Bridging the Gap: A Deep Dive into Gender Disparity in Literacy through Sopher's Index in Islampur C.D. Block, Uttar Dinajpur District, West Bengal

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Abstract

The article delves into the critical issue of gender disparity in literacy, which reflects the unequal distribution of literacy rates between males and females. This gap in educational achievement is a fundamental aspect of gender inequality, influenced by multifaceted social, cultural, and economic factors. Given its pervasive global impact, particularly on education, gender disparity significantly hinders the comprehensive growth and development of nations. This chapter aims to explore the educational divide between male and female populations within the Islampur community development block of Uttar Dinajpur District, West Bengal. Drawing upon an extensive literature review, the study establishes a robust theoretical framework, supplemented by secondary data sourced from reputable government sources. Through the calculation of literacy rates and the modified Sopher's Index, the study unveils the present status of literacy and gender disparity within the study area. The findings underscore the urgency of addressing gender disparities in literacy, with nine villages including Benikandar Alias Satvita, Garnabari, Kurhila, Uttar Tuthipakar, Sabudanga, Bijekhor, Chhota Khanti, Paschim Gomadighi and Kalughat identified as exhibiting a very high degree of disparity value ranges from 0.389 to 0.707. These villages demand immediate attention to bridge the gender gap in literacy and promote female education, emphasizing the importance of targeted interventions to foster inclusive and equitable societies.

Keywords: Female Literacy, Male Literacy, Sopher's Index, Gender Disparity, Islampur

1.1 Introduction

Literacy stands as a pivotal qualitative benchmark indicative of the social and economic advancement within a society. Elevated levels of literacy propel the pace of regional development, whereas low literacy rates impede progress, thus underscoring a positive correlation between development and literacy (Pegkas, 2014). Furthermore, literacy serves as a key metric for human development and quality of life, exerting influence over factors such as fertility rates, mortality rates, morbidity patterns, and the economic composition of the populace (DiCorrado et al., 2015; Verma, & Roy 2022). According to the United Nations Development Programme (UNDP) in 1990, literacy represents an individual's initial stride towards the acquisition of knowledge and the cultivation of learning. The significance of literacy indicators lies in their pivotal role as metrics for gauging human development (Pramanick, 2018). As articulated by UNESCO in 2010, literacy assumes multifaceted significance as a fundamental human entitlement, an instrument for individual empowerment, and a catalyst for both social and human progress. Recognized as a linchpin of basic education accessible to all, literacy stands as an indispensable prerequisite for addressing various socio-economic challenges. It serves as a linchpin in efforts to combat poverty, mitigate child mortality rates, manage population growth, foster gender parity, and facilitate sustainable development, peace, and democratic governance (Budhia & Kaur, 2022).

Gender disparity in literacy is a phenomenon characterized by the uneven distribution of literacy rates between males and females within a given population or geographical region. It denotes the gap or variance in literacy levels between men and women, typically indicative of differential access to educational resources, opportunities, and societal norms that favor male educational attainment over that of females. This disparity underscores broader issues related to gender inequality and access to education, highlighting the need for targeted interventions to address barriers and promote equitable educational outcomes for all genders. Gender disparity, particularly in education, has emerged as a pervasive global issue, exerting profound impacts on the comprehensive growth and development of nations (Chaudhry, & Rahman, 2009; Malik, & Qiong, 2014). The gender disparity evident in literacy and educational attainment constitutes a significant facet of gender inequality, influenced by a complex interplay of social, cultural, and economic dynamics. Discriminatory cultural norms and practices, particularly in marginalized communities, exacerbate this gap, with poverty emerging as a central factor perpetuating disparities in literacy and education along gender lines (Ghosh, 2007). Educational disparity is a major characteristic of multi-religious society. Although India has faced numerous social,

political and economic issues within the last three centuries, inequality remains one of the most important historical omnipresent aspects of our society, especially the gender differences in schooling experience of adolescents and also in inequality of gender-based children enrollment in rural areas (Malik, & Qiong, 2014). Women are the integral part of the society and improvement in their literacy means improvement in society. So, it is necessary to educate each and every woman. In India, women constitute approximately half the total population, which is 48.45% (Census of India, 2011). In India, the overall literacy rate stands at 74.04%, with a male literacy rate of 82.1% and a female literacy rate of 65.5%, reflecting a gender gap of 16.6, a matter of significant concern. Conversely, West Bengal demonstrates a more favorable literacy landscape, boasting a total literacy rate of 77.08%, with male and female literacy rates at 81.7% and 70.5%, respectively, resulting in a narrower gender gap of 11.2. However, Uttar Dinajpur district exhibits the lowest literacy rate in the state, registering at 59.07%, with male and female literacy rates at 65.52% and 52.17%, respectively, yielding a gender gap of 13.35, exceeding the state average. Particularly noteworthy is the Islampur C.D. Block, where the literacy rate notably falls below the district average, standing at 43.50%, with male and female literacy rates at 49.84% and 36.78%, respectively, thereby showcasing a gender gap of 13.06. These statistics underscore the urgent need for action and a scientifically informed approach to address the pressing issue of literacy and gender disparity in Islampur block. Against this backdrop, our study endeavors to shed light on the educational disparity between male and female populations within the Islampur community development block of Uttar Dinajpur District, West Bengal. By scrutinizing the nuances of this disparity, we aim to inform evidence-based interventions and policy initiatives, propelling Islampur block towards a future where education serves as an equalizing force, uplifting individuals and communities alike.

1.2 Literature Review
The literature review presents an encompassing examination of gender disparity in literacy across diverse settings. Malik and Qiong (2014) investigated gender disparity in literacy, focusing on the influence of region and religion, particularly Islam. Their study, based on secondary source data, revealed Africa as the only region with significantly higher gender disparity in literacy compared to other continents. De (2015) analyzed gender gaps in literacy across India over the past five decades, highlighting persistent disparities despite overall improvements. Despite significant improvements in overall literacy rates since independence, the study reveals persistent gender gaps in literacy levels. While many states and union territories have shown a trend towards reducing this gap, some have historically performed better than others. States like Punjab and Kerala, as well as the union territory of Andaman and Nicobar Islands, have consistently exhibited low levels of gender disparity in literacy. Conversely, states such as Rajasthan, Jharkhand, and Bihar have consistently struggled with high levels of gender disparity in literacy. Katiyar (2016) emphasized human capital's importance in societal development and observed a consistent increase in literacy rates in India. Specifically, the literacy rate surged by 13.54 times from 1901 to 2011 and 4 times from 1951 to 2011. Moreover, the study indicated a continuous decrease in gender disparity in literacy levels from 1901 to 1971. Notably, Rajasthan and Jharkhand exhibited the highest male-female disparity in literacy. Adam (2017) explored gender disparities in financial literacy among business students in Ghana, finding male advantages in computational ability and female advantages in non-computational ability. Hira and Das (2018) underscored literacy's role in social and economic development, revealing significant gender gaps in Uttar Dinajpur District, West Bengal, their findings revealed Uttar Dinajpur as the sole district in West Bengal where the number of illiterates exceeded the number of literates. The district ranked lowest in terms of male literacy rates and only slightly ahead of the lowest-ranked Purulia in terms of female literacy. Verma and Roy (2019) analyzed literacy differentials in Uttar Dinajpur District, highlighting significant disparities across blocks, with Hemtabad block showing the highest literacy development and Goalpokhar-I block the lowest. Sharma and Kumar (2020) assessed gender disparity in literacy in Haryana, noting significant concerns despite respectable literacy rates, Specifically, in the district of Mewat, which ranks low in overall literacy according to ongoing census data, significant gender disparity in literacy is observed. Male literacy rates in Mewat are nearly doubles that of females. Sarkar and Chakraborty (2021) compared male-female literacy disparities in Purulia and North 24 Parganas districts, unveiling variations at the block level. Notably, the Bundwan block in Purulia and the Barasat-I and Deganga blocks in North 24 Parganas exhibited notable gender disparities in literacy among each caste group. Conversely, the Jhalda-II block in Purulia and the Hingalganj block in North 24 Parganas were identified as the most disadvantaged blocks in terms of gender disparities in literacy across all caste groups. Pal and Mondal (2022) investigated the gender gap in rural literacy in Bankura district, results indicated a decline in the gender gap in rural literacy over the study period; however, this gap remained relatively high in the western part of the district. The researchers recommended expanding education infrastructure and providing adequate support to girls from agricultural distressed families to reduce the gender gap in rural literacy. Finally, Gupta et al. (2023) analyze gender disparities in internet literacy in India, revealing significant gender disparities, with Telangana exhibiting the highest disparity by Chhattisgarh, while Sikkim showed the smallest disparity score. Together, these studies offer valuable insights into gender disparity and literacy, addressing diverse geographic and socio-economic contexts.

1.3 Research Gap
Based on the extensive literature review, a notable research gap emerges: while numerous studies have investigated gender disparity in literacy globally, nationally, regionally, and locally using similar methodologies and explanations, there remains a dearth of research conducted at the gram panchayat or village level, utilizing primary data to elucidate

the ground realities of the study area. Thus, our article aims to address this research gap by focusing on the educational disparity between male and female populations with a particular emphasis on gram panchayat or village level analysis.

1.4 Objective of the Study

The objective of this article is to meticulously analyze the spatial distribution of literacy within the Islampur C.D Block of Uttar Dinajpur District. Specifically, the chapter seeks to identify and delineate regions characterized by pronounced gender disparity in literacy, thereby shedding light on vulnerable areas requiring targeted interventions and policy initiatives.

1.5 Study Area

The study was conducted within the confines of Islampur Community Development (C.D.) Block, situated in the Islampur Sub-division of Uttar Dinajpur District, West Bengal (refer to **Fig. 1**). Geographically, this area spans from 88°05' East to 88°23' East longitude and from 26°21' North to 26°08' North latitude. According to the District Census Handbook (2011), the topography of the study area is predominantly flat, with rivers flowing primarily in a northeastern to southwesterly direction. To the East and Southeast, the international border of Bangladesh demarcates the boundary of the study area, while the North-Western portion abuts the Indian state of Bihar. Chopra C.D. Block of Uttar Dinajpur District occupies the North and Northeastern peripheries, while Goalpokher-I C.D. Block of Uttar Dinajpur District extends to the North and Northeast. The study area encompasses a total land area of 329.43 Sq.km.
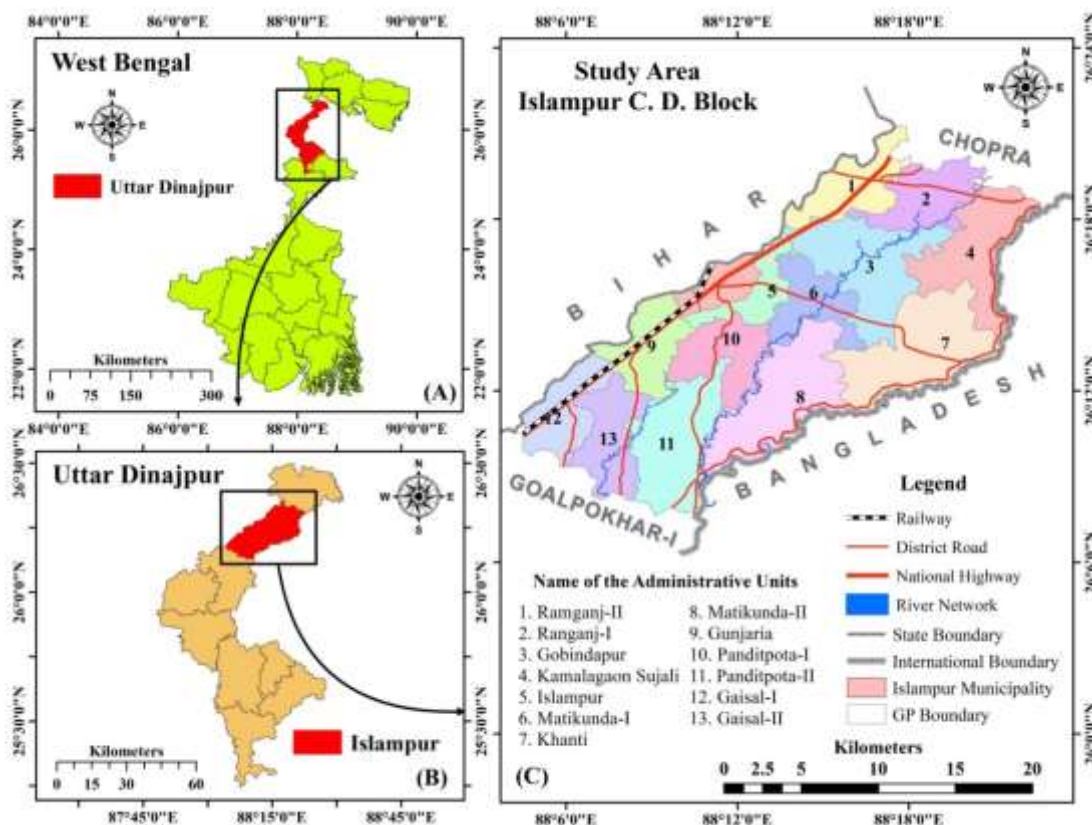

Fig. 1 Location map and regional settings of the study area: **(A)** Location of Uttar Dinajpur district in the Indian state of West Bengal, **(B)** Location of Islampur C.D. block in Uttar Dinajpur district and **(C)** Location map of the study area with administrative divisions, transport and river networks

Islampur C.D. Block comprises 1 Panchayat Samity, 13 Gram Panchayets, 178 Gram Sansads (village councils), 101 Mouzas, and 101 inhabited villages. The population of Islampur C.D. Block totals 308,518 individuals, with 158,933 (51.51%) being male and 149,585 (48.49%) female. In terms of human capital, as per the 2011 Census, Uttar Dinajpur District ranks lowest in West Bengal regarding literacy rate, with a rate of 59.07%. Within Islampur C.D. Block, the literacy rate is even lower, standing at 53.53%, significantly below the district average. Notably, there has been a decline in literacy rates from 63% in 2001 to 53.53% in 2011, indicating a concerning downward trend of -15.031% over the decade. Additionally, Islampur exhibits a higher gender gap in literacy at 13.06 compared to the entire state of West Bengal, which records a gap of 11.2. This underscores the urgent need to investigate the spatial distribution of literacy and gender disparity therein, with a focused effort to identify causative factors and propose effective remedial measures to address the prevailing vulnerable situation.

1.6 Data Base and Methodology

The majority of research in this domain has predominantly relied on secondary sources. However, this paper distinguishes itself by focusing on a micro-level study. The study unfolds in three sequential and interconnected phases.
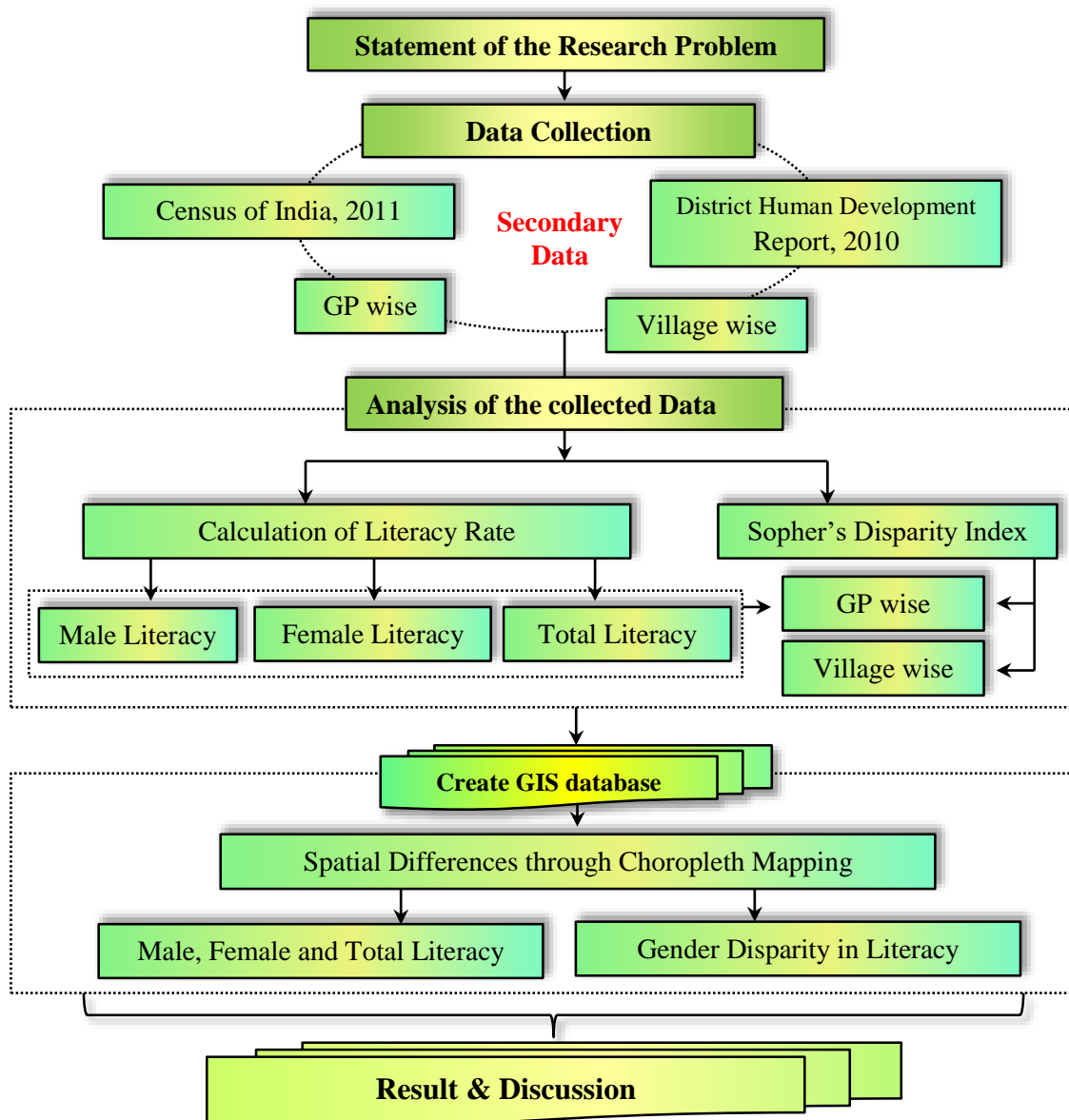

Fig. 2 Methodological Flow Diagram   **Source:** Compiled by the Authors

The First Phase entails an exhaustive literature review examining the current state of literacy, its significance, the gender disparity prevalent in literacy and educational attainment, the societal marginalization of women in this context, and the determinants influencing literacy in Indian society. Data acquisition involved extracting information from Directorate of Census Operations under the Government of India and the District Statistical Handbook published by the Bureau of Applied Economic and Statistics, Government of India. Additionally, significant information on literacy was gathered from the District Human Development Report 2010, Uttar Dinajpur District, published by the Department of Planning, Statistics, and Programme Implementation, Government of West Bengal.

In the Second Phase, data underwent rigorous analysis. The literacy rate was computed using the formula:

$$Literacy\ Rate\ (\%) = \left(\frac{Literate\ Population}{Total\ Population}\right) \times 100 \qquad (1)$$

To assess the gap between male and female literacy rates, we utilized a modified version of D.V. Sopher's index (1974), as adapted by Kundu and Rao (1986), as depicted in the following equation (2):

$$Disparity\ Index\ (DI) = Log\left(\frac{X2}{X1}\right) + Log\left\{\frac{(Q-X1)}{(Q-X2)}\right\} \qquad (2)$$

Where, X2 > or = X1

X2 = Male literacy rate,
X1 = Female literacy rate,
Q = 200.
This index, ranging from 0.00 to 1.00, positively correlates with the gender gap in literacy. A higher Disparity Index (DI) value indicates a greater disparity between male and female literacy rates, with a value of 0 signifying no disparity (De, 2015).

The Third Phase entailed a thorough analysis and interpretation of the Disparity Index. During this phase, the calculated indices were mapped using Choropleth Techniques in the GIS environment to delineate the regions characterized by significant disparities in male and female literacy. ArcGIS 10.4 software was utilized for the cartographic representation. Subsequently, the interpretation and derivation of the study's findings were conducted to derive the final outcome.

Table 1: Status of Literacy in Islampur C.D. Block in 2011

Sl. No.	Name of the Gram Panchayat	Male Literacy (%)	Rank	Female Literacy (%)	Rank	Total Literacy (%)	Rank
1	Gaisal-I	46.63	9	35.70	8	41.29	9
2	Gaisal-II	49.88	7	36.79	6	43.62	7
3	Gobindapur	51.90	6	36.76	7	44.56	6
4	Gunjaria	42.41	13	33.38	11	37.95	13
5	Islampur	67.84	1	57.45	1	62.84	1
6	Kamalagaon Sujali	45.66	10	31.49	12	38.76	11
7	Khanti	45.28	11	30.50	13	38.10	12
8	Matikunda-I	53.74	3	41.10	2	47.67	3
9	Matikunda-II	57.00	2	39.89	4	48.85	2
10	Panditpota-I	44.08	12	33.85	10	39.06	10
11	Panditpota-II	47.68	8	35.57	9	41.75	8
12	Ramganj-I	52.27	5	40.73	3	46.75	4
13	Ramganj-II	52.66	4	39.39	5	46.24	5

Source: Census of India, 2011

1.7 Result and Discussion
1.7.1 Spatial Distribution of Literacy
Literacy is paramount for individual empowerment and societal progress as it serves as the cornerstone of education, critical thinking, and economic development. Proficiency in reading, writing, and comprehension enables individuals to access information, communicate effectively, and participate meaningfully in various aspects of life, from civic engagement to workforce participation. Moreover, literacy fosters cognitive skills, enhances decision-making abilities, and opens doors to diverse opportunities, thereby breaking cycles of poverty and promoting social mobility. In essence, literacy empowers individuals to navigate the complexities of the modern world, contribute to their communities, and lead fulfilling lives.

Table 2: Level of Male Literacy Rate, Value Range, and Coverage by Gram Panchayat in Islampur C.D. Block, 2011

Level of Male Literacy	Value Ranges	Gram Panchayat Covers
Very High	56.996-67.843	Islampur
High	49.883-56.995	Matikunda-II, Matikunda-I, Ramganj-II, Ramganj-I, and Gobindapur
Moderate	46.633-49.883	Gaisal-II and Panditpota-II
Low	44.078-46.632	Gaisal-I, Kamalagaon Sujali, and Khanti
Very Low	42.412-44.077	Panditpota-I and Gunjaria

Source: Computed by the Authors

The Uttar Dinajpur District Human Development Report (2010) stated administrative history of Uttar Dinajpur significantly influences its current educational landscape. Initially part of West Dinajpur, which was characterized by low literacy rates, Uttar Dinajpur was established as a separate district in 1992. Despite this, educational indicators remained below the state average, with an overall literacy rate of 47.9% and female literacy rate of 36.5% in 2001. Rural areas fared even worse, with overall literacy at 42.9% and female literacy at 30.8%. Addressing these challenges remains a paramount concern for Uttar Dinajpur. According to Census 2011 in Islampur male literacy rate is 49.84 percent which signifies a significant portion of the population lacking basic reading and writing skills. This level of literacy indicates widespread educational challenges and limited access to learning opportunities within a community or

region. Such low literacy rates can hinder socio-economic development, restrict individuals' ability to participate fully in society, and perpetuate cycles of poverty and inequality.
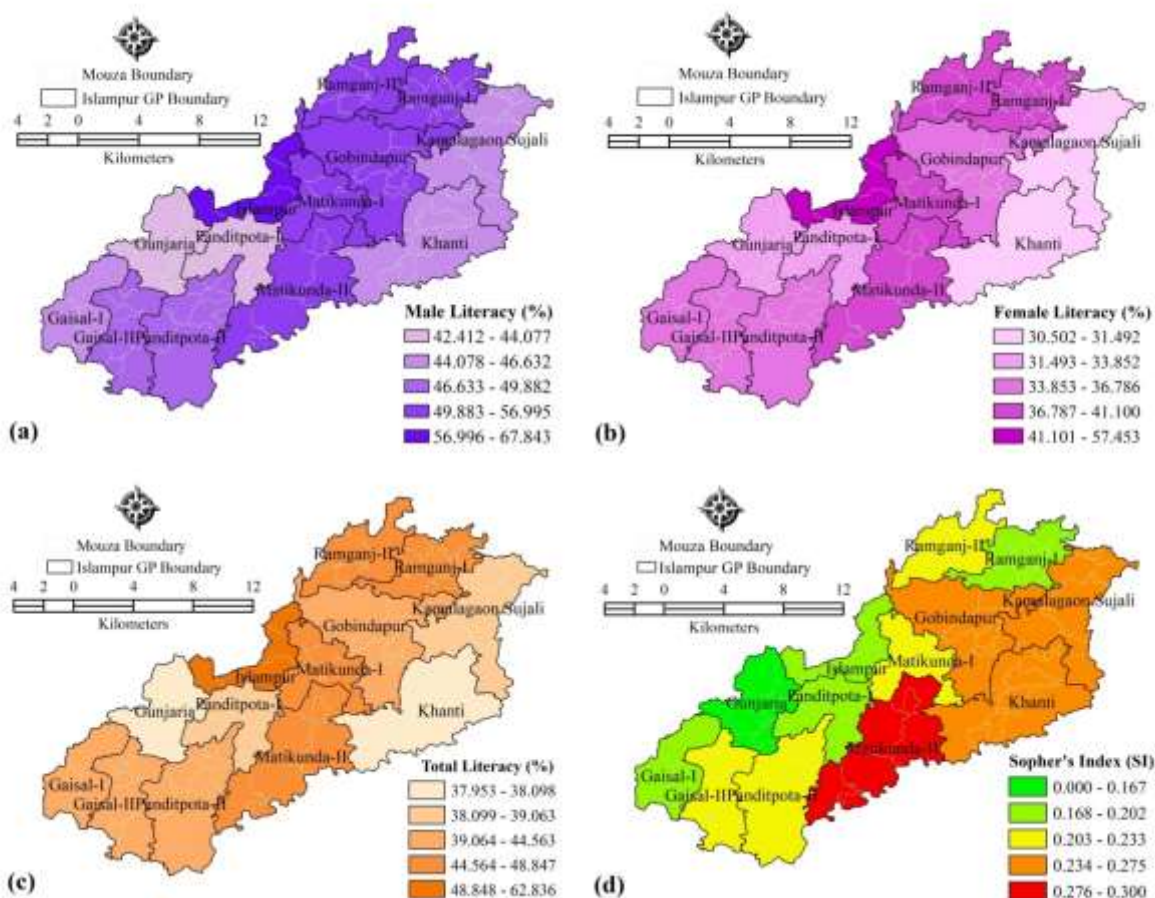

Fig. 3 Spatial Distribution of literacy in Islampur C. D. Block: **(a)** Male literacy; **(b)** Female literacy; **(c)** Total literacy; and **(d)** Gender disparity in literacy through Sopher's Index

The spatial distribution of male literacy in Islampur block, as illustrated in **Fig. 3a** and detailed in **Table 1; 2**, reveals a nuanced landscape of educational attainment across different gram panchayats (GPs). Notably, Islampur gram panchayat stands out with a remarkably high degree of literacy at 67.84%, indicative of robust educational infrastructure and a culture that values learning. Following closely behind are GPs like Matikunda-II, Matikunda-I, Ramganj-II, Ramganj-I, and Gobindapur, boasting high literacy rates ranging from 49.883% to 56.995%, suggesting a concerted effort towards education and access to educational materials in these areas. In contrast, Gaisal-II and Panditpota-II GPs demonstrate a moderate degree of literacy, reflecting a relatively less developed educational infrastructure but still a commendable level of literacy between 46.633% and 49.883%. Conversely, Gaisal-I, Kamalagaon Sujali, and Khanti GPs exhibit lower literacy rates ranging from 44.078% to 46.632%, indicating potential areas for improvement in educational access and quality. Finally, Panditpota-I and Gunjaria GPs portray a concerning picture with very low levels of male literacy, underscoring the urgent need for targeted interventions to enhance educational opportunities and address barriers to learning in these communities.

Table 3: Level of Female Literacy Rates, Value Range, and Coverage by Gram Panchayat in Islampur C.D. Block, 2011

Level of Female Literacy	Value Ranges	Gram Panchayat Covers
Very High	41.101-57.453	Islampur
High	36.787-41.100	Matikunda-I, Ramganj-I, Matikunda-II, and Ramganj-II
Moderate	33.853-36.786	Gaisal-II, Gobindapur, Gaisal-I and Panditpota-II
Low	31.493-33.852	Panditpota-I and Gunjaria
Very Low	30.502-31.492	Kamalagaon Sujali and Khanti

Source: Computed by the Authors

Female literacy holds paramount importance in fostering societal progress and development on multiple fronts. Firstly, it empowers women by providing them with the knowledge and skills necessary to make informed decisions about their health, family planning, and overall well-being. Educated women are more likely to seek healthcare services, resulting

in improved maternal and child health outcomes and lower mortality rates. Moreover, female literacy plays a pivotal role in breaking the cycle of poverty by enabling women to participate in the workforce and contribute to household incomes. Furthermore, female literacy fosters gender equality and social cohesion by challenging traditional gender norms and promoting women's rights. It also enhances the overall educational attainment of future generations, as educated mothers are more likely to prioritize their children's education, resulting in higher literacy rates among the youth. Ultimately, investing in female literacy not only empowers individual women but also contributes to broader societal development, economic growth, and sustainable progress.

The spatial distribution of female literacy, as depicted in **Fig. 3b** and detailed in **Table 1; 3**, unveils significant variations across different gram panchayats (GPs) within the Islampur block. Islampur GP exhibits a high literacy rate of 57.45%, indicating robust educational attainment. Matikunda-I, Ramganj-I, Matikunda-II, and Ramganj-II GPs also show high literacy rates ranging from 36.787% to 41.100%, likely benefiting from strong educational infrastructure and community support for female education. In contrast, Gaisal-II, Gobindapur, Gaisal-I, and Panditpota-II GPs demonstrate moderate literacy levels, suggesting areas for further improvement in literacy initiatives and access to educational resources. Panditpota-I and Gunjaria GPs present lower literacy rates, indicating challenges such as limited educational infrastructure or socio-economic barriers. Kamalagaon Sujali and Khanti GPs exhibit the lowest degrees of female literacy, highlighting the need for targeted interventions to address educational disparities and enhance female literacy rates.

Table 4: Level of Total Literacy Rates, Value Range, and Coverage by Gram Panchayat in Islampur C.D. Block, 2011

Level of Total Literacy	Value Ranges	Gram Panchayat Covers
Very High	48.848-62.836	Islampur
High	44.564-48.847	Matikunda-II, Matikunda-I, Ramganj-I and Ramganj-II
Moderate	39.064-44.563	Gobindapur, Gaisal-II, Panditpota-II and Gaisal-I
Low	38.099-39.063	Panditpota-I and Kamalagaon Sujali
Very Low	37.953-38.098	Khanti and Gunjaria

Source: Computed by the Authors

The average female literacy rate in Islampur C.D. Block stands at 36.78%, revealing a concerning female illiteracy rate of 63.22%. This disparity underscores significant challenges in providing educational opportunities for girls within the region. A primary contributing factor to this issue is the limited access to education and the scarcity of schools equipped with proper facilities, notably toilets. The physical distance to schools, often exceeding 3–4 kilometers, poses significant obstacles for girls, particularly in terms of safety and security during travel. Moreover, the lack of toilet facilities in schools disproportionately affects girls, further impeding their attendance and participation in education. The prevalence of primary schools without adequate toilet infrastructure exacerbates the problem, serving as a significant deterrent for female students. Addressing these challenges is paramount to improving female literacy rates in Islampur C.D. Block, necessitating concerted efforts to enhance access to education and provide essential facilities that promote inclusivity and gender equality within the educational system.

High rural literacy rates empower individuals with essential skills, improving job prospects and economic contributions. They also enhance healthcare practices, understanding of sanitation, and disease prevention, leading to better public health outcomes. Moreover, high literacy fosters political awareness and civic engagement, empowering communities in democratic processes. Conversely, low rural literacy perpetuates poverty cycles, hindering access to education, healthcare, and economic opportunities, exacerbating social disparities. It also hampers technological advancement and information access, impeding adaptation to socio-economic changes and participation in the digital economy. Addressing low rural literacy is crucial for socio-economic development, livelihood improvement, and inclusive growth.

Table 5: Inter GP Gender Disparity in Literacy, Value Range, and Coverage by Gram Panchayat in Islampur C.D. Block, 2011

Level of Gender Disparity in Literacy	Value Ranges	Gram Panchayat Covers
Very High Disparity	0.276-0.300	Matikunda-II
High Disparity	0.234-0.275	Khanti, Gobindapur and Kamalagaon Sujali
Moderate Disparity	0.203-0.233	Ramganj-II, Gaisal-II, Matikunda-I and Panditpota-II
Low Disparity	0.168-0.202	Ramganj-I, Gaisal-I, Islampur and Panditpota-I
Very Low Disparity	0.000-0.167	Gunjaria

Source: Computed by the Authors

The spatial distribution of female literacy, depicted in **Fig. 3c** and summarized in **Table 1; 4**, reveals notable patterns across Islampur gram panchayat and its surrounding areas. The data illustrate that Islampur itself exhibits a remarkably high degree of female literacy, reaching 62.84%. Similarly, high levels of literacy, ranging from 48.848% to 62.836%, are observed in Matikunda-II, Matikunda-I, Ramganj-I, and Ramganj-II gram panchayats. In contrast, Gobindapur, Gaisal-II, Panditpota-II, and Gaisal-I gram panchayats demonstrate moderate levels of literacy, ranging from 39.064% to 44.563%. Panditpota-I and Kamalagaon Sujali gram panchayats exhibit comparatively lower degrees of literacy,

ranging from 38.099% to 39.063%. Notably, Khanti and Gunjaria gram panchayats present the lowest levels of female literacy, with values ranging from 37.953% to 38.098%. These findings underscore the heterogeneous nature of female literacy within the study area, emphasizing the need for targeted interventions to address disparities and promote educational equity among rural communities.

1.7.2 GP wise Gender Disparity in Literacy

Gender disparity in literacy holds significant implications for individuals, communities, and societies as a whole. Firstly, addressing gender disparities in literacy is crucial for achieving gender equality and promoting women's empowerment. Literacy is not only a fundamental human right but also a key determinant of women's socio-economic status, health outcomes, and participation in decision-making processes. Closing the gender gap in literacy enables women to access better employment opportunities, participate more fully in civic life, and make informed choices about their health and well-being.

Table: 6 Inter Village Gander Disparities in Literacy in Islampur C.D. Block, 2011

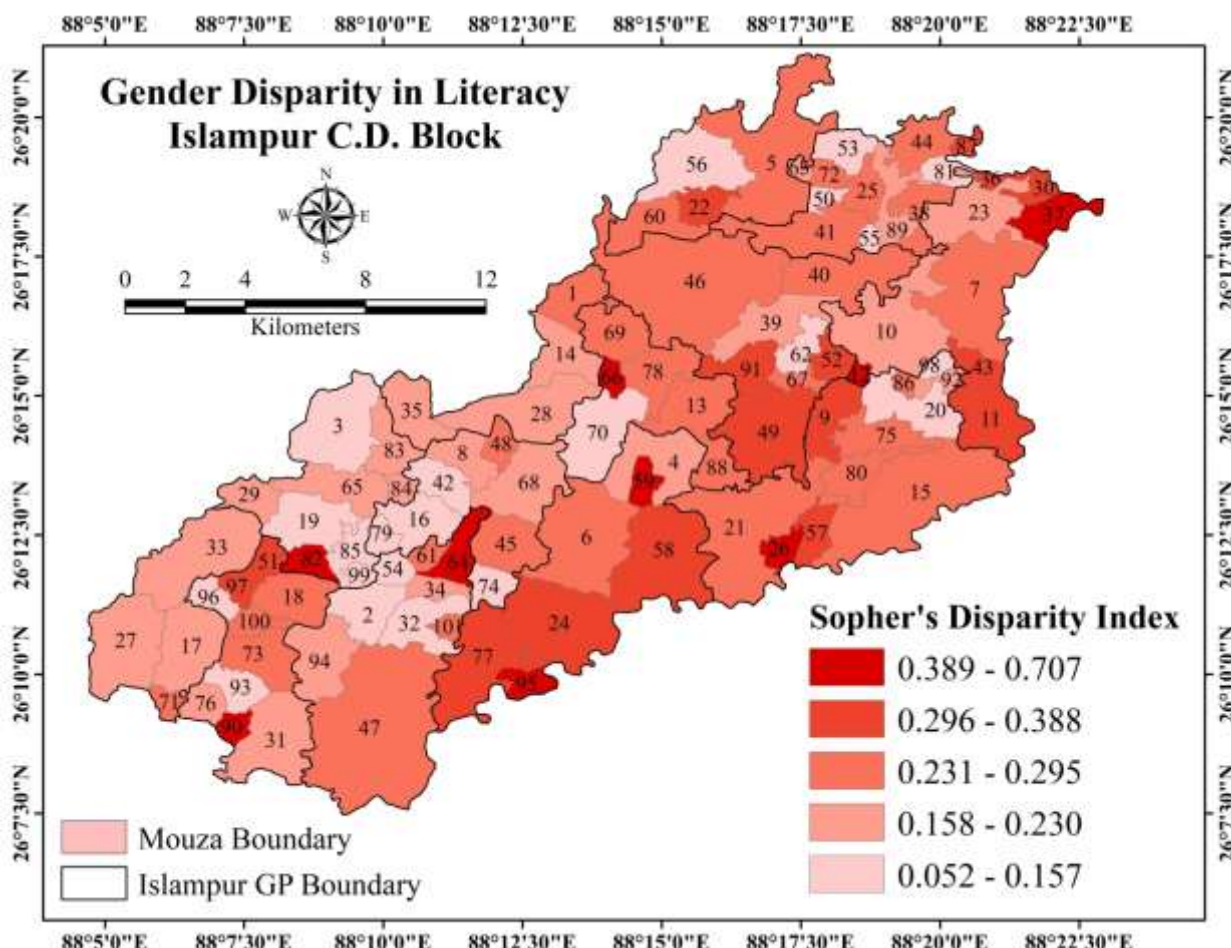| Level of Gender Disparity in Literacy	Range	No. of Mouzas	Name of the Mouzas
Very High	0.389-0.707	9 (8.91%)	Benikandar Alias Satvita, Garnabari, Kurhila, Uttar Tuthipakar, Sabudanga, Bijekhor, Chhota Khanti, Paschim Gomadighi and Kalughat
High	0.296-0.388	16 (15.84%)	Goalgachh, Girnabari, Madaripur, Nandoi, Baniani Kismat, Benikandar, Purba Mankadanga, Dakshin Thuthipakar, Birnakundi, Dholigaon, Bhelagachhi, Birsinggachh, Bairjhari, Agdimti, Nondola Rokhoa and Panchdimti
Moderate	0.231-0.295	31 (30.69%)	Bhojpur, Gangamaila, Sanpnikla, Barakhanti, Tarabari, Jhargaon, Dohaso, Alipur, Kalugachh, Benikaner Alias Rahatpur, Masid Kismat, Gadiatol, Masidkhas, Jagatagaon, Tangipokar, Iluabari, Kuargaon, Matikunda, Gunabari, Ghoramara, Dakshin Kadamgachhi, Phulhar, Maruagaon, Phulhara, Rampur, Nachankula, Kulthar, Rohia, Purbba Gomaidighi, Uttar Kadamgachh and Chapasar
Low	0.158-0.230	23 (22.77%)	Sialtor Taranjanbari, Kuchila, Samsergaon, Khabargaon, Dumrulla, Barhat (P), Chhatish, Gunjaria, Kalanagin, Kundargaon, Gaisal, Bolhanja, Amalijhari, Latmasid, Bhangamali, Topamari, Ramganj, Ojhapokhar, Dhantola, Kachna, Kamlagaon, Durgapur and Chaprajhar (P)
Very Low	0.052-0.157	22 (21.78%)	Narayanpur, Aliganj, Manikpur, Agurasia, Daribhir, Pothia, Phulbari, Gobindapur, Kutumposa, Paschim Mankadanga, Purba Panchurasia, Kadigaon, Sahatpur, Panditpota, Daulatpur, Paschim Pachhurasia, Kunargaon, Uttar Khojagaon, Dakshin Khojagaon, Bhagmahima, Chaurbhita and Chhota Sapnikla

Source: Computed by the Authors (Appendix II)

The status of Gender disparity in literacy is depicted in **Fig. 3d; Table 5**. In Matikunda-II Gram Panchayat (GP), the male literacy rate stands at 57%, while the female literacy rate is 39.89%, resulting in a notably high degree of Gender Disparity in Literacy, denoted by a disparity index of 0.300. Similarly, Khanti, Gobindapur, and Kamalagaon Sujali GPs also exhibit significant gender disparities in literacy, ranging from 0.234 to 0.275. Several factors contribute to the higher male literacy rates observed in these GPs compared to females. Firstly, entrenched traditional gender roles historically prioritize male education over females in many rural societies. Additionally, cultural norms and societal expectations often underscore the importance of male education for economic productivity and leadership roles within the community. Economic considerations also play a pivotal role, as families may prioritize investing in the education of sons over daughters due to perceived future earning potential. Moreover, accessibility to educational institutions and resources may favor males, as the distance to educational facilities often compels parents to send their sons to school rather than daughters, leading to a higher rate of dropout among girls. These intersecting factors collectively contribute to the observed disparity in literacy rates between males and females in rural villages. However, some GPs, such as

Ramganj-II, Gaisal-II, Matikunda-I, and Panditpota-II, exhibit moderate levels of disparity, ranging from 0.203 to 0.233, while others, including Ramganj-I, Gaisal-I, Islampur, and Panditpota-I, show relatively lower degrees of disparity, with values ranging from 0.168 to 0.202. Gunjaria GP stands out as an exception, representing a very low degree of gender disparity in literacy (0.170), attributed to improved accessibility of educational institutions and the availability of educational infrastructure, which encourage parents to send their children to school regardless of gender. Furthermore, government programs and policies, particularly initiatives like Kanyashree Prakalpa and Sabujsathi Prakalpa, play a significant role in promoting gender equality in literacy.

1.7.3 Village wise Gender Disparity in Literacy

The analysis of gender disparity in literacy at the village level in Islampur C.D. Block reveals significant variations across different villages **(Fig. 4; Table 6; Appendix II)**. Among the 101 villages, nine villages, constituting 8.91% of the total, demonstrate a very high degree of gender disparity in literacy, with disparity index values ranging from 0.389 to 0.707. These villages, including Benikandar Alias Satvita, Garnabari, Kurhila, Uttar Tuthipakar, Sabudanga, Bijekhor, Chhota Khanti, Paschim Gomadighi and Kalughat, warrant immediate attention to address the gender gap in literacy and promote female education. Additionally, 16 villages, comprising 15.84% of the total, exhibit a high degree of inequality, with disparity index values ranging from 0.296 to 0.388. Efforts to improve educational access and quality, particularly for females, are crucial in these areas. The majority of villages, 31 in total (30.69%), demonstrate moderate levels of disparity, with values ranging from 0.231 to 0.295. While disparities exist, they are less pronounced compared to other villages. Furthermore, a group of villages, 23 in total, exhibit low to very low degrees of gender disparity in literacy, with values ranging from 0.157 to 0.52. Notably, these villages, such as Gobindapur and Panditpota, serve as examples of relatively equitable access to education for both genders, highlighting the potential for effective interventions to reduce gender disparities in literacy at the village level.

Note: Village names are listed in Appendix I. **Fig. 4:** Spatial Distribution of Gender Disparity in Literacy across Villages in Islampur, 2011 **Source:** Compiled by the Authors

1.8 Strength of the Study
The present study has several strengths, which are discussed below:

Novelty: This article represents the first comprehensive attempt to examine the status of literacy and gender disparity at a micro-level, specifically focusing on Gram Panchayat and Village levels within the Islampur C.D. Block of Uttar

Dinajpur District, West Bengal. By delving into this granular level of analysis, the study provides valuable insights into localized educational challenges and disparities.

Detailed Analysis: The article meticulously identifies the Gram Panchayats and villages grappling with gender disparity in literacy, shedding light on specific areas that require urgent attention. This detailed analysis serves as a foundation for future research endeavors aimed at uncovering the root causes of these disparities and devising effective policy interventions to promote gender equality and overall development in the study area.

Overall, the study's focus on micro-level analysis and its identification of areas with pronounced gender disparities in literacy pave the way for targeted interventions and policy formulation to address educational inequalities and foster inclusive development in rural communities.

1.9 Recommendation and Conclusion

The discussion above underscores the profound disparities in literacy rates within the Islampur community development block, shedding light on the pronounced gender gap in literacy prevalent in the study area. In response to these challenges, several recommendations are proposed. Firstly, there is an urgent need to escalate efforts towards achieving universal education, with a specific emphasis on eradicating the discrepancy between male and female literacy. Expanding initiatives like *Beti Bachao Beti Padhao* can substantially elevate female education levels. Secondly, identifying underperforming villages and gram panchayats and prioritizing literacy enhancement efforts in these areas is paramount. Addressing regional disparities in male and female literacy rates within the state should be a strategic focus. Thirdly, despite the provision of free schooling, economically disadvantaged families often prioritize child labor over education due to financial constraints. Providing additional financial assistance to such marginalized communities can serve as a powerful incentive for school attendance and dropout reduction. Fourthly, affecting a fundamental shift in societal attitudes towards education is imperative for meaningful change. Cultivating a culture that values education, particularly for females, is indispensable for enhancing overall literacy rates and narrowing gender disparities. Moreover, targeted support for girls' education, considering the economic hardships and cultural constraints prevalent in agriculturally distressed households, is essential. Finally, to diminish the gender gap in rural literacy in the study area, comprehensive initiatives encompassing social protection schemes in poverty reduction, women's socio-economic advancement, diversification in rural economic activities, and eradication of caste-based discrimination, alongside promotion of a gender-neutral education system, are warranted. In conclusion, promoting gender equality in literacy is pivotal for societal development and economic growth. By mitigating gender disparities in literacy, societies can unlock the full potential of their human capital, leading to enhanced workforce participation, economic productivity, and overall well-being. Additionally, addressing gender disparities in literacy yields far-reaching benefits, including improved maternal and child health, poverty alleviation, and intergenerational empowerment. Therefore, concerted efforts towards advancing gender equality in literacy are indispensable for fostering long-term sustainable development and societal progress.

Appendix

Appendix: I List of 101 Mouzas of Islampur C.D. Block Considered for the Study					
Sl. No.	Mouza Name	Sl. No.	Mouza Name	Sl. No.	Mouza Name
1	Iluabari	35	Barhat (P)	69	Chapasar
2	Kunargaon	36	Bairjhari	70	Phulbari
3	Aliganj	37	Kalughat	71	Alipur
4	Durgapur	38	Uttar Kadamgachh	72	Kalugachh
5	Phulhara	39	Topamari	73	Rampur
6	Jagatagaon	40	Kuargaon	74	Sahatpur

7	Purbba Gomaidighi	41	Masidkhas	75	Dakshin Kadamgachhi
8	Dumrulla	42	Kutumposa	76	Ojhapokhar
9	Agdimti	43	Goalgachh	77	Benikandar
10	Kuchila	44	Sanpnikla	78	Nachankula
11	Nandoi	45	Benikaner Alias Rahatpur	79	Narayanpur
12	Paschim Gomadighi	46	Dohaso	80	Jhargaon
13	Matikunda	47	Gunabari	81	Chhota Sapnikla
14	Bolhanja	48	Ghoramara	82	Garnabari
15	Barakhanti	49	Panchdimti	83	Sialtor Taranjanbari
16	Panditpota	50	Dakshin Khojagaon	84	Samsergaon
17	Kachna	51	Dakshin Thuthipakar	85	Agurasia
18	Maruagaon	52	Nondola Rokhoa	86	Gadiatol
19	Paschim Pachhurasia	53	Uttar Khojagaon	87	Birsinggachh
20	Pothia	54	Kadigaon	88	Tarabari
21	Bhojpur	55	Chaurbhita	89	Latmasid
22	Madaripur	56	Manikpur	90	Sabudanga
23	Kamlagaon	57	Girnabari	91	Baniani Kismat
24	Bhelagachhi	58	Birnakundi	92	Bhangamali
25	Masid Kismat	59	Kurhila	93	Daulatpur
26	Chhota Khanti	60	Kulthar	94	Kundargaon
27	Gaisal	61	Phulhar	95	Benikandar Alias Satvita
28	Chaprajhar (P)	62	Gobindapur	96	Paschim Mankadanga
29	Gunjaria	63	Ramganj	97	Purba Mankadanga
30	Dholigaon	64	Bijekhor	98	Bhagmahima
31	Kalanagin	65	Chhatish	99	Purba Panchurasia
32	Daribhir	66	Uttar Tuthipakar	100	Rohia
33	Dhantola	67	Tangipokar	101	Gangamaila
34	Amalijhari	68	Khabargaon		

Appendix: II Showing Village wise Male and Female Literacy Rate, Gender Disparity in Literacy and associated Rank in Islampur C.D. Block, 2011

Sl. No.	Name of the Villages	Male Literacy Rate (X2)	Female Literacy Rate (X1)	Sopher's Disparity Index	Rank
1	Iluabari	74.103	61.082	0.261	41
2	Kunargaon	37.488	31.730	0.111	96
3	Aliganj	47.598	38.969	0.153	81
4	Durgapur	51.614	41.896	0.170	78
5	Phulhara	56.987	42.367	0.256	49
6	Jagatagaon	59.845	44.870	0.263	39
7	Purbba Gomaidighi	42.402	29.481	0.246	54
8	Dumrulla	44.780	33.092	0.215	61
9	Agdimti	46.901	30.423	0.305	23
10	Kuchila	41.923	29.896	0.229	58
11	Nandoi	50.939	31.190	0.360	13
12	Paschim Gomadighi	57.944	34.259	0.422	8
13	Matikunda	56.097	41.259	0.260	43
14	Bolhanja	52.576	40.849	0.206	68
15	Barakhanti	46.234	31.198	0.278	29
16	Panditpota	32.424	26.807	0.117	93
17	Kachna	53.639	42.954	0.187	76
18	Maruagaon	55.222	40.612	0.256	48
19	Paschim Pachhurasia	36.542	30.797	0.112	95
20	Pothia	36.283	29.083	0.143	85
21	Bhojpur	45.402	29.653	0.295	26
22	Madaripur	73.143	53.933	0.367	12
23	Kamlagaon	48.930	38.839	0.179	77
24	Bhelagachhi	61.182	42.739	0.325	20
25	Masid Kismat	37.627	24.650	0.266	36

26	Chhota Khanti	46.720	24.893	0.423	7
27	Gaisal	50.196	38.470	0.207	67
28	Chaprajhar (P)	71.779	63.283	0.169	79
29	Gunjaria	36.930	26.519	0.210	64
30	Dholigaon	52.279	34.094	0.326	19
31	Kalanagin	57.865	45.944	0.208	65
32	Daribhir	31.859	25.123	0.144	84
33	Dhantola	40.025	30.166	0.189	75
34	Amalijhari	39.917	29.438	0.202	69
35	Barhat (P)	61.758	49.622	0.215	62
36	Bairjhari	61.944	44.541	0.307	22
37	Kalughat	47.933	25.979	0.419	9
38	Uttar Kadamgachh	46.821	33.737	0.238	55
39	Topamari	50.628	39.474	0.197	72
40	Kuargaon	51.096	36.469	0.260	42
41	Masidkhas	51.407	36.566	0.264	38
42	Kutumposa	54.535	47.036	0.131	88
43	Goalgachh	52.350	31.009	0.388	10
44	Sanpnikla	61.667	45.864	0.278	28
45	Benikaner Alias Rahatpur	56.471	41.284	0.266	35
46	Dohaso	62.399	47.010	0.272	32
47	Gunabari	53.685	38.961	0.259	44
48	Ghoramara	54.562	39.815	0.259	45
49	Panchdimti	42.006	26.406	0.305	25
50	Dakshin Khojagaon	54.918	50.235	0.082	98
51	Dakshin Thuthipakar	43.508	26.424	0.331	17
52	Nondola Rokhoa	49.589	32.761	0.305	24
53	Uttar Khojagaon	42.644	36.876	0.105	97
54	Kadigaon	43.885	37.059	0.123	91
55	Chaurbhita	68.468	71.277	0.058	100
56	Manikpur	34.065	26.929	0.147	82
57	Girnabari	60.391	38.951	0.378	11
58	Birnakundi	52.926	34.430	0.331	18
59	Kurhila	84.713	63.333	0.506	3
60	Kulthar	54.646	40.552	0.247	52
61	Phulhar	41.720	28.339	0.258	47
62	Gobindapur	45.826	38.354	0.133	87
63	Ramganj	75.203	66.058	0.193	73
64	Bijekhor	40.094	20.037	0.427	6
65	Chhatish	41.901	30.745	0.211	63
66	Uttar Tuthipakar	78.214	55.870	0.453	4
67	Tangipokar	32.915	21.186	0.261	40
68	Khabargaon	42.253	30.816	0.216	60
69	Chapasar	57.226	43.707	0.236	56
70	Phulbari	48.898	40.822	0.142	86
71	Alipur	56.146	40.690	0.271	33
72	Kalugachh	41.101	27.359	0.268	34
73	Rampur	52.254	37.958	0.253	50
74	Sahatpur	39.690	33.333	0.119	92
75	Dakshin Kadamgachhi	47.796	33.586	0.258	46
76	Ojhapokhar	40.737	30.612	0.193	74
77	Benikandar	47.051	28.389	0.351	15
78	Nachankula	62.668	48.639	0.249	51
79	Narayanpur	43.240	34.688	0.157	80
80	Jhargaon	48.094	32.995	0.275	31
81	Chhota Sapnikla	37.583	34.824	0.052	101
82	Garnabari	54.128	24.348	0.564	2
83	Sialtor Taranjanbari	59.757	46.648	0.230	57
84	Samsergaon	55.921	43.312	0.220	59
85	Agurasia	37.218	29.807	0.145	83
86	Gadiatol	31.548	20.000	0.266	37

87	Birsinggachh	41.846	25.468	0.323	21
88	Tarabari	38.364	24.755	0.277	30
89	Latmasid	46.587	35.503	0.200	70
90	Sabudanga	61.159	36.449	0.439	5
91	Baniani Kismat	51.232	31.801	0.353	14
92	Bhangamali	62.255	51.087	0.198	71
93	Daulatpur	21.111	17.012	0.116	94
94	Kundargaon	55.695	43.769	0.208	66
95	Benikandar Alias Satvita	80.599	44.898	0.707	1
96	Paschim Mankadanga	54.932	47.773	0.125	89
97	Purba Mankadanga	27.792	15.186	0.332	16
98	Bhagmahima	15.649	13.834	0.063	99
99	Purba Panchurasia	58.020	50.958	0.124	90
100	Rohia	47.081	33.546	0.246	53
101	Gangamaila	12.403	21.782	0.294	27

Source: Computed by the Authors

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