

Leveraging E-governance to Promote Women's Digital Financial Inclusion: Insights from Assam's Orunodoi Scheme

Barnali Thakuria *

Research Scholar, Department of Political Science, Gauhati University, Assam, India

*Corresponding Author Email: barnali@gaubati.ac.in

Abstract: *E-governance has emerged as a transformative tool for enhancing efficiency, transparency, inclusivity, and service delivery within social welfare programs. The integration of digital mechanisms into welfare programs has fostered new opportunities for women's financial inclusion and empowerment. This study investigates the impact of Assam's 'Orunodoi scheme,' the largest social welfare scheme in the state's socio-political history, launched in 2020, with the aim of ensuring the financial empowerment of women and poverty reduction among marginalized women-headed households. The research was conducted in two blocks of Nalbari district, utilizing qualitative interviews based on an open-ended questionnaire to gain an in-depth understanding of beneficiaries' lived experiences with the scheme's impact. Findings revealed a high level of beneficiary satisfaction, which promotes financial inclusion, household savings, increased pride and dignity, and enhanced decision-making power within households. However, the study also identified shortcomings, including digital illiteracy, infrastructural gaps, and technological errors associated with the scheme. The paper concludes by recommending strengthening the e-governance mechanism, expanding financial inclusion initiatives, and establishing a responsive grievance redressal mechanism to ensure efficient and transparent welfare delivery.*

Keywords: Direct Benefit Transfer, E-governance, Financial Inclusion, Public Service Delivery, Women Empowerment

INTRODUCTION

Technology has become a transformative mechanism, redefining the relationship between citizens and government in the delivery of public services. The adoption of Information and Communication Technologies (ICT) into governance systems, often termed e-governance, has transformed public administration by enhancing efficiency, transparency, and citizen participation. In Indian society, challenges such as extreme poverty, gender inequality, and social exclusion persist; however, the rapid expansion of e-governance is increasingly leveraged to promote equitable access to social welfare programs and inclusive development. In contemporary times, most countries around the globe prioritize the digitization mechanism to improve the efficiency and effectiveness of public services. As a result, they have built digital service platforms shared by numerous public sector organizations to streamline the administrative operations and enhance interactions with citizens (OECD, 2019). In India, administrative reforms have focused on fostering closer collaboration between government and citizens through digital technology, with the policy goal of 'Maximum governance—Minimal government' (Srinivas, 2022, 7). Consequently, advancements in digital technology have facilitated good governance, leading to the development of e-governance as a potent tool for society.

This increasing technological advancement highlights the significance of financial inclusion as a crucial factor for a country's economic growth and overall development. Digital financial inclusion, in simple terms, refers to the availability of affordable financial services through digital mechanisms. According to the McKinsey Global Institute (2016), 'digital financial inclusion means providing people with digital financial services, including those currently unbanked, and giving access to a wider and more appropriate set of digital finance products to those currently underserved' (Kavishwar, 2020, p.725). Most studies have revealed that approximately 56% of the unbanked population in India are women. Despite numerous welfare policies, a significant portion of women, particularly those in rural areas, remain excluded from the formal banking system. To address this issue, the Indian government, in collaboration with State governments, has initiated new social welfare initiatives to promote financial inclusion among women. A new wave of social welfare policy, by recognizing women's household and care work, started in the Indian state. These policies recognize women's household and care work and provide Unconditional Cash Transfers (UCTs) to women's bank accounts via Direct Benefit Transfer (DBT). Since 2021, these UCTs have been implemented in the majority of Indian states, targeting women for their welfare and empowerment, though often

with an underlying electoral calculation. While the majority of the research revealed that these programmes have a profound positive implication on women's financial inclusion, well-being, enhance dignity, help in household savings, and improve decision-making capacities within and outside the households. The Assam government has adopted a similar program, the '*Orunodoi Scheme*,' a state government social welfare initiative launched in October 2020 to reduce poverty and empower women. This scheme targets financially vulnerable families, particularly divorced women, widows, elderly women, and women with physical disabilities, focusing on the socio-economic inclusion of women by providing 1250 monthly through DBT to their respective bank accounts.

REVIEW OF LITERATURE

Malik, Dhillon, and Verma emphasized the critical role of Information and Communication Technologies (ICTs) in enhancing e-governance programs in India. Their study identified three primary contributions of e-governance: improved governmental processes, enhanced citizen connectivity, and strengthened external interactions. Hazarika and Gupta examined the digitization journey in Assam and identified obstacles to successful e-governance implementation, including geographical location, poverty, digital illiteracy, infrastructural gaps, and limited government funding. The study demonstrated that the Assam government successfully launched 100 percent e-services aimed at socio-economic upliftment within the state. The author highlighted the need for an effective telecommunication network, good electricity supply, skilled IT staff, and digital competence of governmental officials, which is utmost necessary for the successful working of e-governance in Assam. Agarwal highlighted that digital financial technologies play a pivotal role in making India a cashless economy. But due to socio-cultural norms, the financial matters of the household are always considered as a male part of the job. Women are always absent from the formal management of the economy. This exclusion of women has limited societal growth and development. Thus, digital financial inclusion must pave the way for the development of women as well as the Indian state. Khare, Bharti, and Jain explore the implications of digital financial inclusion on women's empowerment. The study explores the ways of women's empowerment, including improving decision-making power, reducing financial dependency, and enhancing dignity and social status. The authors also highlighted the areas of constraints, such as rigid societal norms, illiteracy, and lack of access to technology in accessing digital financial literacy. Kotiswaran (2022) explains that the Orunodoi scheme of the Assam government created a new atmosphere for women by revaluing women's unpaid household work. The study explores how the women's financial inclusion through the scheme plays a positive role in welfare outcomes for the households and society.

The initiative, like the Orunodoi Scheme of Assam, seeks to transform social welfare administration and e-governance mechanisms within the state; however, a comprehensive study examining the scheme's implications for service delivery and administrative transparency is lacking. The existing studies primarily focus on women's

empowerment and poverty reduction areas, but there is not a single study that has revealed the scheme's role in strengthening e-governance by financial inclusion of women through Direct Benefit Transfers (DBT). This study's primary focus is to explore the grassroots-level impacts of the Orunodoi scheme on women's financial inclusion in Assam.

RESEARCH OBJECTIVES

This study will explore the interrelationship between e-governance, financial inclusion, and women's empowerment, with an in-depth analysis of the Orunodoi scheme. The study specifically seeks to understand –

1. To examine the role of e-governance tools in improving financial inclusion among female beneficiaries.
2. To assess the implications of the Orunodoi scheme for women's decision-making and socio-economic empowerment.
3. To identify the constraints hindering the effective participation of women in the digital financial system under the Orunodoi scheme.

RESEARCH METHODOLOGY

This study explores the implications of the Orunodoi scheme in promoting digital financial inclusion among rural women. A mixed-methods approach, integrating qualitative and quantitative data, was adopted to evaluate the scheme's impact. Utilizing a descriptive study design, the research captured the current status of women's financial inclusion and assessed the influence of the e-governance mechanism on the women's population. Primary data were collected from 300 women beneficiaries using a multi-stage sampling technique. In the first stage, two developmental blocks are selected purposively viz. Barkhetri and Borigog- Banbhag block of Nalbari district of Assam. Respondents were chosen using simple random sampling from the beneficiary list available at the scheme's office. Data were collected via a structured interview schedule employing questionnaires. The data are collected through a structured interview schedule by using questionnaire. The data are analysed below by using simple descriptive statistical tools like frequency and percentage and presented in the table to understand the scheme's effectiveness, socio-economic impact and identify its challenges in achieving scheme's developmental goals. The lives experiences of women beneficiaries of Orunodoi scheme are outlined following as a part of major findings.

FINDINGS AND DISCUSSION

Historically, women in rural Assam faced limited access to the banking system. This study revealed that 58% of respondents opened bank accounts to receive benefits through Direct Benefit Transfer (DBT) payments. Furthermore, 21% of the 42% of women surveyed also established their own bank accounts after 2018 to access government subsidies. 40% respondents revealed that their bank account functioned primarily due to DBT. They did not use the accounts for savings or other financial services. This requirement for beneficiaries to hold a formal bank account as part of the DBT policy has created a new environment for women's formal financial inclusion.

Table 1:
Bank account opening status and role of DBT among women beneficiaries

Statement		Barkhetri		Borigog-Banbhag		Total	
		Freq.	Per.	Freq.	Per.	Freq.	Per.
Opened bank account for Orunodoi benefits	Yes	85	28	89	30	174	58
	No	59	20	67	22	126	42
Bank account used mainly for DBT purpose	Yes	69	23	51	17	120	40
	No	85	28	95	32	180	60

Source: field study by researcher

A significant success of the Orunodoi scheme is the improvement in digital and financial literacy among beneficiaries. Seventy-two percent of female respondents reported awareness of the scheme’s fund transfer timing, and 84% indicated knowledge of cash withdrawal and deposit procedures within the banking system. A respondent stated that ‘Ami Orunodoi r karone bank r sob kam jona hoisu etia, prota mahe bank t jautia, agotejona e nasilueku’(Because of the Orunodoi scheme, we have become familiar with all the work of the bank now. I go to the bank every month; earlier I did not know anything about it). However, 58% women did not know how to use ATM cards.

Table 2:
Digital literacy and financial literacy among women beneficiaries

Statement		Barkhetri		Borigog-Banbhag		Total	
		Freq.	Per.	Freq.	Per.	Freq.	Per.
Aware of monthly fund transfer timing	Yes	104	35	112	37	216	72
	No	49	16	35	12	84	28
Know to withdraw and deposit money	Yes	129	43	123	41	252	84
	No	18	6	30	10	48	16
Know to use ATM card	Yes	93	31	81	27	174	58
	No	72	24	54	18	126	42

Source: field study by researcher

Seventy-eight percent of respondents indicated that the scheme’s payment increases their ability to meet basic family needs. The scheme directly transfers monthly payments to women’s bank accounts, positively impacting beneficiaries, and respondents expressed a sense of pride in receiving funds in their own names. Eighty-two percent of female beneficiaries reported that the scheme’s payments support daily household expenditures, while seventy-six percent indicated that the payments increase women’s decision-making power within the household. Furthermore, the direct transfer to women enhances their bargaining power. These psychological effects—increased pride and visibility within the formal banking system—result from women controlling their own funds. The majority of women utilized the funds for household consumption, providing a safety net and alleviating poverty in rural households.

Table 3:
Impact of the scheme payment on household welfare

Statement		Barkhetri		Borigog-Banbhag		Total	
		Freq.	Per.	Freq.	Per.	Freq.	Per.
Increase the capability to meet the basic needs of the family	Yes	110	37	124	41	234	78
	No	35	12	31	10	66	22
Helps in daily expenditure of the household	Yes	116	39	130	43	246	82
	No	18	6	36	12	54	18
Enhance women decision making power in the household	Yes	122	41	106	35	228	76
	No	31	10	41	14	72	24
Increase bargaining power within household	Yes	125	42	82	27	207	69
	No	42	14	51	17	93	31

Source: field study by researcher

The study also explores how Direct Benefit Transfer (DBT) has emerged as a successful mechanism for ensuring timely and transparent welfare delivery to women. The 96% women respondents were satisfied with the DBT mechanism. 89% respondents stated that the funds were generally credited on a fixed date every month. Following the government’s declaration of the tenth day of each month as ‘Orunodoi Day’, beneficiaries receive their funds directly into their bank accounts on that date. The fund distribution via DBT proved crucial for maintaining transparency in welfare delivery. Compared to manual welfare schemes, DBT eliminated the role of local intermediaries and reduced corruption in service delivery to women. Furthermore, DBT facilitated financial inclusion for women by providing access to the formal banking system. The monthly transfers encourage beneficiaries to monitor their balances, utilize passbooks, and, in some instances, engage in digital transactions. Consequently, DBT has been a transparent, efficient, and empowering element in service delivery to women under the scheme.

Table 4:
Satisfaction level with DBT mechanism under the scheme

Statement		Barkhetri		Borigog-Banbhag		Total	
		Freq.	Per.	Freq.	Per.	Freq.	Per.
Satisfied with the DBT mechanism	Yes	136	45	152	51	288	96
	No	5	2	7	2	12	4
Received monthly payment on time	Yes	146	49	121	40	267	89
	No	12	4	21	7	33	11

Source: field study by researcher

A key outcome of the Orunodoi scheme is the explicit selection of beneficiaries from women-headed households. The scheme made women visible as active recipients of social welfare services. This visibility transformed into greater recognition of them with the family. These shifting power relations within the family significantly impacted the household decision-making power. The scheme created a space for women’s voices in family budget and decision making. The payment of the scheme helps in the small but crucial expenditure of families, including paying the electricity bill, mobile recharge, children’s tuition and school fees, buying cooking fuel, nutritional supplements, purchase of medicines, and so on. Respondents also indicated that the scheme alleviated ‘time

poverty’ by reducing reliance on small-scale work, informal loans, unpaid household labor, and irregular income activities. For many poor and marginalized families in the state, the scheme’s modest amount represented a new source of hope.

The study revealed a significant level of awareness regarding the Orunodoi scheme among beneficiaries. Eighty percent of respondents were familiar with the scheme’s objectives of poverty reduction and women empowerment; however, only 48% were aware of its crucial area concerning the revaluation of household and care work. The mass-media campaign, utilizing radio, television, and social media, played a pivotal role in building awareness among women. 90% of beneficiaries stated that they are satisfied with the scheme. Only 10% respondents raised dissatisfaction due to insufficient money and rising prices of basic commodities of daily life.

Table 5: Level of satisfaction and awareness about the Orunodoi scheme

Statement		Barkhetri		Borigog-Banbhag		Total	
		Freq.	Per.	Freq.	Per.	Freq.	Per.
Aware the scheme objectives of poverty reduction and women empowerment	Yes	110	37	130	43	240	80
	No	26	9	34	11	60	20
Aware about the goal of revaluation of household and care work	Yes	76	25	68	23	144	48
	No	72	24	84	28	156	52
Satisfied with the scheme	Yes	128	43	142	47	270	90
	No	18	6	12	4	30	10
Aware about the grievance redressal mechanism	Yes	138	46	150	50	288	96
	No	7	2	5	2	12	4

Source: field study by researcher

The study’s findings indicated that the Orunodoi scheme has significantly contributed to improving the condition of women beneficiaries, facilitating better service delivery, promoting efficiency, transparency, and citizen satisfaction within social welfare initiatives. Responses also highlighted several critical concerns regarding the scheme. The 96% beneficiaries are not aware of any kind of grievance redressal mechanism. So there has been a report that the exclusion error persists which loses the trust among women beneficiaries. This resulted in local-level corruption, characterized by bribery requests and the exclusion of deserving beneficiaries due to weak enforcement of grievance redressal. Furthermore, a substantial proportion of rural households in Assam face poor internet penetration and mobile network coverage, limiting women beneficiaries’ access to online portals, scheme updates, and the grievance system. Due to low financial literacy or limited familiarity with digital interfaces, many beneficiaries have increasingly relied on intermediaries. Additionally, respondents reported that despite door-to-door verification of eligible beneficiaries, a significant number of deserving women were excluded due to data mismatches, such as outdated ration cards or Aadhaar errors. The media also highlighted some instances where beneficiary inclusion decisions are taken by political or personal bias at the grassroots level. Though instances are fewer compared to other manual welfare schemes, complaints are also raised by beneficiaries

regarding favoritism and demands for bribes. Consequently, these constraints necessitate a capacity-building program encompassing awareness drives, financial literacy initiatives, digital connectivity improvements, and a robust grievance redressal mechanism.

LIMITATION AND WAY FORWARD

The present research provides valuable insights into the effectiveness and implementation of the Orunodoi scheme; however, it is crucial to acknowledge several limitations that may restrict the scheme’s findings’ broader applicability. The Orunodoi scheme was implemented across all 33 districts of Assam, with Nalbari district purposefully selected for the survey. Again, the field survey was conducted exclusively in two blocks, viz. Barkhetri and Borigog Banbhag of the Nalbari district, which resulted in a geographical limitation, may not fully represent the diverse social, cultural, and economic conditions of the beneficiaries. Moreover, the sample size of 300 is insufficient to generalize the experiences of approximately 37 lakh beneficiaries. Furthermore, the sample size of 300 is very small to generalize the experience of approximately 37 Lakh beneficiaries of the scheme. Future studies should expand the geographical area, using statistical analysis, and increase the sample size to provide a more comprehensive understanding of this significant welfare programme of the Assam government. Future studies are encouraged to study more deeply or in a holistic way by expanding the geographical area, using statistical analysis, and increasing the sample size of the study to better understand the largest welfare programme of the Assam government. Thus, the present study offers an overview of the grassroots implications of the scheme, which plays a significant role in foundational analysis rather than comprehensive understanding.

CONCLUSION

The findings of the study reflected a clear picture that the ‘Orunodoi scheme’ has marked a significant shift by leveraging e-governance tools to promote financial inclusion and empowerment of the women’s population. By integrating the DBT mechanism in welfare delivery with digital governance tools like Aadhar linkages, transparent identification of beneficiaries, digital banking literacy has successfully reached the targeted beneficiaries from the economically weaker sections. The scheme also ensures the timely delivery of financial assistance by transferring money directly to women’s bank accounts, which increases the participation of women in the formal financial system. The study revealed that the Orunodoi scheme positively impacted the women’s socio-economic empowerment by enhancing their decision-making power, strengthening women’s control over household finances, and promoting a sense of financial independence among women beneficiaries. The study conducted in the Barkhetri and Borigog Banbhag block of Nalbari district highlighted both the successes and shortcomings of the largest welfare mechanism of Assam. On one hand, the programme represents a progressive step towards inclusive governance by integrating technological tools in welfare delivery, which has increased transparency, reduced corruption and leakages, and fostered trust among women beneficiaries towards service delivery of government institutions. While

some shortcomings have been identified, such as infrastructural constraints, no grievance redress mechanism, digital illiteracy, and technical errors in the beneficiary database, limiting its full potential, which needs urgent reform.

The study explores that the Orunodoi scheme represents an innovative mechanism of social welfare delivery, utilizing a technology-oriented approach to reshape the relationship between individuals and citizens. This e-governance mechanism shifted welfare delivery in Assam by promoting principles of inclusiveness and empowerment. In essence, the scheme proved transformative due to its status as the largest social welfare initiative, positively impacting the position of women within households and society. However, simply providing monetary assistance to disadvantaged women is insufficient; it represents a temporary, symbolic recognition of their household labor. While the scheme serves as symbolic groundwork for the promotion of women's financial inclusion and overall empowerment, it lacks a comprehensive framework focused on capacity development, awareness generation, and sustained financial assistance. A sustainable and inclusive solution, incorporating a robust governance mechanism for financial inclusion and women's empowerment, is therefore required.

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