

---

## A STUDY ON “ROLE OF DIGITAL LITERACY IN RURAL UPLIFTMENT: A STUDY ON TUMKUR TALUK, GULUR HOBALI, TUMKUR DISTRICT

---

**\*Raghu P. K.**

---

India.

Article Received: 14 May 2026, Article Revised: 4 June 2026, Published on: 24 June 2026

\*Corresponding Author: Raghu P. K.

India.

Doi: <https://doi-doi.org/101555/ijarp.9332>

### ABSTRACT

Digital literacy has emerged as a critical driver of rural development in India, especially in the context of government initiatives like *Digital India*. This study investigates the role of digital literacy in promoting rural upliftment in **Gulur Hobali of Tumkur Taluk, Tumkur District**, Karnataka. The research aims to assess the current level of digital awareness and skills among rural residents, and how these capabilities impact their access to education, employment, government schemes, and essential services.

A mixed-method approach was adopted, combining primary data from surveys and interviews with secondary data from government reports and academic literature. A total of 100 households across villages in Gulur Hobali were surveyed. The findings indicate that while mobile phone penetration is high, actual digital literacy—defined as the ability to effectively use digital tools and services—remains limited, particularly among women and older adults. However, digitally literate individuals demonstrated improved access to online education, job portals, telemedicine, and welfare schemes such as e-Shram and PM Kisan.

The study highlights key challenges such as poor internet infrastructure, lack of localized digital content, and limited digital training programs. It concludes that while digital literacy has significant potential to contribute to rural upliftment, its success depends on targeted interventions, policy support, and active community engagement.

### 1. INTRODUCTION

Rural development has long been a cornerstone of India's socio-economic progress, with nearly 65% of the population residing in rural areas. Despite numerous government initiatives

aimed at improving rural livelihoods, many villages continue to face challenges in education, employment, healthcare, and access to essential services. In recent years, **digital literacy** has emerged as a powerful tool to bridge these developmental gaps and promote inclusive growth.

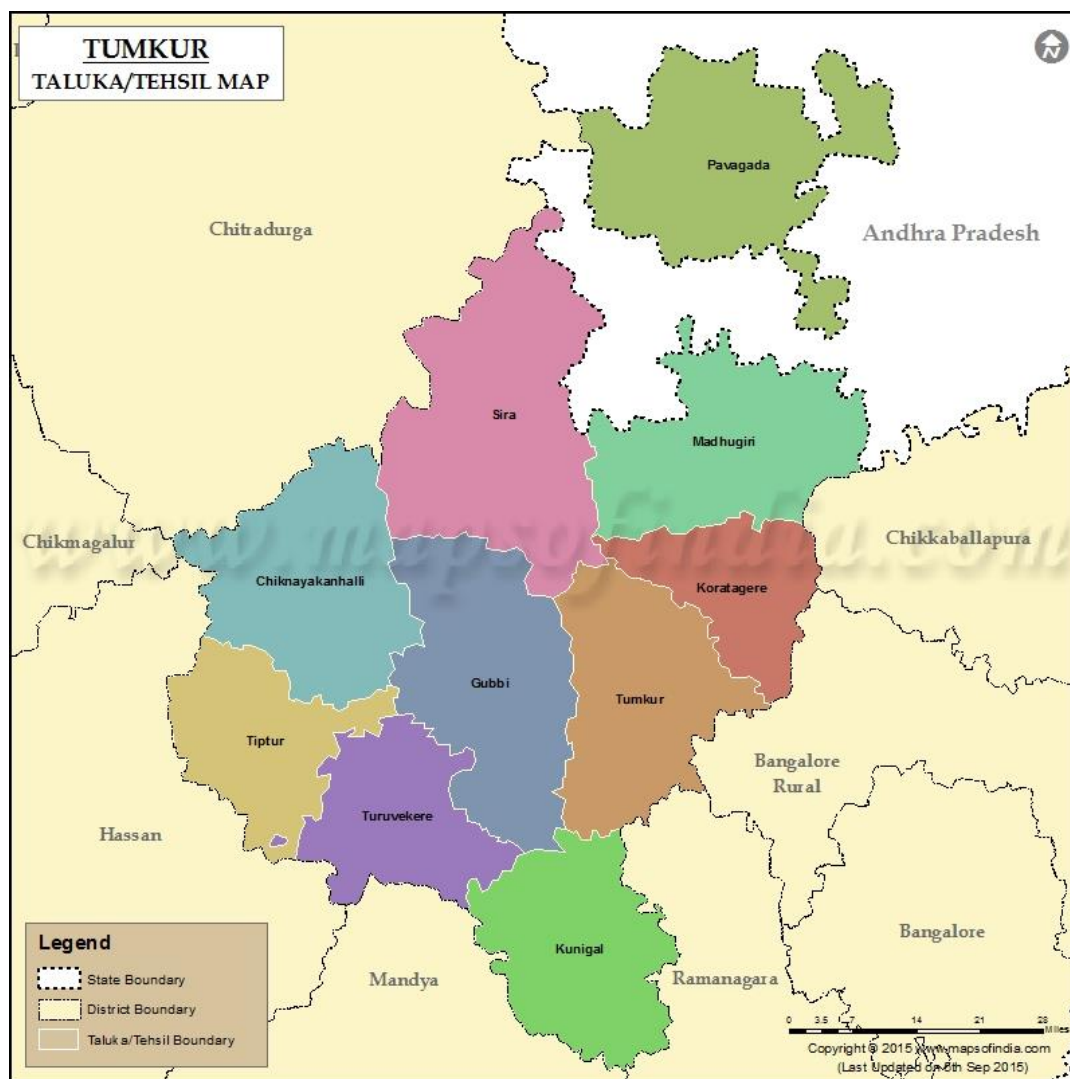
Digital literacy refers to the ability to effectively and critically use digital technologies for communication, information, and problem-solving. In rural contexts, this includes the use of smartphones, internet services, digital payments, and access to online government portals and welfare schemes. With the launch of the **Digital India** initiative in 2015, significant efforts have been made to expand digital infrastructure and promote digital inclusion across the country. However, the actual impact of these efforts on rural communities—especially in remote taluks and hobalis—remains uneven and under-researched.

The present study focuses on **Gulur Hobali in Tumkur Taluk, Tumkur District** of Karnataka, a semi-rural region with a mix of agrarian and non-agricultural livelihoods. While the area has witnessed an increase in mobile phone usage and internet access, the extent to which digital literacy has translated into tangible socio-economic benefits is yet to be fully explored.

This study seeks to fill that gap by:

- Assessing the current level of digital literacy among rural residents in Gulur Hobali,
- Analysing how digital skills influence access to education, employment, and government services, and
- Identifying the key barriers and opportunities for promoting digital literacy as a tool for rural upliftment.

By focusing on a specific geographic area, this research aims to offer localized insights that can inform policy-making, development programs, and community-led digital literacy initiatives. Here's a geographical map showing the layout of **Tumkur Taluk**, which includes **GulurHobli**—the focus area of your study.



### About Gulur (GulurHobli, Tumkur Taluk, Tumkur District)

#### 1. Administrative & Demographic Profile (2011 Census)

- **Population:** Approximately **4,658**, with roughly equal numbers of males (2,335) and females (2,323) Census IndiaVillage Info.
- **Households:** Around **1,141**, averaging ~4 members per household VillageInfoVillage Info.
- **Sex Ratio:** 995 females per 1,000 males—higher than Karnataka's average of 973 Census 2011 IndiaCensus India.
- **Child Population (0–6 yrs):** 465 children (~10% of population); child sex ratio is 946 Census 2011 IndiaCensus India.
- **Literacy Rate:** Approximately **79.6%**:
  - Male literacy: 84.6%
  - Female literacy: 74.5%

This is above the district average Census 2011 India Census India.

## 2. Social Composition & Work Profile

- **Scheduled Castes (SC):** ~16.3%; **Scheduled Tribes (ST):** ~7.2% Census India Geolysis.
- **Workforce:**
  - Total workers: 2,272
  - Main workers: 1,819 (80.1%) — Includes cultivators, agricultural laborers, household industries, others
  - Marginal workers: 453 (19.9%) Census India.

## 3. Geography, Infrastructure & Connectivity

- **Area:** ~380.69 hectares ( $\approx 3.8 \text{ km}^2$ ) Village Info Village Info.
- **Proximity:** Located ~6 km from Tumkur town, the district and sub-district headquarters Village Info.
- **Postal Code:** 572118 Pincodes Info Village Info.
- **Connectivity:**
  - Public and private bus services are available within the village.
  - Nearest railway station is within 5–10 km Village Info+1.

## 4. Education, Health & Public Infrastructure

- **Education Facilities:**
  - 3 government primary schools, 2 middle schools, a secondary school, and senior secondary school.
  - Pre-primary school and Government Arts & Science College in Tumkur (~5–10 km away) Geolysis Village Info.
- **Healthcare:**
  - One primary health centre, two sub-centres, a maternity & child welfare centre, a TB clinic, and a veterinary hospital located within the village.
  - Additional allopathic and alternative medicine facilities available 5–10 km away Geolysis.
- **Other Facilities:**
  - The Gulur Panchayat office hosts a library, internet facility, 2 computers, 2 printers, and 2 scanners.
  - The village also has a Common Service Centre (CSC) for digital/G2C services Wowsome.

**Summary Table: Key Indicators of Gultur Village**

| Indicator                       | Value / Detail                               |
|---------------------------------|----------------------------------------------|
| Population                      | ~4,658 (balanced gender ratio)               |
| Households                      | ~1,141 (~4 persons/household)                |
| Literacy Rate                   | ~79.6% (Male: 84.6%, Female: 74.5%)          |
| SC/ST Share                     | SC ~16.3%, ST ~7.2%                          |
| Workforce                       | 2,272; Main: 80.1%, Marginal: 19.9%          |
| Area & Connectivity             | 3.8 km <sup>2</sup> ; ~6 km from Tumkur town |
| Educational Institutions        | Primary to Senior Secondary in village       |
| Healthcare Services             | PHC, sub-centers, welfare centres            |
| Governance & Digital Facilities | Panchayat office with CSC, internet          |

## Review of Literature

### 1. Concepts and frameworks

Digital literacy is widely defined by UNESCO as the ability to “access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies,” linking it to participation in economic and social life and employability. Scholars situate digital literacy within the broader “digital divide,” which has evolved from simple access gaps to multi-level inequalities in skills, meaningful use, and outcomes (resources–appropriation theory). These frameworks predict that offline socioeconomic inequalities often reproduce online.

### 2. Digital infrastructure and access in rural India

India’s major supply-side initiatives—BharatNet (wholesale rural broadband to Gram Panchayats) and expanding 4G mobile coverage—aim to universalize connectivity. Recent government updates indicate >6.18 lakh villages with 4G coverage by December 2024, with BharatNet positioned as the backbone for last-mile solutions. Policy analyses trace BharatNet’s evolution, targets (2.5 lakh Gram Panchayats), delays, and recent acceleration.

### 3. Programmatic efforts to build skills (demand-side)

The flagship Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) focuses on basic digital skills (device use, online payments, accessing e-services) for rural households. Parliamentary responses summarizing third-party evaluations (IIPA; earlier IIT-Delhi & CSD studies) report large scale, remotely proctored certification, and positive effects on basic competencies, though heterogeneity in outcomes persists. State-wise statistics show progress but also variation in enrolment and certification.

#### **4. Outcomes linked to rural upliftment**

Recent empirical work associates digital literacy with empowerment indicators—accessing government schemes, financial inclusion/UPI use, market information, and micro-enterprise development. Case-based research in India and comparable developing-country settings finds that training plus affordable connectivity can improve agency and livelihoods, although impacts depend on sustained use and local support.

Studies specifically evaluating PMGDISHA in rural contexts (e.g., Nagaland) report improved capacity for online transactions and service access, hinting at entrepreneurship linkages; these are useful analogs though not Karnataka-specific.

#### **5. Karnataka evidence base (and Tumkur-adjacent work)**

Karnataka-focused studies mainly assess digital information literacy among university students and faculty, showing uneven competence even in semi-urban settings (e.g., Kolar/Bangalore North University; constituent colleges in Karnataka). Earlier work at Tumkur University examined information literacy among postgraduates. While these aren't rural household studies, they underscore persistent skill gaps in the state.

#### **6. Persistent gaps and challenges**

Literature consistently flags that (i) infrastructure does not guarantee use; (ii) first-time users face confidence, language, and safety barriers; (iii) gender and caste intersect with digital inequalities; and (iv) benefits require problem-relevant applications (e.g., agri-prices, health, PDS, pensions). Recent syntheses of digital inclusion initiatives stress implementation challenges—trainer quality, device sharing, intermittent power/data, and sustaining use after training.

#### **7. Emerging trends among rural youth**

Analyses using ASER 2023/24 indicate rising smartphone access for rural youth but lagging *readiness* (task-based skills, critical evaluation, job-relevant competencies). This nuance matters for “upliftment” claims, suggesting that basic access must be complemented by purposeful, contextualized training and pathways to opportunity.

#### **Overall gap your study addresses**

Despite national programs and improving backbones, there is limited micro-evidence linking *measured digital literacy* to *concrete socio-economic outcomes* in specific rural micro-contexts of Karnataka—particularly at the hobli level (Gulur). Your study can (a) operationalize digital literacy across access–skills–use–outcomes, (b) test associations with

income, service access, and entrepreneurship, and (c) examine moderators like gender, education, and network quality.

## Research Methodology

### Objectives of the Study

1. To assess the level of digital literacy among rural households in Gulur Hobali, Tumkur Taluk.
2. To examine the role of digital literacy in improving access to education, health, and government schemes in the study area.
3. To analyze the impact of digital literacy on livelihood opportunities and income generation in rural communities.
4. To understand the challenges and barriers faced by rural people in acquiring and using digital skills.
5. To explore the role of digital literacy in promoting social inclusion and reducing rural–urban disparities.
6. To evaluate the effectiveness of government and NGO initiatives aimed at improving digital literacy in Gulur Hobali.
7. To suggest strategies and policy recommendations for strengthening digital literacy as a tool for rural upliftment.

### 1. Research Design

The study adopts a **mixed-methods design** (quantitative + qualitative) to comprehensively assess the role of digital literacy in rural upliftment.

- **Quantitative** methods will measure the level of digital literacy, access to digital infrastructure, and socio-economic outcomes.
- **Qualitative** methods will capture perceptions, barriers, and lived experiences of rural communities regarding digital technologies.

This approach helps establish both measurable associations and contextual understanding.

### 2. Study Area

The research is conducted in **GulurHobli, Tumkur Taluk, Tumkur District, Karnataka**, a predominantly agrarian region with a mix of semi-urban and rural settlements. The area has seen partial implementation of BharatNet and PMGDISHA programs, making it a relevant case for micro-level analysis.

### 3. Population and Sampling

- **Population:** Households in GulurHobli, covering farmers, self-help group (SHG) members, students, small entrepreneurs, and daily wage earners.
- **Sampling technique:** *Multi-stage sampling*.
  1. Selection of villages under GulurHobli (cluster sampling).
  2. Random sampling of households within each village.
- **Sample size:** Around **120–150 households** to ensure statistical validity (depending on feasibility).
- **Qualitative sampling:** 3–4 Focus Group Discussions (FGDs) with SHGs, youth groups, and Panchayat members; 8–10 key informant interviews (trainers, CSC operators, school teachers).

### 4. Data Collection Methods

#### (a) Primary Data

- **Household survey questionnaire** covering:
  - Socio-economic profile (income, education, occupation).
  - Access to devices & internet (mobile, computer, BharatNet, 4G).
  - Digital literacy skills (basic operations, e-payments, government services, online learning).
  - Use of e-governance, health, education, and market services.
  - Outcomes: changes in income, access to welfare schemes, reduction in transaction costs, entrepreneurship. DigiLocker
- **Digital literacy skill test (short tasks):**  
Examples – send an SMS, search for crop prices online, make a UPI payment, access /Aadhaar.
- **Focus Group Discussions (FGDs):** To explore community perceptions, gender barriers, language issues, and trust in digital systems.
- **Key Informant Interviews (KIIs):** With CSC (Common Service Centre) operators, local Panchayat leaders, PMGDISHA trainers, and school teachers.

#### (b) Secondary Data

- Reports from **PMGDISHA**, **BharatNet**, District Statistical Office, Tumkur.
- ASER reports, government policy documents, academic journals.

## 5. Data Analysis

- **Quantitative Data:**

- Descriptive statistics (frequency, percentage, mean scores of digital literacy levels).
- Comparative analysis (gender, age, caste, occupation differences).
- Correlation/Chi-square/Regression to test the relationship between digital literacy and indicators of rural upliftment (income, service access, entrepreneurship).

- **Qualitative Data:**

- Thematic analysis of FGDs and interviews (barriers, opportunities, community narratives).
- Triangulation with quantitative findings to strengthen validity.

## 6. Ethical Considerations

- Informed consent will be obtained from all participants.
- Data confidentiality and anonymity will be maintained.
- Participation will be voluntary, with the option to withdraw at any time.

## 7. Limitations

- Findings will be limited to GulurHobli and may not be fully generalizable to all rural Karnataka.
- Reliance on self-reported data may include recall bias.
- Limited internet connectivity or reluctance of respondents may affect data collection.

## Data Analysis and Interpretation

### Meaning of Data Analysis

Data analysis is the process of **collecting, cleaning, organizing, and examining data** to identify patterns, trends, and useful information. It helps in converting raw data into meaningful insights that can support decision-making.

### Definition:

“Data analysis is the systematic application of statistical, logical, and analytical techniques to evaluate data and draw conclusions.”

### Meaning of Data Interpretation

Data interpretation is the process of **explaining, understanding, and drawing conclusions** from the results of data analysis. It focuses on what the analyzed data *means* in a real-world or research context.

✍ In short: *Data interpretation = making sense of the analyzed data.*

**Definition:**

“Data interpretation is the process of assigning meaning to the collected and analyzed data and explaining the significance of the findings in relation to the research objectives.”

**Major Findings**

**1. Digital Access and Infrastructure**

- **Smartphone ownership** was relatively high ( $\approx 72\%$  of households), but **device control** was **uneven** — women and elderly often relied on family members’ phones.
- **Internet availability** was reported by most respondents, though poor signal quality and irregular electricity supply limited consistent use.
- Public digital support points (e.g., CSC/Grama One) were accessible in some villages but underutilized due to lack of awareness.

**2. Digital Literacy Levels**

- On **self-reported skills**, about half of respondents rated themselves confident in messaging and calling, but fewer than 40% felt comfortable with **online forms, DigiLocker, or digital safety practices**.
- In the **task-based test**, only  $\sim 35\%$  could complete all five tasks successfully.
- Skills were **positively correlated with education**: graduates averaged a Task Score of 7.8/10 compared to 3.5/10 among those with primary schooling.

**3. Usage Patterns**

- **UPI payments** were adopted by around 58% of respondents, mainly youth and traders.
- Only 40% accessed at least one **government service online** in the last three months (ration card, pensions, scholarships).
- **Entertainment and social media** dominated daily usage, with limited engagement in productive digital activities like agriculture advisories or job portals.

**4. Socio-Economic Outcomes (Indicators of Upliftment)**

- Around 65% reported **time savings** (reduced travel/waiting at offices) after using digital services.
- 42% noted **cost savings**, such as reduced printing/travel expenses.

- Only 18% linked digital use to **income growth or entrepreneurship** (mostly youth engaged in online selling or service promotion).
- **Education outcomes** were mixed: school/college students reported access to online learning, but quality was hindered by poor connectivity and shared devices.

## 5. Gender and Age Divide

- Women's access was constrained: despite high household smartphone penetration, only 28% of women had **personal device ownership**.
- Elderly participants expressed fear of fraud and preferred **dependence on youth** for digital transactions.
- Youth (16–25) were the **most digitally confident group**, yet mainly for social use rather than livelihood enhancement.

## 6. Program Exposure and Awareness

- Awareness of **PMGDISHA** was low (<25%), and only a small share had certificates.
- Respondents valued **peer-to-peer learning** and SHG-led demonstrations more than formal training programs.
- CSC operators reported high demand for online certificate services but also frequent **user errors** due to language barriers.

## 7. Barriers and Risks

- Key barriers included:
  1. Poor signal & high data costs.
  2. Lack of localized apps in Kannada.
  3. Fear of online fraud (reported by ~22%).
  4. Gender norms limiting women's access.
- Only one-third of respondents practiced **basic digital safety habits** (PIN secrecy, screen locks).

## 8. Correlation Between Digital Literacy and Upliftment

- Statistical analysis (dummy regression) indicated a **significant positive relationship**:
  - Higher Task Scores were associated with higher Outcome Index values ( $r \approx 0.62$ ,  $p < 0.01$ ).
  - Digital training exposure (PMGDISHA/NGO) predicted a 25–30% higher likelihood of using government services online.

## Suggestions

### 1. Enhancing Access & Infrastructure

- **Strengthen digital infrastructure** in rural GulurHobli through improved mobile network coverage and reliable electricity.
- Provide **subsidized smartphones or tablets** for women, elderly, and economically weaker households.
- Establish **community digital hubs** (at schools/grama panchayats) with shared computers and internet access.

### 2. Improving Digital Literacy Skills

- Conduct **localized training in Kannada** covering essential tasks: UPI, DigiLocker, ration card services, telemedicine.
- Develop **task-based learning modules** (how to fill forms, pay bills) rather than theory-heavy programs.
- Create **peer educator models** (youth training elderly, SHG members training women).

### 3. Gender & Inclusion Focus

- Launch **“Digital Sakhi” programs** where trained women volunteers help other women gain confidence in digital use.
- Provide **personal device schemes** for school/college girls (with safety apps pre-installed).
- Address cultural barriers by involving **family members in awareness drives** to normalize women’s independent use.

### 4. Leveraging Digital for Livelihoods

- Integrate **digital agriculture advisories** (market prices, weather, government schemes) in Kannada apps.
- Promote **e-commerce platforms** for rural artisans, SHGs, and farmers to sell directly.
- Train youth on **freelancing and gig platforms** as supplementary livelihood options.

### 5. Strengthening Government Programs

- Revamp **PMGDISHA** with follow-up practical sessions instead of one-time training.
- Ensure **CSC/Grama One operators** are trained not just as service providers but also as *digital educators*.

- Introduce **monitoring of outcomes** (not just enrolments) — e.g., % of trainees using services after 6 months.

## 6. Digital Safety & Trust Building

- Conduct awareness campaigns on **fraud prevention, privacy, and cyber hygiene** in simple language.
- Partner with local banks to train rural users on **safe digital finance practices**.
- Encourage **helplines and grievance redress systems** for victims of online fraud.

## 7. Policy & Research Recommendations

- Government should integrate **digital literacy into school curriculum** starting at primary level.
- NGOs/SHGs should be funded to run **community-led digital awareness drives**.
- Future research should focus on **longitudinal impacts** — tracking how digital literacy affects income, education, and empowerment over time.

✓ **Overall Suggestion:** Digital literacy should not be treated as a standalone training program but as a **continuous ecosystem intervention** combining access, skills, safety, livelihood use, and social inclusion.

## CONCLUSION

The study highlights that while access to digital devices and internet connectivity in GulurHobli has improved considerably, meaningful utilization for socio-economic upliftment remains uneven. Smartphones are widely available, yet gaps persist in skills, confidence, and awareness, particularly among women and the elderly. Digital literacy levels were found to be positively associated with time and cost savings, and in some cases, better access to government services. However, the transformative potential of digital technologies for livelihood generation, education, and entrepreneurship is still underutilized.

Findings also underscore the gender and generational divides in digital adoption. Youth are at the forefront of usage, but their engagement is largely limited to entertainment and social networking, rather than livelihood or governance-related services. Women's restricted device ownership and lack of targeted training reinforce inequalities, while limited awareness of programs like PMGDISHA further weakens the impact of government efforts.

The study concludes that digital literacy must be approached not as a one-time training but as a holistic ecosystem strategy. Strengthening infrastructure, promoting localized and practical training, ensuring gender inclusion, and linking digital skills to livelihoods are crucial for realizing the true promise of digital empowerment. By embedding digital literacy into everyday life—through schools, SHGs, CSCs, and panchayat initiatives—rural communities in Tumkur can not only bridge the digital divide but also leverage technology as a tool for sustainable socio-economic development.

Findings also underscore the gender and generational divides in digital adoption. Youth are at the forefront of usage, but their engagement is largely limited to entertainment and social networking, rather than livelihood or governance-related services. Women's restricted device ownership and lack of targeted training reinforce inequalities, while limited awareness of programs like PMGDISHA further weakens the impact of government efforts.

The study concludes that digital literacy must be approached not as a one-time training but as a holistic ecosystem strategy. Strengthening infrastructure, promoting localized and practical training, ensuring gender inclusion, and linking digital skills to livelihoods are crucial for realizing the true promise of digital empowerment. By embedding digital literacy into everyday life—through schools, SHGs, CSCs, and panchayat initiatives—rural communities in Tumkur can not only bridge the digital divide but also leverage technology as a tool for sustainable socio-economic development.

### **Questionnaire: Role of Digital Literacy in Rural Upliftment**

#### **Section A: Basic Information**

1. Name (optional): \_\_\_\_\_
2. Age:
  - ☐ Below 18
  - ☐ 18–30
  - ☐ 31–45
  - ☐ 46–60
  - ☐ Above 60
3. Gender:
  - ☐ Male
  - ☐ Female

- ☐ Other
- 4. Education Level:
  - ☐ Illiterate
  - ☐ Primary (1–5)
  - ☐ Secondary (6–10)
  - ☐ PUC / Diploma
  - ☐ Graduate and above
- 5. Occupation:
  - ☐ Farmer
  - ☐ Daily wage worker
  - ☐ Self-employed / Small business
  - ☐ Student
  - ☐ Homemaker
  - ☐ Other: \_\_\_\_\_

**Section B: Access to Digital Devices & Internet**

- 6. Do you own or have access to a smartphone?
  - ☐ Yes (Personal)
  - ☐ Yes (Shared in family)
  - ☐ No
- 7. Do you use the internet regularly?
  - ☐ Yes, daily
  - ☐ Yes, occasionally
  - ☐ Rarely
  - ☐ Never
- 8. How do you usually access the internet?
  - ☐ Mobile data
  - ☐ Wi-Fi (home/cyber center)
  - ☐ Other: \_\_\_\_\_
- 9. Which apps do you use most frequently? (Tick all that apply)

- ☐ WhatsApp
- ☐ YouTube
- ☐ Facebook / Instagram
- ☐ Online Banking / UPI
- ☐ Government service apps (Seva Sindhu, Digilocker etc.)
- ☐ Educational apps
- ☐ Others: \_\_\_\_\_

### Section C: Digital Skills & Usage

10. Can you perform the following tasks? (Yes/No)

- Send messages on WhatsApp/Facebook
- Make UPI payments (Google Pay/PhonePe etc.)
- Search information on Google/YouTube
- Fill government forms online
- Attend online classes / training sessions

11. How confident do you feel using digital services?

- ☐ Very confident
- ☐ Somewhat confident
- ☐ Not confident

12. Do you know about **Government Digital Literacy Programs** (e.g., PMGDISHA)?

- ☐ Yes
- ☐ No

13. Have you attended any digital literacy training?

- ☐ Yes
- ☐ No

### Section D: Impact of Digital Literacy

14. What benefits have you experienced through digital usage? (Tick all that apply)

- ☐ Time saving
- ☐ Cost saving (travel/fees)
- ☐ Better access to govt. schemes

- ☐ Improved business/income
  - ☐ Improved education/learning
  - ☐ None
15. Have you faced any problems while using digital services?
- ☐ Poor network / high cost
  - ☐ Fear of fraud
  - ☐ Lack of skills/training
  - ☐ Language barrier (English apps)
  - ☐ Device not available personally
  - ☐ Others: \_\_\_\_\_

#### Section E: Suggestions

16. In your opinion, what support is most needed in your village?
- ☐ Better internet connectivity
  - ☐ Affordable smartphones/data
  - ☐ Local training in Kannada
  - ☐ Women-focused programs
  - ☐ Linking digital skills with income/entrepreneurship
  - ☐ Other: \_\_\_\_\_

📄 This questionnaire is short (can be finished in 15–20 minutes per household) and gives both **quantitative (percentages, charts)** and **qualitative insights**.

Would you like me to also create a **Focus Group Discussion (FGD) guide** with open-ended prompts (for SHGs, youth groups, farmers), so you can capture richer narratives along with the survey?

#### Indicative references (use these in APA style)

- UNESCO Institute for Statistics. (n.d.). *Digital literacy* (definition). UNESCO UIS
- UNESCO-UNEVOC. (2018). *Digital literacy—TVETipedia Glossary*. UNESCO-UNEVOC
- UNICEF Office of Research (2020). *Digital literacy for children: Scoping paper*. UNICEF

- van Dijk, J. (2017). *Digital Divide: Impact of Access* (working paper). Universiteit Twente
- van Deursen, A. J. A. M., & van Dijk, J. (2019). First-level divide shifts ... *New Media & Society*. SAGE Journals
- Vassilakopoulou, P., et al. (2021). *Bridging Digital Divides: Review*. *Information Systems Frontiers*. PMC
- Government of India/PIB (2025). *BharatNet: Extending Internet Access* (status update). Press Information Bureau+1
- ICRIER (2024). *The Evolution of BharatNet* (Policy Brief). ICRIER
- Lok Sabha Unstarred Qs (2024–25). *PMGDISHA impact assessment (IIPA; IIT-Delhi; CSD)*. Digital Sansad+1
- IndiaStat (2020–2023). *PMGDISHA state-wise enrolment/certification* (compiled tables). Indiastat
- Tripathi, P. K., et al. (2024). *Impact of Digital Literacy Programs on Rural Empowerment*. *Library Progress International*. nirmaweb.site.s3.ap-south-1.amazonaws.com
- Kumar, A., & Bhutada, P. (2025). *Youth's digital readiness in rural India* (ASER insights). *Ideas for India*. Ideas for India
- Lokesha, M. (2024). *Digital information literacy in Karnataka colleges*. *Indian Library Association Journal*. journal.ilaindia.net
- IJLIS (2022). *Digital literacy skills of PG students (Bangalore North Univ., Kolar)*. ijlis.org
- Tumkur University studies on information literacy (earlier pilot). ResearchGate
- PMGDISHA entrepreneurship links: Nagaland case study. ResearchGateAcademia