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Assessing The Impact of ICT on Local Governance and Service Delivery in Rural Area: An Empirical Study of Mekhliganj Block in Cooch Behar District, West Bengal

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Abstract:
Information and Communication Technology (ICT) refers to digital tools that enable communication system, information processing, and efficient delivery of services across sectors. ICT plays a vital role in strengthening rural governance by enhancing transparency, accountability, and efficiency in service delivery. It facilitates access to government services such as digital certificates, online applications, and benefit transfers, while improving information sharing and citizen participation at the grassroots level. However, the effective use of ICT in rural areas faces several challenges, including low awareness, digital illiteracy, poor internet connectivity, language barriers, and lack of adequate infrastructure. Government initiatives such as e-Governance programmes, digital service centres, and online portals aim to address these issues, yet implementation gaps remain. The study aims to understand the role of ICT in rural governance, analyse its impact on service delivery, and identify key challenges faced by rural communities.The significance of the study lies in its focus on selected Gram Panchayats of Mekhliganj Block in Cooch Behar, a border-based rural area with typical socio-economic conditions. The study adopts a descriptive and empirical research design. Primary data was collected through a structured survey of 150 respondents from three Gram Panchayats, along with interviews of service providers and Panchayat officials.The findings reveal that although awareness of ICT is relatively high, actual usage remains moderate. ICT has improved transparency and accessibility of services, but challenges such as lack of training, weak infrastructure, and limited participation. In conclusion, ICT has strong potential to transform rural governance and service delivery, but its effectiveness depends on improving awareness, capacity building, and infrastructure for inclusive development.

Keywords —**ICT, Rural Governance, e-governance, Service Delivery, Digital Divide**

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I. INTRODUCTION
Information and Communication Technology (ICT) has emerged as a powerful instrument in transforming governance systems, particularly in developing countries like India. It plays a significant role in enhancing transparency, accountability, and efficiency, which are essential elements of good governance. ICT enables citizens to access information related to government policies, programmes, and services with greater ease and convenience. As a result, it strengthens democratic participation by reducing the gap between the government and the people. Through digital platforms, administrative processes have become faster, more transparent, and citizen-centric.

In the contemporary era, governance is no longer confined to the activities of government alone but involves multiple stakeholders, including private organizations, civil society, and the general public. ICT has facilitated this transition by providing platforms for communication, coordination, and participation. It has transformed traditional governance into a more interactive and network-based system. Despite these advancements, challenges such as the digital divide, lack of infrastructure, and limited technical knowledge continue to affect the effective implementation of ICT, especially in rural areas. Therefore, it becomes essential to study the role and impact of ICT in rural governance and service delivery.

1.1. OBJECTIVES OF THE STUDY
The present study is undertaken with the following objectives:
- To assess the level of awareness of ICT among rural people of the selected Gram Panchayat area of Mekhliganj Block IN Cooch Behar District
- To understand the role of ICT in rural governance with special emphasis on people's participation in the study;
- To analyse the impact of ICT on service delivery in the study areas;
- To examine the challenges of ICT implementation in the study area.

1.2. RESEARCH QUESTIONS

The study is guided by the following research questions:

1. How does ICT strengthen rural governance through people's participation in selected Gram Panchayat area of Mekhliganj Block in Cooch Behar District?
2. What is the impact of ICT on service delivery in selected Gram Panchayat area of Mekhliganj Block?

1.3. Significance of the Study: The significance of this study lies in its contribution to understanding the role of ICT in strengthening rural governance and improving service delivery in the selected villages. It provides empirical insights into how digital technologies are transforming administrative processes at the grassroots level. The findings of the study can help policymakers design more effective ICT-based governance strategies, particularly for rural areas. It also highlights the importance of digital literacy and capacity building in ensuring the successful implementation of ICT initiatives. Furthermore, the study is useful for researchers, academicians, and development practitioners interested in rural governance and digital transformation

II. BACKGROUND OF THE STUDY

Information and Communication Technology (ICT) refers to a broad range of technologies used for collecting, storing, processing, and disseminating information. It includes computers, the internet, mobile devices, communication networks, and various digital applications. In the context of governance, ICT serves as a tool for improving administrative efficiency, enhancing transparency, and facilitating citizen participation.

ICT enables governments to deliver services electronically, commonly referred to as e-governance. It allows citizens to access information, apply for services, and interact with government officials without the need for physical presence. This not only reduces time and cost but also improves accessibility, especially for people living in remote and rural areas.

2.1. Principles of ICT in Governance

The application of ICT in governance is guided by several key principles:

- **Transparency:** ICT ensures that government information is openly available to citizens, reducing secrecy and corruption.
- **Accountability:** Digital systems allow monitoring of government actions, making officials answerable for their decisions.
- **Efficiency:** ICT streamlines administrative processes, reducing delays and improving service delivery.
- **Participation:** ICT provides platforms for citizens to engage in governance processes, enhancing democratic participation.
- **Information Sharing:** It facilitates the quick dissemination of information between government agencies and citizens.

These principles collectively contribute to the development of good governance and strengthen democratic institutions at the grassroots level.

2.2. Government Initiatives in ICT

The Government of India (GOI) has undertaken several initiatives to promote the use of ICT in governance. The development of ICT in India can be traced back to the 1970s, when the government began investing in electronic infrastructure. A major milestone was the establishment of the National Informatics Centre (NIC) in 1977, which played a crucial role in introducing computerization in government departments.In 1987; the District Information System of NIC (DISNIC) was launched to computerize district-level administration. Another significant development was the introduction of NICNET, a satellite-based communication network that connected government offices across the country and facilitated data sharing.

A major breakthrough in e-governance came with the launch of the National e-Governance Plan (NeGP) on May 18, 2006. The objective of NeGP was to provide accessible, affordable, and transparent government services to citizens through a common service delivery platform. The plan included 27 Mission Mode Projects (MMPs) and 8 supporting components, covering areas such as agriculture, land records, health, education, and rural development.

Key infrastructure components under NeGP included:

- State Wide Area Networks (SWAN)
- Common Service Centres (CSCs)
- State Data Centres (SDCs)
- National and State Service Delivery Gateways

These initiatives significantly improved the reach and effectiveness of e-governance in India. In 2012, the Government of India introduced the National Policy on Information Technology, which emphasized the use of ICT for addressing developmental challenges in sectors such as education, health, and rural development. More recently, initiatives like Digital India have further accelerated the adoption of ICT, aiming to transform India into a digitally empowered society and knowledge economy.

2.3. Relevance to Rural Governance

ICT has become particularly important in the context of rural governance through Panchayati Raj Institutions. It enables better planning, implementation, and monitoring of development programmes. ICT tools help in maintaining records, managing finances, and delivering services efficiently at the grassroots level. Moreover, ICT facilitates greater citizen participation by providing access to information and enabling communication between villagers and Panchayat authorities. It also enhances transparency by making government data publicly available..

E-governance is a component of ICT, ensures faster, transparent, and citizen-friendly delivery of government

services through digital platforms. It also reduces administrative delays and strengthens accountability by enabling real-time access to information and services.

2.4. ICT in Service Delivery in rural area

Information and Communication Technology (ICT) has brought a significant transformation in public service delivery in India by making it more efficient, transparent, and accessible. Through digital platforms, citizens can now apply for various government services such as birth certificates, caste certificates, and residence certificates without visiting government offices. The introduction of online systems has reduced procedural delays and increased transparency in administrative processes.

ICT has also enabled online payment systems, allowing citizens to pay electricity bills, water charges, and taxes through digital modes. This has simplified financial transactions and minimized errors associated with manual systems. Moreover, various government schemes such as pensions, scholarships, and housing benefits can now be accessed through online portals, where applicants can also track the status of their applications.

In West Bengal, ICT has played an important role in improving rural service delivery. Digital systems are used for land mutation, accessing land records, and obtaining government licences. The Public Distribution System (PDS) has been strengthened through digital authentication, ensuring that ration is delivered to genuine beneficiaries. Similarly, Direct Benefit Transfer (DBT) has improved subsidy delivery, especially in LPG (gas) services.

III. LITERATURE REVIEW

Minj (2025) said that Information and Communication Technology (ICT) plays a crucial role in strengthening governance by enhancing transparency, accountability, and efficiency. The study emphasized that ICT helps bridge the gap between urban and rural governance by improving access to services, information sharing, and citizen participation. It further highlighted that digital platforms contribute to better coordination and service delivery. However, challenges such as digital divide, inadequate infrastructure, and low digital literacy continue to hinder the effective implementation of ICT in rural areas.

Bandyopadhyay and Hazra (2022) stated that awareness and utilization of ICT-based services at the grassroots level remain significantly limited. The study found that only 27% of respondents were fully aware of services provided by Common Service Centres (CSCs), while 11.11% were partially aware, and around 38% had no awareness at all. This indicates a substantial gap in information dissemination and digital inclusion in rural areas. The findings further reveal weak coordination between Gram Panchayats and CSCs, which affects service delivery and accessibility. Despite the availability of ICT infrastructure, lack of awareness, limited outreach, and low community engagement restrict the effectiveness of e-governance initiatives in strengthening rural governance and citizen participation

Ibrahim et al. (2010) said that ICT adoption in rural areas remains at an early stage, with low usage of computers, internet, and online government services. The study highlighted major challenges such as limited infrastructure, lack of awareness, inadequate manpower, and weak community participation. It emphasized that digital divide significantly affects rural development. The authors suggested strategies like improving ICT infrastructure, establishing telecentres, enhancing digital skills, and adopting coordinated government efforts to promote effective ICT adoption and improve public service delivery.

Kak and Gond (2015) said that ICT plays a crucial role in improving service delivery and socio-economic development in rural India. The study highlighted that ICT enhances access to government services, education, and market information, thereby integrating rural populations into the mainstream. However, major challenges such as lack of infrastructure, low digital literacy, language barriers, and limited awareness hinder effective implementation. The authors emphasized that proper policies, local language content, and community participation are essential for successful ICT-based rural governance.

Rao (2022) said that ICT plays a vital role in strengthening rural development and Panchayati Raj Institutions by improving access to information, governance efficiency, and service delivery. The study highlighted that ICT enables economic, social, and political empowerment of rural communities. However, challenges such as lack of infrastructure, limited digital skills, low awareness, and institutional weaknesses hinder effective implementation. The findings emphasized the need for integrated strategies focusing on infrastructure, skills, and commitment to ensure sustainable e-governance in rural areas.

Harikishan (2016) said that ICT plays a significant role in rural development by improving agricultural productivity, information access, and service delivery. The study highlighted those ICT applications such as e-Chaupal, Bhoomi, and e-Seva Help Bridge the information gap between rural communities and knowledge centres. However, challenges like poor infrastructure, low awareness, and language barriers hinder its effectiveness. The author emphasized that ICT can empower rural populations, enhance livelihoods, and promote sustainable development if properly implemented.

IV. RESEARCH METHODOLOGY

4.1. Study Area: The study was conducted in selected villages of Mekhliganj Block in Cooch Behar. The area is predominantly rural, agrarian in nature, and located along the international border with Bangladesh.

4.2. Sources of Data: This study is based on both primary and secondary data. The primary data was collected through field surveys and interviews. Secondary information has been collected from books, journals, government reports and various government portals such as eGramSwaraj, Banglar Panchayat and Gram Panchayat Development Plan (GPDP).

4.3. Survey Design: This study followed descriptive and empirical research design. A structured survey schedule has been used to collect quantitative data. Along with this, interviews and field observations have been undertaken to understand the practical aspects of ICT implementation.

4.4. Target Respondents: The target respondents include villagers of selected Gram Panchayats, as well as service providers and people associated with local governance such as - SahajTathyaMitra Kendra (STMK) Bangla Sahayata Kendra (BSK) Common Service Centers (CSC) and Gram Panchayat members and staff.

4.5. Sampling: The study used stratified random sampling. A total of 150 respondents were selected from three Gram Panchayats of Mekhliganj Block – Uchalpukuri, Jamaldaha and Ranirhat. Two villages were selected from each Gram Panchayat and 25 respondents were selected from each village. As a result, a total of 50 respondents from each Gram Panchayat have been included.

Table-1: Sample Selection

Block	Gram Panchayat	No of Villages	Selected Villages	No of Sample
Mekhliganj	Uchalpukuri	20	2	50
	Jamaldaha	29	2	50
	Ranirhat	12	2	50
Total	**Three (3)**	**61**	**6**	**150**

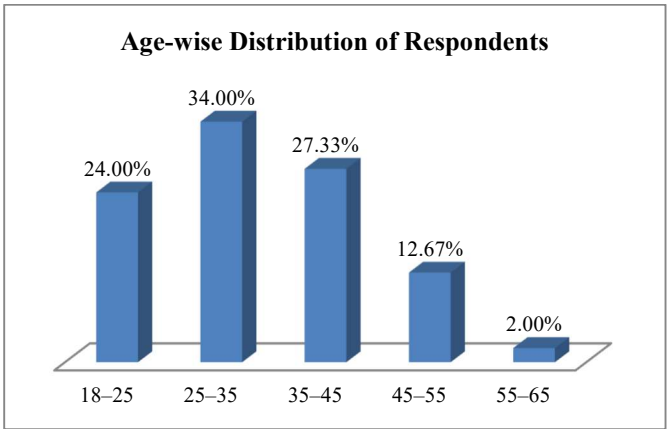
4.6. Data Analysis: Data analysis was conducted using simple statistical tools such as frequency and percentage. The results are presented inchart and tabular form with brief qualitative interpretation for better understanding.

V. RESULT AND DISCUSS

5.1. Socio-Economic Background of Respondents: Based on the survey, the socio-economic context of the respondents is important to understand their awareness, access and use of ICT in rural Governance and service delivery.It was presented their income, education and occupational status, which was reflecting their participation in rural governance through ICT

5.1.1. Age-wise Distribution of Respondents

Figure: 5.1

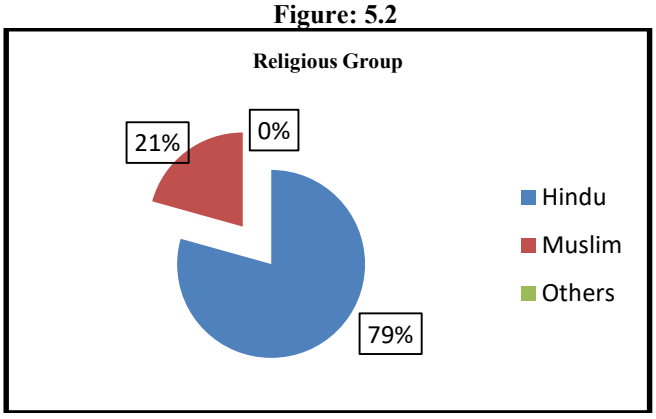


Source: Field Survey

The figure shows that the majority of respondents belong to the younger and middle age groups. The highest proportion (34.00%) falls within the 25–35 age group, followed by 35–45 years (27.33%) and 18–25 years (24.00%), indicating a strong presence of economically active and digitally adaptable population. Only 12.67% belong to the 45–55 age group, while a very small proportion (2.00%) are aged 55–65. This suggests that younger respondents are more dominant in the study, which may positively influence ICT adoption, awareness, and participation in rural governance processes.

5.1.2. Religious Group-wise Distribution of Respondents

Figure: 5.2

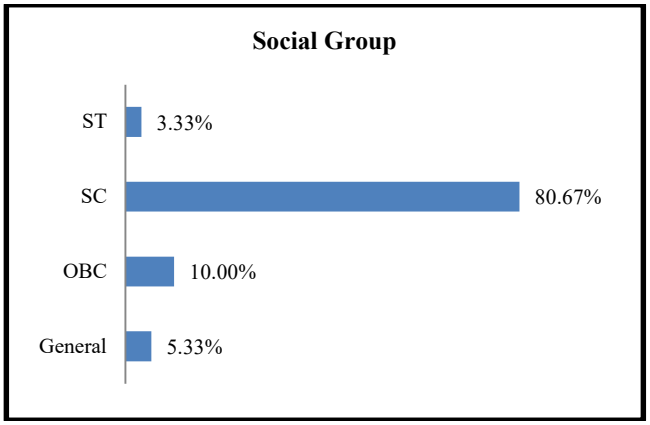


Source: Field Survey

The data shows that the majority of respondents belong to the Hindu community (79.33%), followed by Muslims (20.67%), with no representation from other religious groups. This indicates a relatively homogeneous social composition in the study area.

5.1.3. Social Group-wise Distribution of Respondents

Figure: 5.3

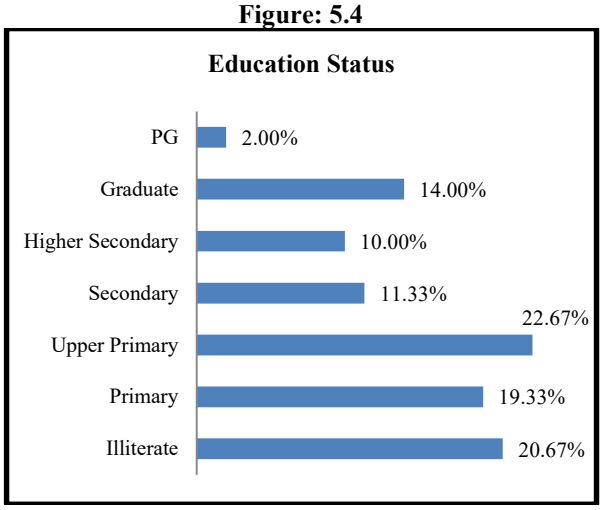


Source: Field Survey

The figure indicates that a large majority of respondents belong to the Scheduled Caste (SC) category (80.67%), reflecting the dominance of socially disadvantaged groups in the study area. OBC respondents account for 10%, while ST (3.33%) and General (5.33%) groups have relatively low representation.

5.1.4. Educational Qualification of Respondents

Figure: 5.4

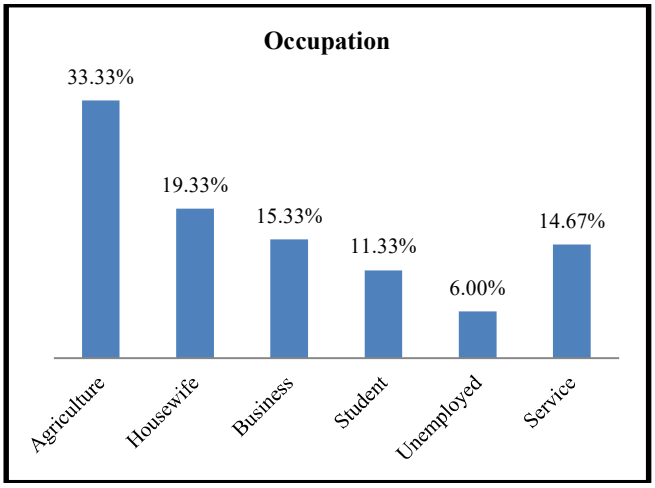


Source: Field Survey

The table shows that most respondents are concentrated in lower education levels, particularly Upper Primary (22.67%), Illiterate (20.67%), and Primary (19.33%). Higher education levels such as Graduate (14.00%) and PG (2.00%) are relatively low. This indicates limited educational attainment, which may influence digital literacy and the effective use of ICT in rural governance and service delivery.

5.1.5. Occupation-wise Distribution of Respondents

Figure: 5.5

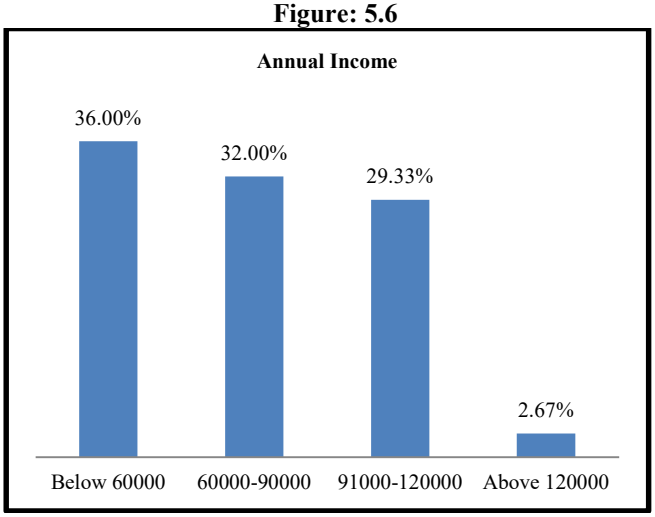


Source: Field Survey

The figure clearly indicates that agriculture is the primary occupation, with 33.33% of respondents engaged in it, reflecting the agrarian base of the rural economy. Housewives constitute 19.33%, showing a considerable proportion of non-earning but economically dependent population. Business activities account for 15.33%, while service holders represent 14.67%, indicating some level of occupational diversification. Students make up 11.33%, suggesting a younger population segment, and 6.00% are unemployed.

5.1.6. Annual Income-wise Distribution of Respondents

Figure: 5.6

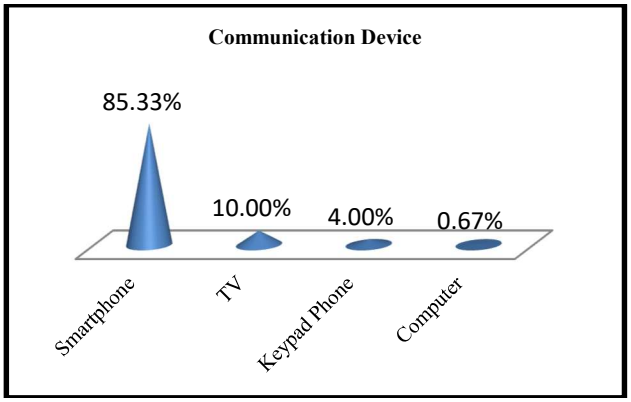


Source: Field Survey

The tables indicates that a majority of respondents belong to lower and middle income groups, with 36% earning below ₹60,000 and 32% between ₹60,000–₹90,000. About 29% fall in the ₹91,000–₹1,20,000 range, while only 3% are above ₹1,20,000. This reflects a predominantly low-income rural population, which may influence access to ICT tools and digital services.

5.1.7. Communication Device Used by Respondents

Figure: 5.7

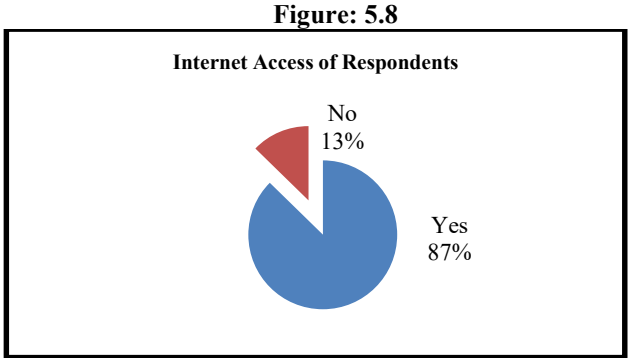


Source: Field Survey

The figure clearly shows that smartphones are the most widely used ICT device among respondents, with a very high usage rate of 85.33%. This indicates that mobile-based access is the primary mode of digital connectivity in the rural area. Other devices such as TV (10.00%) and keypad phones (4.00%) are used to a lesser extent, while computer usage is extremely low (0.67%). This suggests limited access to advanced digital infrastructure. The dominance of smartphones highlights the importance of mobile-based governance services.

5.1.8. Internet Access of Respondents

Figure: 5.8



Source: Field Survey

The figure shows that a large majority of respondents (87.33%) have access to the internet, indicating a strong digital presence in the study area. Only 12.67% lack internet access, suggesting that basic connectivity is not a major barrier for most households.However, a small portion remains excluded, indicating a persistent digital divide in rural areas.

5.2. Awareness and Use of ICT among Respondents

Table No5.1

Questions	Yes (%)	No (%)	UD (%)
Do you know about ICT?	74.7	12.0	13.3
Are you aware of digital government services?	70.0	14.7	15.3
Do you know how to use online services?	65.3	20.0	14.7
Are you aware of Panchayat ICT services?	61.3	23.3	15.3
Do you know about online application systems?	67.3	16.7	16.0
Do you use ICT devices (mobile/computer)?	85.3	8.0	6.7
Do you use social media (WhatsApp/Facebook etc.)	73.3	16.7	10.0
Are you aware of online bill payment systems?	69.3	17.3	13.3
Do you know about digital certificates (birth/caste etc.)	72.0	14.0	14.0
Are you aware of online grievance redressal systems?	63.3	21.3	15.3
Do you know about DBT (Direct Benefit Transfer)?	66.0	18.7	15.3
Are you aware of ration distribution through digital systems?	71.3	15.3	13.3
Do you know about land-related online services (mutation)?	60.0	25.3	14.7
Are you aware of government licensing through online systems?	58.7	26.7	14.7
Mean (%)	**68.6**	**18.9**	**12.5**
Standard Deviation (SD)	**7.6**	**5.4**	**2.7**

(N = 150) (UD: Undecided)

Source: Field Survey

The table indicates a moderate to high level of ICT awareness among respondents, with a mean of 68.6% answering "Yes." The highest awareness is observed in ICT device usage (85.3%) and social media use (73.3%), showing strong digital exposure. Awareness of digital services such as certificates (72.0%) and ration systems (71.3%) is also relatively high. However, knowledge declines in more advanced services like land records (60.0%) and licensing (58.7%). The mean "No" (18.9%) and "Undecided" (12.5%) suggest that a significant proportion still lacks clarity, indicating gaps in digital literacy and service awareness.

5.3. People's Participation inGovernance though ICT

Table No 5.2

Variables / Questions	Al (%)	ST (%)	R (%)	Un (%)	Total (%)
Use WhatsApp for governance information and sharing social issues	28.0	8.7	36.7	26.7	100
Visit website for knowing information	7.3	14.7	40.0	38.0	100
Use mobile apps (Banglar Panchayat)	10.0	13.3	43.3	33.3	100
Use social media for understanding and sharing local issues	38.7	16.7	31.3	13.3	100
Visit portal like eGramSwaraj	6.0	12.0	48.0	34.0	100
Visit portal to check status of applications	18.7	16.7	36.7	28.0	100
Visit portal to check service status (IAY/PMAY/other schemes)	14.7	18.7	35.3	31.3	100
Watch news for local issues	42.7	21.3	27.3	8.7	100
Awareness of mobile message information (SMS alerts)	34.7	16.7	31.3	17.3	100

(N = 150)(Always-Al, Some Times-ST, Rarely-R, Unknown-Un)

Source: Field Survey

The table clearly shows that people are more comfortable using informal ICT platforms like news (42.7% always) and social media (38.7% always) for understanding local issues. WhatsApp (28.0%) and SMS alerts (34.7%) also play a

moderate role in information sharing. However, participation in formal governance platforms is quite low, with only 6.0% always using eGramSwaraj and 7.3% visiting official websites. A large proportion falls under "rarely" and "unknown," especially for portals and apps, indicating limited awareness, low digital skills, and weak engagement with official ICT-based governance systems.

5.4. Service Delivery through ICT

Table No 5.3

ICT Based Services / Facilities	Yes (%)	No (%)	UD (%)
Applied for government services online	66.7	18.0	15.3
Online application for schemes (pension, housing etc.)	64.0	20.0	16.0
Tracking application status online	61.3	23.3	15.3
Online bill payment (electricity, water etc.)	69.3	17.3	13.3
Use of digital certificates (birth, caste, residence)	72.0	14.0	14.0
Possession/use of Aadhaar for authentication	85.0	8.0	7.0
Use of ration through digital authentication	71.3	15.3	13.3
Use of DBT (Direct Benefit Transfer for LPG etc.)	66.0	18.7	15.3
Land-related online services (mutation/records)	60.0	25.3	14.7
Government licensing through online system	58.7	26.7	14.7
Mean (%)	**67.4**	**18.7**	**13.9**

Source: Field Survey

The table shows that ICT-based services and identity-related facilities are moderately utilized among respondents. Higher usage is observed in Aadhaar authentication (85%) and digital certificates (72%), indicating strong adoption of identity-linked services. However, comparatively lower usage in land services (60%) and licensing (58.7%) reflects limited awareness and technical barriers. The mean value (67.4%) suggests moderate adoption, while 32.6% limited usage highlights the need for improved digital literacy, accessibility, and training for effective service delivery.

5.5. ICT-Based Services Delivery

(Types of Certificates and Services Applied by Respondents)

Table No 5.7

Type of Certificate / Service Applied	Frequency	Percentage (%)
Birth Certificate	92	61.3%
Caste Certificate	88	58.7%
Residence Certificate	85	56.7%
Income Certificate	80	53.3%
Ration Card	102	68.0%
Aadhaar Card	128	85.3%
Voter ID Card	110	73.3%
Land Mutation / Land Records	76	50.7%
Government Scheme Application	95	63.3%
Driving Licence / Other Licence	70	46.7%

Source: Field Survey

The table shows that identity-related services such as Aadhaar (85.3%) and voter ID (73.3%) have the highest application rates, indicating strong awareness and necessity. Basic certificates like birth and caste are also widely used. However, lower application in land services (50.7%) and licensing (46.7%) reflects limited awareness and procedural complexity. This suggests that while essential services are widely accessed, advanced administrative services require better awareness and facilitation.

5.6. Impact on ICT on Rural Governance

Table No 5.8

Statements	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean Score
Training improves transparency	62.9	25.7	11.4	0.0	0.0	**4.51**
ICT improves rural development	65.7	22.9	11.4	0.0	0.0	**4.54**
Mobile/internet useful for schemes	71.4	20.0	8.6	0.0	0.0	**4.63**
Panchayat uses digital platforms	68.6	21.4	10.0	0.0	0.0	**4.59**
Government should provide training	60.0	28.6	11.4	0.0	0.0	**4.49**
Poor internet limits ICT	67.1	21.4	11.4	0.0	0.0	**4.56**
Language/digital literacy are barriers	58.6	25.7	15.7	0.0	0.0	**4.43**
Social media spreads awareness	64.3	24.3	11.4	0.0	0.0	**4.53**
ICT improves transparency & accountability	70.0	20.0	10.0	0.0	0.0	**4.60**
Overall Mean Score						**4.54**

Likert Scale Analysis of ICT Perception (5-Point Scale)

Source: Field Survey

The Likert scale analysis shows a high level of agreement with an overall mean score of 4.54, indicating strong positive perception towards ICT in Panchayat governance. Respondents strongly believe that ICT improves transparency, service delivery, and access to government schemes. The highest score (4.63) reflects the usefulness of mobile and internet services. However, slightly lower scores for language barriers suggest implementation challenges despite positive attitudes.

5.6. Institutional Perspectives on ICT in Rural Governance

5.6.1. View of Gram Panchayat Office

The Gram Panchayat officials reported that only a limited number of people are digitally connected in the context of rural governance. Although platforms like the e-GramSwaraj portal are regularly updated and considered effective by officials, public engagement remains low. The government has provided support for ICT-based initiatives; however, awareness and usage among villagers are still limited.

Panchayat members highlighted several challenges faced by rural people, including lack of digital knowledge and difficulty in using ICT tools. While most Panchayat members use smart phones for accessing services and issuing

certificates, both newly elected and senior members face difficulties in understanding ICT systems. Infrastructure constraints, such as limited computers, maintenance issues, and shortage of trained staff, further hinder smooth functioning. Although training programmes are conducted, they are not very effective for illiterate and less-educated members, who often depend on family support.

5.6.2. View of Common Service Centre (CSC)
According to the Common Service Centre, most rural people approach the centre for assistance in accessing digital services. While the number of problems is not very high, many individuals face difficulties in navigating digital platforms independently. This indicates that although ICT services are available, there is still a dependency on intermediaries for service access.

5.6.3. View of Bangla Sahayata Kendra: The Bangla Sahayata Kendra plays a crucial role in bridging the gap between citizens and digital governance services. It provides support in applications, certificates, and scheme-related services. However, similar to other institutions, it faces challenges such as low digital literacy among rural people, language barriers, and occasional technical issues. The centre acts as an important facilitator but also reflects the limitations of direct ICT adoption at the grassroots level**.**

6. Challenges of ICT in Rural Governance and Service Delivery

6.1. Limited Awareness and Low Utilisation of ICT: One of the major challenges is the limited awareness and practical utilisation of ICT among rural people. Although many respondents have basic knowledge of digital platforms, a large proportion has never used them. This gap between awareness and actual usage reduces the effectiveness of ICT initiatives in governance and service delivery.

6.2. Digital Divide and Social Inequality: The digital divide remains a significant barrier in rural areas. Differences in education, age, and socio-economic status create unequal access to ICT. Less educated and elderly individuals are less likely to use digital tools, leading to exclusion from governance processes and limited access to services.

6.3. Infrastructural and Connectivity Issues: Poor infrastructure, including weak internet connectivity, lack of devices, and insufficient technical facilities, severely affects ICT implementation. Many rural areas still face network problems, and Panchayat offices often lack adequate equipment and maintenance support.

6.4. Language Barriers and Digital Illiteracy: Language and literacy issues further restrict ICT usage. Most digital platforms are not available in local languages, and many rural users lack basic digital skills. This creates dependency on intermediaries and limits independent access to services.

6.5. Weak Institutional Coordination: There is a lack of effective coordination between Gram Panchayats and service delivery centres such as Common Service Centres. This results in poor information dissemination and limited outreach of ICT services, reducing public participation in governance.

6.7. Low Citizen Participation in Digital Governance: Despite the availability of ICT platforms, citizen participation remains low, particularly in activities like Gram Sabha meetings and online engagement. This limits the democratic and participatory nature of rural governance.

6.8. Lack of Training among Functionaries and Representatives
A critical challenge is the lack of proper training for Gram Panchayat functionaries and elected representatives. Many officials are not adequately skilled to use digital tools effectively. Training programmes are often insufficient and not suitable for less educated members, which affects service delivery and administrative efficiency.

6.9. Implementation Gaps Despite Positive Perception
Although respondents generally have a positive attitude towards ICT, its actual impact remains limited due to weak implementation. Lack of proper monitoring, training, and awareness programmes prevents ICT from achieving its full potential in rural governance.

VII. CONCLUSION AND SUGGESTION

7.1. Conclusion:
The present study, conducted in selected villages of Mekhliganj Block in Cooch Behar, highlights the role and limitations of ICT in rural governance based primarily on field data. The findings reveal that while a considerable proportion of respondents are aware of ICT tools and digital services, actual utilisation remains moderate. The data indicates that although around two-thirds of respondents are aware of ICT services, a significant section still shows limited awareness and engagement, particularly in advanced services such as land records and licensing. The study also finds that ICT-based service delivery is gradually expanding, especially in areas like digital certificates, Aadhaar authentication, and online applications. However, the level of participation in digital governance processes remains low. Awareness of platforms such as e-Panchayat and e-GramSwaraj is relatively high, but actual usage is limited, indicating a gap between knowledge and practice. Similarly, the perception analysis shows a strong positive attitude towards ICT, with most respondents agreeing that it improves transparency, accountability, and service delivery. Despite these positive

trends, several challenges persist. The data clearly reflects issues such as poor internet connectivity, language barriers, low digital literacy, and limited training among Panchayat functionaries. Institutional gaps, including weak coordination between Gram Panchayats and service centres, further reduce the effectiveness of ICT initiatives. Moreover, low participation in Gram Sabha meetings suggests that digital governance has not yet translated into active citizen engagement. In conclusion, the study demonstrates that ICT has significant potential to strengthen rural governance in the study area, but its impact is constrained by awareness gaps, infrastructural limitations, and capacity deficits. Therefore, improving digital literacy, enhancing training, and strengthening institutional support are essential to ensure inclusive and effective ICT-enabled governance at the grassroots level.

7.2. Suggestions:

7.2.1. Enhancing Awareness of ICT Services: Regular awareness campaigns, village meetings, and use of local communication channels can help people understand available digital services and their benefits, especially for less educated groups.

7.2.2. Providing Effective Training Programmes: Proper and continuous training on using ICT tools should be organised for both villagers and Panchayat members..

7.2.3. Promoting participation: ICT tools such as mobile notifications, social media and digital announcements should be used to inform villagers about Gram Sabha meetings.

7.2.4. Capacity Building of Gram Panchayat in ICT: Regular skill development programmes and hands-on training on ICT are essential for Panchayat officials and elected representatives.

7.2.5. Improving Infrastructure and Connectivity: Reliable internet connectivity, adequate digital devices, and proper technical support must be ensured at the Panchayat level.

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