercourse and intermarriage with the Hinduised Meiteis and higher order were prohibited. So, Lois is considered as a subaltern. The study by Maibam Mangoljao finds that the Lois inhabited in many villages such as Phayeng, Sekmai, Andro, Khurkhul, Koutruk, Tairenpokpi, Leimaram, Thongjao, Chairen, Kakching, Kakching Khunou, Heirok, Wangjing, Sugnu, Thanga, etc. Further, that there was a historical background for the emergence of the Lois. Original Lois was the inhabitants of this State long before Pakhangba- who ascended the throne in 33 A.D. Later on, they were subdued by the successive Meitei Kings. Then, the population of Lois gradually increased owing to the assimilation of migrants belonging to various ethnic groups--- war captives and those who committed crimes against the Kingdom to Loi villages.

Objectives and Methodology

This paper makes a humble to explore the marginalised Loi Communities in Manipur, and their historical discourses. It also attempts to examine the socio-religious movements of Lois, and their development challenges in the contemporary Manipuri society. The present study is based on the descriptive and analytical research.The data for the study is based on the secondary sources and, therefore, several literatures on the studies of Lois have been examined and reviewed. It included census data, reports, research papers,

Ph.D Thesis, journals, books, Manipur Gazette, articles on websites, encyclopaedia, manuscripts, etc. The present paper is organised into six sections. Section I provides the introduction. Section II and III present the objectives and methodology and historical discourses of the study. Section IV provides socio-religious movements. Section V provides development and challenges. The last section provides the conclusion of the study.

Historical Discourses

Scholars have different opinions on the origin of Lois in Manipur, with some identifying them as an independent tribe and others as part of the Meitei community. Historically, they were dislodged from the Meitei society as a retribution for violating social customs and traditions. In Manipur, the Loi paying tribute is called 'Loi-Pot-Kaba', signifying the Meitei Kings' subordination and the policy of exclusion. During King Pamheiba's reign, the religious faith of the Meiteis changed significantly, leading to the Hinduisation process. The archaic Meitei script 'Puyas' went up in flames, leading to the introduction of Bengali and Sanskrit languages. The new name 'Manipur' was introduced by King Bhagyachandra, who introduced the Ras leela, the highest divine articulation glorifying Krishna in the dance form in the land of aesthetic Meitei. A vestigial form of caste system was brought in during King Churchand's reign (1891-1941). The Hindu Meiteis, including Rajkumars and people belonging to the seven clans, were assigned as Meitei Kshetriyas, while the Lois, the depressed class, were considered untouchables or degraded. People were made mandatory to mark tilak on their forehead to prove their faith in Vaisnavism, which led to a religious tax called Chandan-Senkhai. The people could not raise any form of protest against the despotic monarchical setup, which allowed no democratic space. The Lois population in Manipur had different tributary groups determined by the items they paid tribute to the king. This system of tribute administered on the Lois contributed significantly to the economy of the state and facilitated the Hinduised Meitei to sustain their upper caste/class status. During King Bhagyachandra reign, the grandeur of Hinduisation reached its crest, with the Kings embracing Hinduism. All kings were given the Hindu names and the Kings correspondingly patronised the Hindu. A sacred ritual ceremony called 'Nongkrang Iruppa' was carried out in the process of conversion, wherein the performer underwent a dip into the sacred Nungjeng river holding a branch of a tree called 'Nongkrang'. The Sati system began to exist in the Meitei society, which was not there before Hinduisation. The Brahma Sabha was an interpreter of Hindu Smriti and they decided the religious fate of the Hindu Manipuris. The lifestyles and occupation of the lower Caste were trapped, and the people had to obey the rules of Hinduism fearing severe punishment and ostracisation. The study by Maibam Mangoljao finds that the term 'Loi' came to be recorded for the first time during the reign of Meidingu Taothimang, the Meitei king who ruledManipur during the third and fourth century A.D. when Haokha Lokha, a Chakpa village, paid annual tribute to the king.With the adoption of Hinduism by the Meiteis, the social discrimination of the 'Lois' by the Meitei Hindus became more sharpened. The 'Lois', despite of their lower social status, could also attain higher status of Meitei Hindus if the reigning Meitei kingwas pleased and if they converted to Hinduism through performing some ceremonies associated

with it.Through the various works allotted to them, they were the backbone of the economy of Manipur during the native rule in Manipur.

Socio-Religious Movements

As anti-colonial and caste movements in India awakened people to realise social, religious, economic, and administrative practices of injustice, Hijam Irabot Singh, a prominent social reformer and other political parties emerged in Manipur, demanding responsible government, democratic form of government, and integration of people in hills and plains. The British Colonial rule ended with the hostage of the 'Pakhangba' Flag, leading to the establishment of a constitutional monarchy with democratic, equality, and fraternity elements. Under Naoria Phullo's leadership, a new socio-religious awakening among the Meiteis of Cachar in Assam emerged, aiming to revive traditional Manipuri Meitei culture and tradition. The movement sought to reclaim traditional deities and return Meiteis to their traditional religion, using their own archaic Meitei script for worship. The Loi Caste, which has been subjugated as an age-old tradition, got a Scheduled Caste status after India's independence. However, due to its originality, population strength, and socio-cultural connectivity, the Lois occupied an exceptional post among other Scheduled Castes. Particular mention may be made here that the European anthropologists perceived the same origin of the Meiteis with the tribes of Manipuris as the Aryan theory of the origin of Meiteis. However, Phullo had a contrasting view with them and had developed a distinct theory of his own on the question of the origin of Meiteism. To him, Meiteis were descended from God, Lainingthou (King of all Gods) and the religion of the Meiteis was the worship of the Supreme God. The manufacturing of local rice beer was encouraged as customary law of Meiteis. For their revivalist activities, the Brahma Sabha ostracised 38 members during the movement in 1947 and was declared polluted. Discovery of the Puyas, reviving the cultural heritage of the Meitei, undertaking research into the traditional religion and culture of the Meiteis and advocating hill-valley unity tracing the common origin were all set as programmes of the movement. The resurgence of Lai Haraoba (rejoicing of Gods), the revival of archaic Meitei script etc., were some of the profound impacts of the movement. At present, the Lois and Hindu Meities have the same cultural identity, and worship the same traditional Meitei Deities 'Guru Sidaba', Sanamahi' and 'Leimaren'. However, the Hindu Meities also worship Hindu deities along with Meitei Gods but the rituals they performed differed from one another and some of the Lois converted to Christianity.

Thus, the Loi caste has been subjugated as an age-old tradition and so, they were enlisted in the Scheduled Caste status after India's independence. There are six other Scheduled Caste in Manipur besides Loi, viz., Yaithibis, Dhobi, Patni, Namsudra, Ruchi or Ravidas and Sutradhar. However, due to its originality, population strength and socio-cultural connectivity with other communities, the Lois occupies an exceptional post amongst other SCs. They settled in four districts of Manipur viz., Imphal West, Imphal East, Bishnupur, Thoubal and other 32 Loi Villages. Among these, only 8 villages of Lois are identified as Scheduled Caste by the Government under the Scheduled Caste and Scheduled Tribes Order Amendment Act, 1956, acknowledging that these villages

are socially, economically, educationally, and backward communities (which followed a conflict between the Scheduled Caste Loi villages and non-Scheduled Caste Loi villages as the latter demanded for the inclusion of them in the Scheduled Caste and issuance of Scheduled Caste certificate to them). Later, three villages were included into the Scheduled Caste of Manipur. For instance, Kakching was included in 1992 Marc, Thanga in 1995 August and Chairen in 2005 May, respectively[3].

Development and Challenges

The post-independence period significantly impacted the social, political, and economic life of the Lois people. They engaged in various industries to pay tribute to the king, including silk manufacturing, salt manufacturing, blacksmithing, coin manufacturing, carpentry, pottery manufacturing, and fishing. However, the Meiteis and others considered these occupations degraded and hesitated to take them up. Agriculture was the primary driver of the Lois economy, and they began incorporating contemporary methods into the age-old practice of bullock ploughing. However, poor farmers could not afford modern methods including fertilisers, leading to poor economic growth. The development of Scheduled Caste villages was hampered by the lack of suitable locations for trading and marketing. Village officers, such as 'Khullakpa', 'Luplakpa', 'Khunjahanba', 'Yupalba', 'Telloihanjaba', 'Telloihidang', 'Heijanglakpa', 'Pakhanglakpa', 'Naharakpa', 'Loumilakpa', 'Loumidang', 'Chabolhanjab', and 'Laiselungb', guarded the majority of Loi settlements. Institutions like Singlup, Leirup, and Keirup were present in the hamlet, but they ceased to operate properly after Manipur joined the Indian Union and a new administrative system was implemented. The new administrative structure has somewhat distorted the power and status of the village, as the traditional authorities are now solely involved with Lai-Haraoba religious matters. The Panchayati Raj System which is a local self-government institution in Scheduled Caste villages is governed by the Panchayat members and Pradhan. But some villages, like Phayeng and Koutruk, lack the electoral strength to elect a Pradhan of Panchayat, limiting development opportunities. Thus, Loi villages have limited participation in General or Assembly Elections due to their small population. The majority of Loi people believe that political representatives serve their interests rather than the advancement of the Scheduled Caste.There is a severe social crisis in Loi society due to a lack of job prospects and a high rate of educated youth unemployment. There is lack of proper market and many villages lack hospitals or primary health clinics.

Conclusion

The study identifies a system of social stratification in Manipur as early as 18th century when Hinduisation process was strong during the successive periods of Kings. The term 'Loi' came to be recorded for the first time during the reign of Meidingu Taothimang, the Meitei king who ruled Manipur during the third and fourth century A.D. when Haokha Lokha, a Chakpa village, paid annual dependent tribute the king. With the adoption of

[3] Maibam Mangoljai (2018). Socio-Economic Conditions of the Lois of Manipur before the 19th Century. International Journal of Creative Research Thoughts, Volume 6, Issue 1 March 2018, ISSN: 2320-2882. pp. 1183-1188.

Hinduism by the Meiteis, the social discrimination of the 'Lois' by the Meitei Hindus became more sharpened. The 'Lois', despite of their lower social status, could also become higher status Meitei Hindus if the reigning Meitei king was pleased and if they converted to Hinduism through performing some ceremonies associated with it. Through the various works allotted to them, they were the backbone of the economy of Manipur during the native rule in Manipur.The study by Thiyam, S. Bharat & Yaiphaba Ningthoujam (2024) finds that the Lois are a group of people who were discriminated, degraded, socially excluded and out casted in the earlier Manipuri society for certain reasons. They were looked down upon and were treated as inferior to the others and hence bore the brunt of paying tributes for the effective functioning of the state for centuries. After independence, some Loi villages have become Scheduled Caste while others have been left behind. Affirmative state actions and changing perceptions of the society have gradually pulled them within the ambit of the mainstream society. However, the scars of past discrimination still persist and majority of them are still in the firm grip of poverty due to lack of literacy and their traditional occupational patterns. The present study also finds that despite sociocultural shifts and difficulties, the Lois has managed to preserve the pure tradition and culture of the Meitei. Modern education has allowed younger people to mix between classes and castes, and the Lois and Meiteis are now interacting and marrying each other. The Indian Constitution provides specific protections for the interests of Scheduled Castes and Tribes (SCs and STs) in areas such as education, appointment or post-reservation, economic interest, and the removal of untouchability. The Government of Manipur's Department of Development of Tribals and SC employs three-pronged strategies: safeguarding SC/ST individuals from crimes, improving their socioeconomic standing through developmental programs, and preventing the loss of their rich cultural heritage. In areas like Kakching, the Scheduled Caste has made some progress, but the majority of Lois and Scheduled Caste villages are still in poor financial condition and they are lagging behind in many developmental areas. They are aware of the various privileges accorded to them, but they are unaware of the laws protecting them. Inclusive policy or social inclusion in terms of government welfare programs and schemes are required and this includes post-matric scholarships, reservations in government agencies and educational institutions, political consciousness, housing grants, and support for farming, weaving, and raising animals.

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