

## Transforming Rural Governance: A Comprehensive Review of Karnataka's E-Governance Initiatives

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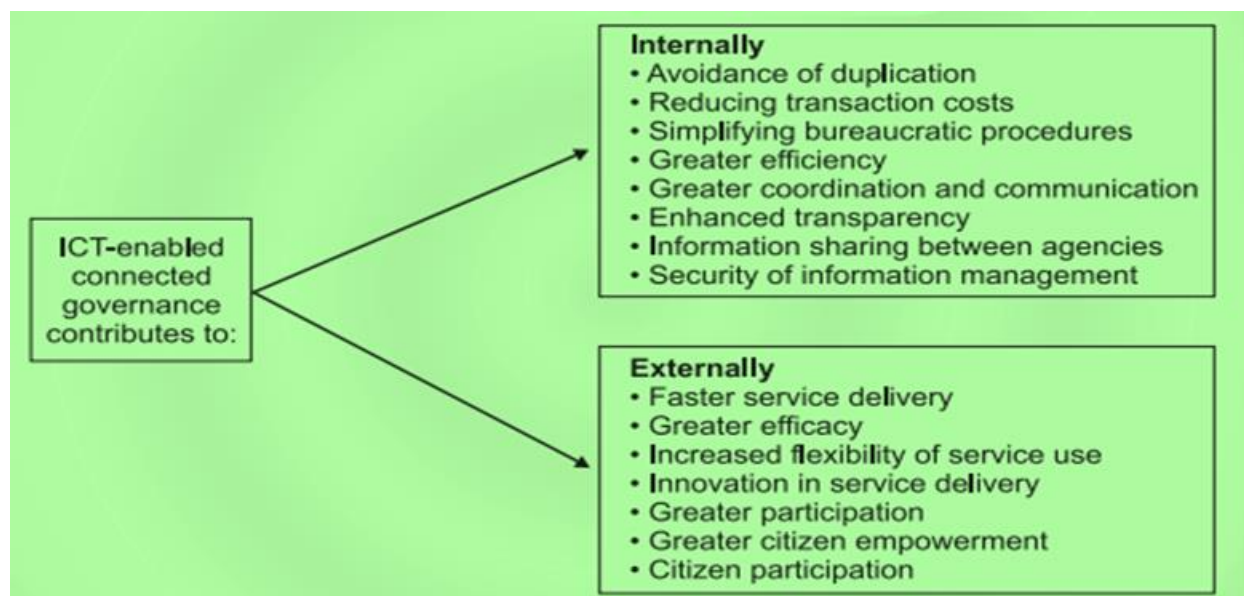
### Abstract

This article delves into Karnataka's pioneering eGovernance initiatives, with a specific focus on projects such as Panchatantra 2.0, Gandhi Sakshi Kayaka 2.0, Bapuji Seva Kendra, Kutumba, and others. Panchatantra 2.0, a holistic platform, aims to digitize and centralize Grama Panchayats' key functions. The review outlines its modules, including HRMS, Revenue Collection, Finance & Accounting, and Citizen Services. The initiative's key objectives include efficient human resource management and enhancing citizen services, aligning with the broader goal of improving the quality of life in Karnataka. Additionally, the article explores the features and benefits of Panchatantra 2.0, emphasizing its single window access, digital identity creation, secure payment gateway, mobile app, chatbot, and analytics usage. It discusses the potential challenges, including the need for robust digital infrastructure and awareness campaigns for successful implementation. The review extends to other noteworthy initiatives like Gandhi Sakshi Kayaka 2.0, focusing on real-time tracking of works and spatial mapping during the proposal stage. Bapuji Seva Kendra 2.0, an upgraded version, aims to enhance citizen interface and experience, promoting decentralized service delivery. Furthermore, the article provides insights into Kutumba, an Entitlement Management System, and highlights its role in simplifying application processes and providing unique identities to residents. Several other initiatives, such as Bhoomi, Karnataka MobileOne, KSWAN, Sakala, Karnataka One, Kaveri, E-Kshana, and Nemmadi, are discussed, emphasizing their positive impact on land records management, mobile-based government services, network connectivity, time-bound service delivery, and streamlined procurement processes. It underscores the state's proactive stance in improving digital literacy, accessibility, and transparency, positioning Karnataka as a leader in the ICT sector.

**Keywords:** E-Governance, Karnataka, Panchatantra 2.0, Gandhi Sakshi Kayaka 2.0, Bapuji Seva Kendra, Kutumba, Rural Development, Digital Transformation.

### Introduction

Electronic Governance, commonly known as e-Governance, represents a revolutionary shift in the traditional paradigms of government-citizen interactions. With the integration of information technology into governance structures, digital tools and platforms have emerged to streamline processes, enhance service delivery, and promote transparency. This fusion of technology and governance aims to make public services more accessible, efficient, and responsive to the evolving needs of a digitalized society. At its core, e-Governance involves leveraging digital technologies to simplify administrative processes, facilitate information exchange, and empower citizens with convenient access to government services (Heeks, 2006). This transformation spans various sectors, including healthcare, education, public administration, and service delivery. The overarching goal is to bridge the gap between citizens and government entities, ensuring the efficient and equitable delivery of public services.



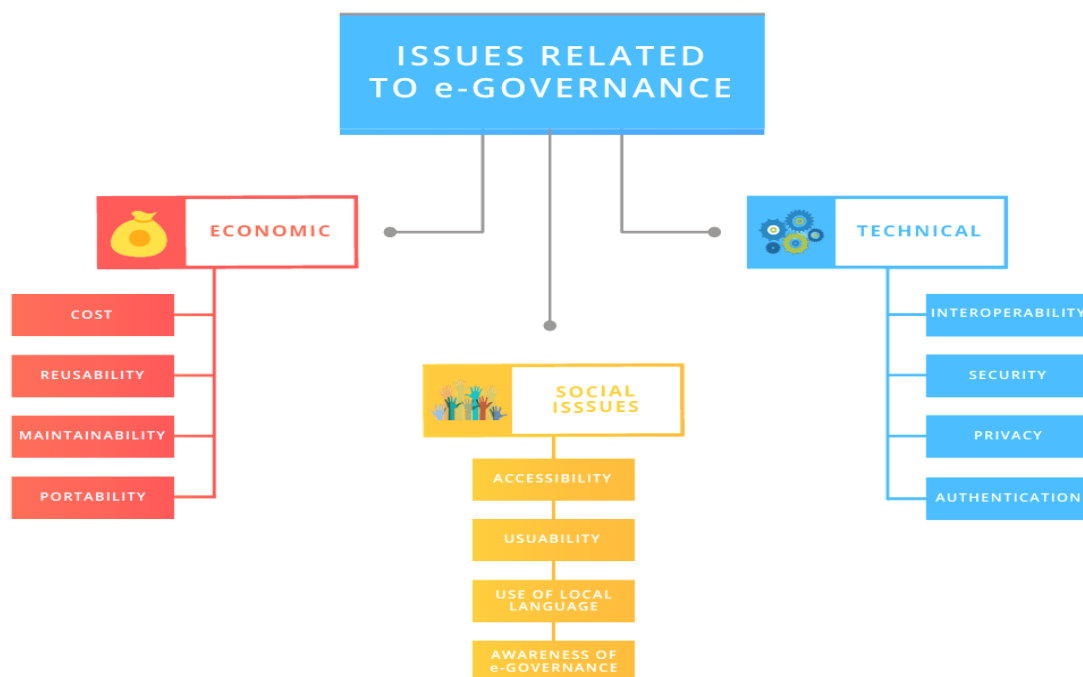
**Figure 01:** Benefits/ Outcomes of E-Governance. Source: <https://www.drishtias.com>.

The evolution of e-Governance is driven by factors such as advancements in technology, changing citizen expectations, and the imperative for governments to operate more effectively in the digital age. Governments worldwide are investing in digital infrastructure, developing user-friendly interfaces, and crafting policies that seamlessly integrate technology into governance practices. As technology rapidly advances, e-Governance continues to evolve, presenting both new opportunities and challenges. E-Governance encompasses a spectrum of applications, ranging from basic online service delivery and information dissemination to more advanced systems utilizing data analytics, artificial intelligence, and cutting-edge technologies (United Nations, 2016). This dynamic field is not merely about automating existing processes but also about reimagining governance structures to better engage citizens, improve decision-making, and foster innovation.

The advent of E-Governance in Panchayat Raj systems signifies a transformative leap toward enhancing transparency, efficiency, and citizen-centric service delivery at the grassroots level of governance in India. Panchayat Raj institutions play a pivotal role in local administration, and the implementation of E-Governance initiatives in this context holds significant promise. E-Governance significantly enhances transparency, providing citizens with real-time access to information about decision-making processes, financial transactions, and project implementations (Kour & Mir, 2018). Through the automation of administrative processes, such as record-keeping, application processing, and certificate issuance, E-Governance contributes to more efficient service delivery, thereby reducing the turnaround time for citizen services. Additionally, E-Governance plays a crucial role in citizen empowerment by facilitating easier access to information and services, enabling active participation in local governance, and fostering community engagement (Bhuvanewari & Devi, 2019). Furthermore, the implementation of E-Governance tools enables data-driven decision-making, allowing officials to leverage analytics for policy impact assessment and effective resource allocation (Sharma & Gupta, 2018). In the realm of financial management, digital platforms introduced by E-Governance automate budgeting, financial tracking, and auditing processes, thereby reducing the likelihood of financial mismanagement (Rao & Metri, 2017).

The implementation of E-Governance in Panchayat Raj faces several challenges and gaps. Firstly, the digital divide remains a significant obstacle, as limited access to digital infrastructure, including internet connectivity and computer literacy, hampers the widespread adoption of digital platforms, particularly in remote rural areas. Secondly, infrastructure constraints pose a substantial gap, with many Panchayat Raj institutions lacking the necessary hardware, software, and internet connectivity for effective implementation. Thirdly, resistance to technological change among Panchayat Raj officials and staff can impede successful implementation, necessitating the implementation of training programs and change management strategies. The digital nature of

E-Governance also introduces cybersecurity concerns, making Panchayat Raj systems vulnerable to cyber threats, data breaches, and unauthorized access. Lastly, Panchayat Raj institutions often operate with limited financial



resources, and the initial investment required for E-Governance infrastructure can strain budgets, presenting a financial challenge to sustainable implementation (Sharma & Gupta, 2018).

**Figure 02:** Challenges to E-Governance, Source: <https://www.drishtiiias.com>.

E-Governance in Panchayat Raj holds immense potential for transforming rural governance. While the benefits are significant, addressing existing challenges and gaps is crucial for sustainable and inclusive implementation. Bridging the digital divide, enhancing technological infrastructure, mitigating resistance to change, ensuring cybersecurity, and allocating adequate financial resources are essential steps toward unlocking the full benefits of E-Governance in Panchayat Raj institutions.

### Objectives:

The main objectives of the study are as follows

1. To appreciate the concept e-Governance
2. To understand the initiatives and Implementation of E-Governance Programmes in Karnataka
3. To know the challenges of implementation of E-Governance Programmes in the state.

### Methodology:

The major objective of this research paper is to assess and analyze the e-governance programs, and projects developed by the Govt. of Karnataka. It also emphasizes to study the challenges and opportunities vis-a-vis E-Governance in Panchayat Raj institutions of Karnataka. The methodology of this paper is descriptive and the required information is collected from different secondary sources like books, research articles, periodicals and newspaper reports, websites of Ministry of Rural Development and different government documents, etc.

## Karnataka E-Governance Initiatives

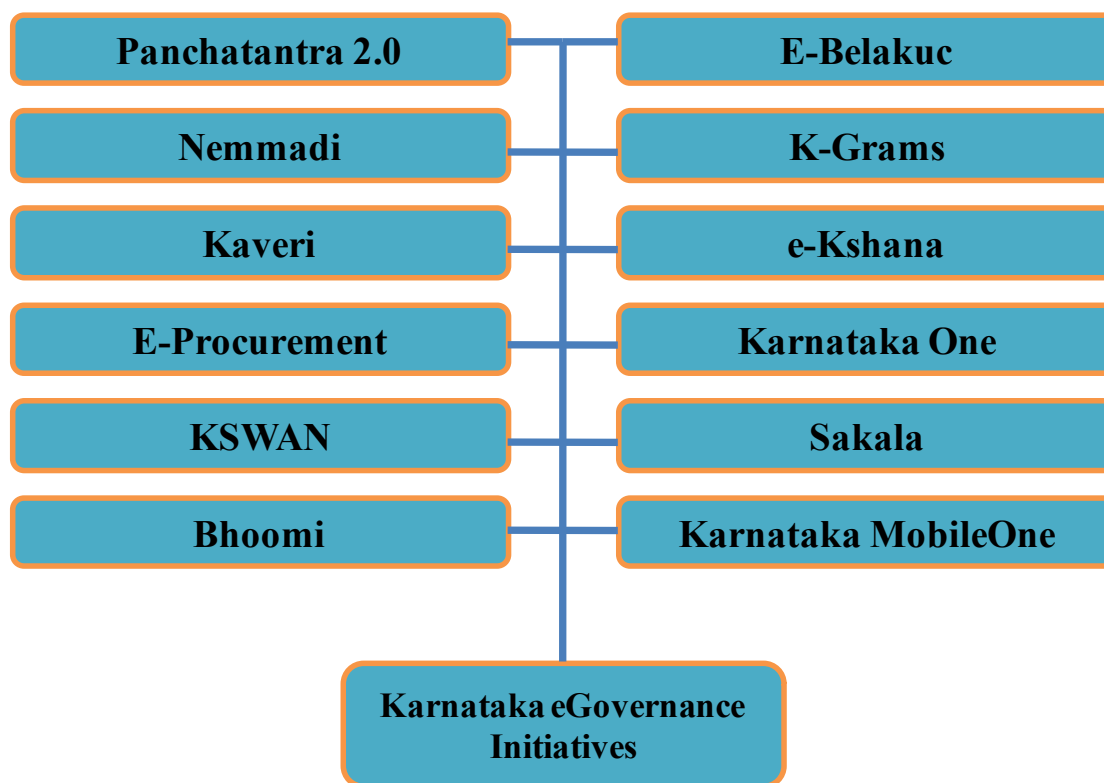


Figure 03: Karnataka eGovernance Initiatives

## 1. Panchatantra 2.0

Panchatantra 2.0, a pioneering initiative in Karnataka, strives to revolutionize Grama Panchayats by creating an integrated and digitized platform for efficient governance and reporting. Designed as a comprehensive single sign-on solution, it aims to link key functions and operations with other applications, ensuring seamless end-to-end processes. The initiative encompasses various modules addressing critical Grama Panchayat functions. The HRMS module efficiently manages human resources, incorporating features like GP staff registration, Eos approval for salary disbursement, salary payments through P2, and attendance tracking. It emphasizes a user-friendly environment accessible over browsers, fostering integration with related applications, and enabling employee self-service. Panchatantra 2.0 optimizes revenue collection by generating property demand, providing digital tax receipts, and ensuring precise finance and accounting through scheme balance updates and voucher management. Citizen services are streamlined through the BSK platform, issuing digitally signed certificates, and ensuring timely service delivery. Objectives include effective human resource management, offering a consolidated interface for accessing employee details, facilitating decision-making through updated information, and integration with related applications. The initiative focuses on enhancing the ease of doing business, fostering innovation, and improving citizens' overall quality of life. Key features include single window access, digital identity linked to Aadhaar cards, a secure payment gateway, a mobile app, a chatbot, and analytics for personalized services. Panchatantra 2.0 brings benefits like convenience, transparency, time-saving, improved governance, and increased citizen participation. Challenges such as robust digital infrastructure, awareness among citizens, and addressing potential connectivity issues need effective government intervention for the initiative's success.

## **2. Gandhi Sakshi Kayaka 2.0**

Gandhi Sakshi Kayaka 2.0, developed by the Department of Rural Development and Panchayat Raj, is a significant upgrade from the original application mandated since October 2013. The earlier version faced challenges, as physical and financial progress entries were primarily made during contractor payments, leading to incomplete status tracking. In response, the Rural Development and Panchayat Raj Department introduced Gandhi Sakshi Kayaka 2.0, incorporating new technologies to address these gaps. The upgraded version introduces spatial mapping during the proposal stage to prevent duplication of works. It mandates real-time capture of physical progress at each stage, facilitating online payments to contractors. Key features include the entry and monitoring of works assigned to various departments, spatial mapping for each work proposal, real-time capture of tender and contractor details, and the use of geo-tagged photos via a mobile app. Payments to contractors by the Karnataka Rural Road Development Agency and other departments will be exclusively online, utilizing the Payment Advice generated by Gandhi Sakshi Kayaka 2.0 for enhanced efficiency and transparency.

## **3. Bapuji Seva Kendra**

The Bapuji Seva Kendra Initiative, introduced on July 1, 2016, by the Government of Karnataka under the RDPR department, aimed to establish service centers in all Grama Panchayats in Karnataka, providing various services primarily from RDPR, Revenue, and other departments. In October 2020, certain services were made available online through the Bapuji Seva Kendra web portal; however, challenges persisted regarding awareness and user-friendliness. To address these issues, Bapuji Seva Kendra 2.0 is being launched, featuring a streamlined application form and standardized processes. The objective is to enhance the citizen interface and experience, making services more accessible and promoting the decentralization of Citizen Service Delivery at Grama Panchayats. This initiative aims to reduce travel time, waiting time, and overall costs, ensuring a more efficient and user-friendly service delivery system.

## **4. Kutumba**

Kutumba is an evolving Entitlement Management System that is transforming into an Integrated Social Information System (SIIS). It encompasses a social registry, integrated beneficiary management systems, a beneficiary registry, payment platform, and a grievance redressal system. The project's overarching goal is to facilitate the automatic delivery of benefits and services by validating entitlement, identifying eligible residents, and subsequently approving the respective service or scheme. Utilizing data available in various department databases, Kutumba employs a unique Kutumba ID to empower residents to verify their entitlements and eligibility and apply for various schemes seamlessly. The Kutumba ID retrieves eligibility criteria data, such as caste, income certificate, landholding, and special abilities, eliminating the need for document submissions or registration numbers during the application process. The Kutumba Project endeavors to assign a distinct identity to resident families in Karnataka, serving as a comprehensive repository of resident attributes. This initiative, implemented by the Centre for e-Governance, Department of Personnel & Administrative Reforms (e-Governance), Government of Karnataka, aims to streamline access for residents to seamless government services and benefits.

## **5. Bhoomi**

Land Records Management System is an innovative online platform introduced by the Government of Karnataka, aiming to offer citizens transparent and efficient access to land records. Through digitalizing land records and providing online accessibility, Bhoomi simplifies the process of obtaining various certificates related to land ownership, including RTC (Record of Rights, Tenancy, and Crop Information) and Mutation Certificates. This digitization has significantly reduced the time and effort required for citizens to access land-related documents, enhancing overall transparency in land records management.

**6. Karnataka MobileOne**

Karnataka MobileOne is a mobile application, has revolutionized citizen access to various government services and information on a unified platform. Facilitating services like bill payments, ticket booking, and application tracking through mobile devices, Karnataka MobileOne has substantially improved the accessibility and convenience of government services.

**7. Karnataka State Wide Area Network (KSWAN)**

Karnataka State Wide Area Network (KSWAN) acts as a robust network connecting government offices and departments across the state, enhancing communication and coordination. The network's efficiency has notably improved the speed of government services, ensuring secure data exchange.

**8. Sakala**

Sakala is a Right to Public Services is a distinctive initiative ensuring time-bound delivery of government services to citizens. Covering over 600 services, the program specifies time limits for service provision, enhancing efficiency, transparency, and reducing bureaucratic hurdles.

**9. Karnataka One**

Karnataka One is a citizen service center, provides centralized access to various government services, enhancing accessibility, especially in rural areas. The computerized systems in these centers enable quick and efficient access to services, contributing to improved governance.

**10. Kaveri**

Kaveri is an online platform for property registration and mutation, has processed over 10 million property registrations since its launch in 2011. This platform streamlines property-related services, reducing the time and effort required for citizens.

**11. E-Kshana**

E-Kshana is an online platform for issuing birth and death certificates, simplifies the application process, eliminating the need for citizens to visit government offices. This platform has processed over 10 million certificates since its launch in 2006.

**12. Nemmadi Kendra.**

Nemmadi Kendra is an online platform for filing and tracking complaints related to the public distribution system (PDS), aims to improve transparency and reduce corruption in the system. Launched in 2012, this platform has received over 1.5 million complaints.

**13. K-Grams**

K-Grams is an online platform for village-level governance, enhances access to government services and information in rural areas. Launched in 2013, this platform contributes to improved governance and service delivery at the village level.

**14. E-Belaku**

As of October 2021, Gram Panchayats in Karnataka have an outstanding electricity bill amounting to 4229.60 Crore Rupees, with the principal amount being 3518.05 Crore Rupees and an additional interest of 711.05 Crore Rupees. To address this, the State government allocates and releases 60% of Statutory Grants (398 Crore for each financial year) to the ESCROW accounts of Gram Panchayats for the operation and maintenance of drinking water

units and streetlights. The Rural Development and Panchayat Raj Department has directed Gram Panchayats to supplement these funds with Central Finance Commission Grants and Own Source Revenue for timely bill payments and clearing pending dues. Despite these measures, some Gram Panchayats are found to be delinquent in paying their dues to Electricity Supply Companies within the specified timeframe. Additionally, challenges exist, such as the absence of RR number-wise bills provided by the Electricity Supply Companies, instances of non-functional meters for RR numbers, and cases where bills are issued without actual meter readings. Moreover, there is a lack of identification and disconnection of defunct water supply installations by Gram Panchayat officials. Even when identified, requests for disconnection have not been met with action from the Electricity Supply Companies. Addressing these challenges is crucial to ensure timely and accurate electricity bill payments and efficient management of water supply installations in Gram Panchayats.

### **Conclusion:**

The Government of Karnataka has undertaken a comprehensive and transformative approach to E-Governance, implementing a diverse array of initiatives aimed at enhancing public service delivery, ensuring transparency, and streamlining administrative processes. Notable initiatives such as the Bhoomi – Land Records Management System and Karnataka MobileOne underscore the commitment to transparency and mobile accessibility, respectively. The establishment of the Karnataka State Wide Area Network (KSWAN) has facilitated efficient communication and data exchange across government offices, fostering a more connected and collaborative administrative landscape. The Sakala – Right to Public Services program prioritizes time-bound delivery of services, setting a standard for efficiency and citizen-centric governance. The E-Procurement platform digitizes and streamlines procurement processes, enhancing efficiency and transparency. Karnataka One, serving as a citizen-centric model, brings various government services under one roof, significantly improving accessibility and convenience, especially in rural areas. Initiatives like Kaveri for online property registration, E-Kshana for online birth and death certificates, and Nemmadi for addressing complaints related to the public distribution system contribute to digital solutions for citizen services and grievance redressal. The K-Grams initiative focuses on village-level governance, bridging the urban-rural digital divide. These initiatives collectively propel Karnataka into the forefront of digital governance, serving as a model for other regions. The state's dedication to innovation, efficiency, and citizen-centric services sets a precedent for leveraging technology as a catalyst for comprehensive development and improved governance, reinforcing its position as a pioneer in the digital era with a continued commitment to growth and development in the years to come.

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