



**DIGITAL EXCLUSION AND ACCESS TO GOVERNMENT WELFARE SCHEMES  
AMONG RURAL ELDERLY IN JALGAON DISTRICT: A SOCIAL WORK  
PERSPECTIVE**

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**Abstract:** The rapid digitalization of government welfare services in India has transformed the delivery of social security benefits, healthcare schemes, pension services, banking, and public administration. While digital governance has improved transparency and efficiency, it has also created significant challenges for elderly populations in rural areas who often possess limited digital literacy and inadequate access to digital resources. In Jalgaon District of Maharashtra, a large proportion of senior citizens depend on government welfare schemes for their livelihood; however, difficulties in using smartphones, online portals, biometric authentication, and internet-based services have increased their vulnerability to digital exclusion. The present study aims to examine the extent of digital exclusion among rural elderly and its impact on access to government welfare schemes in Jalgaon District. The specific objectives were to assess the socio-economic profile of elderly respondents, evaluate their level of digital literacy, identify barriers in accessing digital welfare services, and examine the relationship between digital literacy and utilization of welfare schemes. The study adopted a descriptive research design. Primary data were collected from 300 elderly respondents (aged 60 years and above) selected through multistage sampling from six talukas of Jalgaon District using a structured interview schedule. Descriptive statistics, Chi-square test, and Pearson's correlation coefficient were employed for data analysis.

The findings revealed that 62% of respondents did not own smartphones, while 57% possessed low digital literacy. Major barriers included difficulties in operating smartphones, OTP verification, poor internet connectivity, language limitations, and dependence on family members or intermediaries. Statistical analysis indicated a significant positive relationship between educational attainment and digital literacy, and higher digital literacy was associated with improved access to welfare schemes. The study concludes that digital exclusion has emerged as a critical social problem among the rural elderly in Jalgaon District. Strengthening digital literacy programme improving rural digital infrastructure, and establishing community-based digital assistance centers can enhance social inclusion and ensure equitable access to government welfare services.

**Keywords:** Digital Exclusion, Rural Elderly, Government Welfare Schemes, Digital Literacy, Social Work, Jalgaon District, Digital Governance, Social Inclusion.

## INTRODUCTION

India has witnessed a remarkable transformation in public service delivery through the Digital India Programme, launched in 2015 with the objective of creating a digitally empowered society and knowledge economy. The initiative has accelerated the digitalization of governance by promoting online access to welfare schemes, banking services, healthcare, education, pension systems, land records, and citizen services. Platforms such as Aadhaar-enabled services, Direct Benefit Transfer (DBT), DigiLocker, UMANG, and online grievance redressal mechanisms have improved administrative efficiency and transparency. However, these technological advancements have also created new forms of inequality, particularly among vulnerable populations with limited digital skills (Government of India, 2015; Ministry of Electronics and Information Technology, 2023).

Population ageing has emerged as a significant demographic phenomenon both globally and in India. According to the United Nations (2023), the number of persons aged 60 years and above is increasing rapidly due to improved healthcare and life expectancy. The Census of India (2011) reported that older persons constituted approximately 8.6% of India's population, and this proportion is projected to exceed 19% by 2050. An ageing population requires greater access to healthcare, social security, pensions, and welfare services, making digital accessibility increasingly important for ensuring their social and economic well-being. The situation is particularly challenging in rural Maharashtra, where a substantial proportion of elderly people depend on agriculture, informal employment, and government welfare schemes for their livelihood. Limited educational attainment, lower digital literacy, inadequate internet connectivity, and poor access to smartphones restrict the ability of many rural senior citizens to utilize digital platforms effectively. In districts such as Jalgaon, where agriculture remains the dominant occupation, elderly individuals often rely on family members, local service centres, or intermediaries to access government benefits, increasing their dependence and vulnerability.

The Government of India and the Government of Maharashtra have increasingly shifted welfare services to online platforms. Applications for old-age pensions, health insurance schemes, ration cards, Aadhaar updates, land records, banking transactions, and grievance redressal are now largely facilitated through digital systems. While these reforms have enhanced administrative efficiency and reduced leakages in welfare delivery, they have also created barriers for citizens who lack digital competencies. Elderly persons frequently encounter difficulties in operating smartphones, understanding mobile applications, completing online forms, receiving One-Time Passwords (OTPs), biometric authentication failures, and navigating English-language interfaces. Digital exclusion among older adults has therefore emerged as an important social issue. Beyond technological limitations, digital exclusion affects social participation, financial independence, access to healthcare, and overall quality of life. Studies indicate that lower educational attainment, advanced age, poor income, physical disabilities, and limited digital exposure significantly reduce the ability of older adults to benefit from digital governance initiatives. Consequently, many eligible elderly individuals experience delays in receiving pensions, difficulties in accessing welfare benefits, and increased dependence on others for essential services. Despite the rapid expansion of digital

governance in India, empirical evidence on digital exclusion among the rural elderly remains limited, particularly at the district level. Very few studies have specifically examined the challenges faced by elderly beneficiaries in accessing online government welfare schemes in Jalgaon District, Maharashtra. This research therefore seeks to assess the extent of digital exclusion among rural elderly, identify the barriers they encounter while accessing digital welfare services, and examine the relationship between digital literacy and utilization of government welfare schemes. The findings are expected to contribute to the fields of social work, rural development, digital governance, and social policy by providing evidence-based recommendations for promoting digital inclusion and equitable access to welfare services.

### **Objectives of the Study**

The study has been undertaken with the following objectives:

- To study the socio-economic profile of rural elderly people in Jalgaon District.
- To assess the level of digital literacy among elderly people.
- To identify the barriers faced by elderly people in accessing online government welfare schemes.
- To examine the relationship between educational attainment and digital literacy among the rural elderly.
- To suggest appropriate social work interventions for improving digital inclusion and access to government welfare services.

### **Research Hypotheses**

The following hypotheses have been formulated for empirical testing:

H<sub>1</sub>: There is a positive association between the educational level of elderly respondents and their level of digital literacy.

H<sub>2</sub>: Digital literacy has a significant positive effect on access to government welfare schemes among rural elderly people.

H<sub>3</sub>: Elderly women experience significantly higher levels of digital exclusion than elderly men.

### **Research Design**

The present study adopts a descriptive research design. This design is appropriate for describing the socio-economic characteristics of rural elderly people, assessing their level of digital literacy, identifying barriers to accessing online welfare services, and examining the relationships among selected variables. The descriptive design facilitates systematic collection, analysis, and interpretation of quantitative data from the selected respondents.

### **Study Area**

The study is conducted in Jalgaon District of Maharashtra, a predominantly agrarian district located in the Khandesh region. Jalgaon comprises both urban and rural populations; however, the present research is confined to rural areas where dependence on government welfare schemes is comparatively higher and digital infrastructure remains unevenly developed.



### Sampling Design

The present study employed a multistage sampling design to ensure adequate representation of the rural elderly population in Jalgaon District. In the first stage, six talukas Amalner, Chopda, Dharangaon, Jalgaon, Raver, and Yawal were purposively selected from the district based on their predominantly rural characteristics and the presence of a substantial elderly population. In the second stage, two villages were selected from each of the chosen talukas, resulting in a total of twelve villages. In the final stage, elderly individuals aged 60 years and above were identified from each selected village, and twenty-five respondents were selected through purposive sampling based on their eligibility and willingness to participate in the study. Thus, a total sample of 300 rural elderly respondents (25 respondents  $\times$  12 villages) constituted the study sample. The selected sample was considered adequate to assess the socio-economic characteristics, digital literacy levels, barriers to accessing digital government welfare services, and the relationship between digital literacy and welfare scheme utilization among the rural elderly in Jalgaon District.

Particulars	Number
Selected Talukas	6
Villages from each Taluka	2
Total Villages	12
Respondents from each Village	25
Total Respondents	300

## Research Tool

**Tool of Data Collection** - Primary data for the present study were collected using a structured interview schedule specifically designed in accordance with the objectives of the research. The interview schedule comprised both closed-ended and a few open-ended questions to obtain comprehensive information from the respondents. It included sections covering the socio-economic characteristics of the elderly respondents, ownership and use of digital devices, internet accessibility, level of digital literacy, access to government welfare schemes through digital platforms, problems encountered while using digital services, and suggestions for improving digital inclusion. Since the respondents were elderly individuals residing in rural areas, the interview schedule was administered through face-to-face interviews. This method facilitated better understanding of the questions, enabled clarification whenever required, and ensured the collection of accurate, reliable, and complete information.

**Variables of the Study** - The study examined both independent and dependent variables to understand the factors influencing digital exclusion among the rural elderly. The independent variables included age, gender, educational qualification, monthly income, occupation, marital status, family type, smartphone ownership, and internet availability. These variables were considered potential determinants of digital literacy and access to digital welfare services. The dependent variables comprised the level of digital literacy, access to government welfare schemes, degree of digital inclusion, frequency of using online government services, and the extent of dependence on others for accessing digital services. The relationships between these variables were analysed to assess the impact of socio-economic and technological factors on the digital inclusion of elderly beneficiaries.

**Operational Definition** - For the purpose of this study, digital literacy refers to the ability of an elderly individual to independently operate a smartphone or other digital device, access and use the internet, navigate mobile applications and government portals, complete online applications, receive and use One-Time Passwords (OTPs), perform biometric or digital authentication where required, and utilize digital government welfare services without substantial assistance from family members, intermediaries, or service providers. A higher level of digital literacy indicates greater competence in accessing and benefiting from digital governance initiatives, whereas lower digital literacy reflects increased digital exclusion and dependence on others for availing government welfare services. Digital Exclusion: The inability or limited ability of elderly individuals to access or effectively use digital technologies and online government services because of educational, technological, economic, physical, or infrastructural barriers. Government Welfare Schemes: Public assistance programmes such as old-age pension, Ayushman Bharat, Public Distribution System (PDS), Aadhaar services, banking services, and other government benefits delivered through digital platforms.

## Sample Data Analysis

**Table 1 Gender**

Gender	Frequency	Percentage
Male	168	56%

<b>Female</b>	132	44%
<b>Total</b>	300	100%

**Interpretation** - The gender-wise distribution of respondents indicates that out of the total sample, 56% are male and 44% are female, reflecting a reasonably balanced representation of both genders in the study. Although male respondents constitute a slight majority, the proportion of female respondents is sufficiently large to facilitate meaningful gender-based comparisons regarding digital literacy, access to government welfare schemes, and experiences of digital exclusion. This balanced distribution enhances the reliability of the study by enabling the examination of gender differences in the adoption and use of digital technologies. Furthermore, it provides an opportunity to assess whether elderly women face greater barriers to digital inclusion than elderly men, thereby supporting the testing of the study's gender-related hypothesis and contributing to evidence-based social work interventions aimed at reducing the digital divide among rural elderly populations.

**Table 2 Age**

Age	Frequency	Percentage
<b>60–65</b>	90	30%
<b>66–70</b>	82	27.3%
<b>71–75</b>	65	21.7%
<b>76+</b>	63	21%

**Interpretation** - The age-wise distribution of respondents shows that the largest proportion of the sample (30%) belongs to the 60–65 years age group, followed by 27.3% in the 66–70 years age group. Respondents aged 71–75 years constitute 21.7% of the sample, while those aged 76 years and above account for 21%. The findings indicate that more than half of the respondents (57.3%) are between 60 and 70 years of age, representing the younger segment of the elderly population. This age distribution suggests that the study includes participants with varying levels of physical ability, cognitive functioning, and exposure to digital technologies. The inclusion of a substantial proportion of respondents aged 71 years and above (42.7%) enables the study to examine the challenges faced by older senior citizens, who are generally more vulnerable to digital exclusion due to declining health, limited technological exposure, and greater dependence on others. Overall, the age distribution provides a comprehensive representation of the rural elderly population and facilitates meaningful analysis of the relationship between age, digital literacy, and access to government welfare schemes.

**Table 3 Education**

Education	Frequency	Percentage
<b>Illiterate</b>	126	42
<b>Primary</b>	84	28
<b>Secondary</b>	54	18

<b>Higher</b>	36	12
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**Interpretation** - The educational profile of the respondents reveals that 42% of the rural elderly are illiterate, constituting the largest proportion of the sample. Twenty-eight percent have completed primary education, while 18% have attained secondary education. Only 12% of the respondents possess higher education, representing the smallest educational group. These findings indicate that nearly 70% of the respondents have either no formal education or only primary-level education, reflecting a generally low educational status among the rural elderly in Jalgaon District. The low level of educational attainment is likely to limit their ability to understand and use digital technologies, online government portals, and mobile applications effectively. Consequently, illiteracy and limited schooling may contribute significantly to lower digital literacy, greater dependence on family members or intermediaries, and increased digital exclusion while accessing government welfare schemes. The educational distribution also supports the study's hypothesis that higher educational attainment is positively associated with better digital literacy and improved access to digital government services.

**Table 4 Smartphone Ownership**

Response	Frequency	Percentage
<b>Yes</b>	114	38
<b>No</b>	186	62

**Interpretation** - The distribution of respondents based on smartphone ownership reveals that only 38% of the rural elderly respondents own a smartphone, whereas a substantial 62% do not possess one. The findings indicate that the majority of elderly people in Jalgaon District lack access to one of the most essential tools required for utilizing digital government services. The absence of smartphone ownership significantly limits their ability to access online welfare schemes, mobile banking, digital payment systems, telemedicine services, and government applications such as UMANG, DigiLocker, and Aadhaar-enabled services. Consequently, many elderly individuals remain dependent on family members, friends, Common Service Centres (CSCs), or intermediaries to access government benefits. This lack of smartphone ownership contributes directly to digital exclusion by restricting independent access to digital platforms and reducing opportunities to develop digital literacy. The findings highlight that improving smartphone accessibility, along with digital literacy training, is essential for enhancing digital inclusion and ensuring equitable access to government welfare schemes among the rural elderly.

**Table 5 Digital Literacy**

Level	Frequency	Percentage
<b>Low</b>	171	57%
<b>Medium</b>	87	29%
<b>High</b>	42	14%

## Interpretation

The distribution of respondents according to their level of digital literacy reveals that the majority (57%) possess a low level of digital literacy, indicating limited ability to operate smartphones, use the internet, navigate digital applications, or independently access online government welfare services. Twenty-nine percent of the respondents fall under the medium digital literacy category, suggesting that they possess basic digital skills but still require occasional assistance while using digital platforms. Only 14% of the respondents demonstrate a high level of digital literacy, indicating that a relatively small proportion of the rural elderly are capable of independently using smartphones, online government portals, digital banking services, and other digital applications with confidence.

The findings clearly indicate that digital literacy among the rural elderly in Jalgaon District remains generally low, with nearly three-fifths of the respondents lacking adequate digital competencies. This low level of digital literacy contributes significantly to digital exclusion by limiting independent access to government welfare schemes, online banking, healthcare services, and other digital public services. The results also suggest that targeted digital literacy programmes, continuous technical support, and community-based digital assistance are essential to improve digital inclusion and enable elderly citizens to benefit fully from digital governance initiatives.

**Table 6 Problems Faced**

Problem	Percentage
Cannot operate smartphone	74%
OTP problem	68%
Poor Internet	54%
Language barrier	47%
Bank authentication	39

## Interpretation

The findings regarding the barriers to accessing digital government services reveal that the inability to operate smartphones is the most significant challenge, reported by 74% of the respondents. This indicates that a majority of the rural elderly lack the basic skills required to use smartphones, thereby limiting their independent access to digital welfare services. The second most common problem is OTP (One-Time Password) verification, experienced by 68% of the respondents. Difficulties in receiving, reading, and entering OTPs during online transactions or authentication processes create substantial obstacles in accessing government schemes and digital banking services. Poor internet connectivity was reported by 54% of the respondents, highlighting the inadequacy of digital infrastructure in many rural areas, which further restricts the effective use of online services. Nearly 47% of the respondents identified the language barrier as a major issue, indicating that digital platforms are often difficult to use due to interfaces predominantly available in English or complex technical language. Additionally, 39% of the respondents experienced difficulties related to bank authentication,

including biometric failures and account verification problems, which delayed or prevented access to financial benefits under various government welfare schemes.

**Table 7 Access to Welfare Schemes**

Scheme	Beneficiaries (%)
Old Age Pension	72%
Ayushman Bharat	61%
Food Security	88%
PM Kisan (eligible)	44%

### Interpretation

The distribution of beneficiaries across different government welfare schemes indicates that the Food Security Scheme has the highest coverage, with 88% of the respondents receiving benefits under the programme. This is followed by the Old Age Pension Scheme, which benefits 72% of the rural elderly respondents, reflecting its important role in providing financial assistance to senior citizens. Ayushman Bharat covers 61% of the respondents, indicating that a majority of the elderly have access to health insurance benefits, although a considerable proportion still remains outside its coverage. Among respondents who were eligible, 44% were beneficiaries of the PM Kisan scheme, suggesting comparatively lower coverage, which may be attributed to eligibility criteria such as land ownership and registration requirements. Overall, the findings reveal that while a large proportion of rural elderly benefit from major government welfare schemes, coverage is not universal. The lower utilization of certain schemes may be associated with digital barriers, lack of awareness, documentation issues, eligibility constraints, and difficulties in completing online application and verification processes. These results underscore the need to strengthen digital support systems and improve awareness to ensure that all eligible elderly citizens can access government welfare benefits effectively.

### Chi-square Analysis

#### Education × Digital Literacy

Value	Result
$\chi^2 = 29.47$	$p < 0.001$

**Interpretation** - The results of the statistical analysis reveal a significant positive association between educational attainment and digital literacy among the rural elderly respondents. Elderly individuals with higher levels of education exhibit greater ability to operate smartphones, access the internet, use digital applications, complete online transactions, and independently utilize government welfare services. In contrast, respondents with lower educational attainment, particularly those who are illiterate or have only primary education, demonstrate comparatively lower levels of digital literacy and greater dependence on family members or intermediaries for accessing digital services. These findings indicate that education plays a crucial role in enhancing digital competence and reducing digital exclusion among the elderly. Therefore, the first research hypothesis ( $H_1$ ), which states that there is a positive

association between the educational level of elderly respondents and their level of digital literacy, is accepted.

**Interpretation of Pearson's Correlation Analysis** - The Pearson's correlation analysis revealed a strong positive correlation between digital literacy and access to government welfare schemes among the rural elderly respondents ( $r = 0.68$ ,  $p < 0.01$ ). The positive correlation coefficient indicates that as the level of digital literacy increases, the ability of elderly individuals to access and utilize online government welfare services also improves significantly. The statistically significant p-value ( $p < 0.01$ ) confirms that this relationship is unlikely to have occurred by chance. Elderly respondents possessing better digital skills were more capable of operating smartphones, navigating online government portals, completing digital applications, and independently accessing welfare benefits. Conversely, respondents with lower digital literacy experienced greater dependence on family members, intermediaries, and Common Service Centres (CSCs), resulting in reduced accessibility to digital welfare services. These findings provide strong empirical support for the second research hypothesis ( $H_2$ ), which states that digital literacy has a significant positive effect on access to government welfare schemes among rural elderly people.

**Major Findings** - The study revealed several important findings regarding digital exclusion among the rural elderly in Jalgaon District. A majority (62%) of the respondents did not own a smartphone, limiting their direct access to digital government services. More than half (57%) exhibited low levels of digital literacy, indicating inadequate knowledge and skills to use digital devices and online platforms independently. The respondents identified OTP verification, biometric authentication, online registration procedures, poor internet connectivity, and language-related difficulties as the major barriers to accessing digital welfare services. Statistical analysis demonstrated that educational attainment had a significant positive influence on digital literacy, with better-educated respondents displaying higher levels of digital competence. Furthermore, digitally literate elderly respondents were found to access government welfare schemes more effectively than those with limited digital skills. The study also found that elderly women experienced greater digital exclusion than elderly men due to comparatively lower educational attainment, limited access to smartphones, and greater dependence on family members for digital transactions.

**Suggestions** - Based on the findings of the study, several measures are recommended to promote digital inclusion among the rural elderly. Village-level digital assistance centres should be established to provide guidance and support in accessing online government welfare services. Regular digital literacy training programmes specifically designed for senior citizens should be organized to enhance their confidence and competence in using smartphones and digital applications. Government agencies should continue to provide offline service options alongside digital platforms to ensure that elderly citizens who are unable to use technology are not excluded from welfare benefits. The role of social workers, community volunteers, and local self-government institutions should be strengthened to assist elderly beneficiaries in navigating digital systems and accessing government schemes. In addition, improving internet connectivity in rural areas is essential for ensuring reliable access to online services. Finally, government digital platforms should incorporate multilingual interfaces, simplified application

procedures, and elderly-friendly designs to make digital welfare services more accessible, inclusive, and user-friendly.

**Conclusion** - The present study concludes that digital exclusion has emerged as a significant social challenge affecting the rural elderly population in Jalgaon District. Although the Government of India has made substantial progress in promoting digital governance through initiatives such as Digital India, the benefits of these reforms have not been equitably realized by all sections of society. A considerable proportion of rural elderly people continue to face difficulties in accessing government welfare schemes due to limited digital literacy, lack of smartphone ownership, inadequate internet connectivity, and challenges associated with online authentication processes such as OTP verification and biometric authentication.

The findings demonstrate that educational attainment plays a crucial role in enhancing digital literacy and facilitating access to government welfare services. Elderly respondents with higher levels of education were more capable of using smartphones, internet-based applications, and digital government platforms independently, whereas respondents with lower educational attainment remained highly dependent on family members, intermediaries, or Common Service Centres for accessing welfare benefits. Furthermore, the study established a strong positive relationship between digital literacy and utilization of government welfare schemes, indicating that improving digital competencies can significantly enhance social inclusion and service accessibility among the rural elderly. The study also highlights the existence of gender disparities in digital inclusion, with elderly women experiencing greater levels of digital exclusion than elderly men due to comparatively lower educational attainment, limited access to digital devices, and reduced exposure to technology. These findings emphasize that digital exclusion is not merely a technological issue but also a social, educational, and developmental concern that affects equity, independence, and the quality of life of older adults. From a social work perspective, the study underscores the need for targeted interventions that promote digital empowerment among senior citizens. Community-based digital literacy programmes, village-level digital assistance centres, improved rural digital infrastructure, multilingual and user-friendly digital interfaces, and the continued availability of offline service delivery mechanisms are essential to ensure that no elderly citizen is excluded from government welfare services because of technological barriers. Social workers, community organizations, and local governance institutions can play a pivotal role in bridging the digital divide by facilitating awareness, providing digital support, and advocating for inclusive public service delivery.

Overall, the study concludes that achieving inclusive digital governance requires more than technological advancement; it demands policies and practices that address the socio-economic and educational barriers faced by vulnerable populations. Strengthening digital inclusion among the rural elderly will not only improve access to government welfare schemes but also enhance their social participation, financial security, dignity, and overall quality of life, thereby contributing to the broader goals of inclusive and sustainable rural development.

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