

Artificial Intelligence (AI) Transforming Rural India

Key Takeaways

- *AI is emerging as a foundational driver of inclusive rural development in India.*
- *India's AI governance frameworks prioritize fairness, accountability, transparency, and context-specific risk mitigation to prevent exclusion and administrative harm.*
- *AI integration within Panchayati Raj Institutions, Digital Public Infrastructure, and welfare systems enhances transparency, efficiency, planning, and grassroots participation.*
- *Multilingual and voice-enabled platforms such as **BHASHINI**, **BharatGen**, and **Adi Vaani** reduce linguistic and literacy barriers, expanding access to services and governance.*
- *National missions, sectoral initiatives, state-led innovations, and the **India–AI Impact Summit 2026** reflect a coordinated shift toward scalable, people-centric AI-aligned with inclusive growth and the vision of **Viksit Bharat@2047**.*

Introduction

Artificial Intelligence (AI) refers to the ability of machines to perform cognitive functions such as learning, reasoning, problem-solving, and decision-making. Rapid advances in data availability, computational power, and digital connectivity have accelerated AI's transition from experimental applications to large-scale public deployment.

*In India, AI is being positioned within a **social-purpose framework**, aligned with inclusive welfare and public service delivery. Rather than functioning as an elite or exclusionary technology, AI is framed as a public good aimed at equity, accessibility, and broad-based participation. This orientation is particularly significant for rural India, where persistent infrastructure gaps, service delivery challenges, and socio-economic vulnerabilities require scalable and data-driven solutions.*

The India–AI Impact Summit 2026 reinforces this people-centric approach by emphasizing rural livelihoods, social inclusion, and service delivery across agriculture, healthcare, education, and governance. By aligning the IndiaAI Mission with Digital Public Infrastructure (DPI), the Summit marks a transition from pilot experimentation to system-wide implementation.

National AI Policy and Governance Framework for Inclusive Development

India's AI approach combines strategic ambition with regulatory safeguards, ensuring that technological advancement remains aligned with ethical governance and social equity.

National Strategy for Artificial Intelligence: AI for All

Launched by **NITI Aayog** in June 2018, the National Strategy for Artificial Intelligence identifies AI as a transformative tool to address developmental challenges. The strategy prioritizes underserved sectors—agriculture, healthcare, education, and smart mobility—where AI can improve access, affordability, and quality.

The framework emphasizes **augmentation rather than displacement**, positioning AI as a support system for farmers, frontline health workers, teachers, and administrators. Through decentralized skilling and digital employment pathways, AI is envisioned as a catalyst for rural economic participation.

Under the #AIforAll vision, AI becomes a tool for strengthened governance, inclusive growth, and human capability enhancement.

India AI Governance Guidelines

Released by the **Ministry of Electronics and Information Technology** in November 2025, the India AI Governance Guidelines shift focus from applications to institutional safeguards.

Key features include:

- Seven guiding ethical principles (Sutras)
- Recommendations across six governance pillars
- Phased implementation roadmap
- Practical compliance guidelines for developers and regulators

The framework advocates **India-specific risk assessment**, recognizing that global AI governance models may not reflect local socio-economic realities. In rural welfare systems—where automated tools influence eligibility and service targeting—such safeguards are essential to prevent bias, exclusion, and administrative harm.

By embedding accountability, privacy, and interoperability into Digital Public Infrastructure, the framework promotes trust-based AI governance.

AI in Rural e-Governance and Decentralized Administration

AI Tools for Panchayati Raj Institutions

AI integration is strengthening decentralized governance at the grassroots level.

SabhaSaar, an AI-enabled documentation tool, generates structured minutes from Gram Sabha and Panchayat meeting recordings. Integrated with **BHASHINI**, it supports 14 Indian languages, enhancing multilingual accessibility and administrative transparency.

Digital platforms such as **eGramSwaraj** and **Gram Manchitra** further streamline governance functions:

- *eGramSwaraj integrates planning, budgeting, accounting, and monitoring into a unified digital ecosystem.*
- *Gram Manchitra provides GIS-based spatial planning tools, enabling evidence-based infrastructure and natural resource management.*

The large-scale adoption of these platforms demonstrates the institutionalization of AI-enabled decentralized governance.

AIKosh: Shared Infrastructure for Innovation

AIKosh serves as a national repository of datasets and AI models, supporting public-sector innovation. With over 7,500 datasets and 273 AI models, it reduces entry barriers for developers building governance applications.

By promoting reuse of foundational AI components, AIKosh accelerates scalable solutions for rural administration and service delivery.

AI Infrastructure and Sectoral Integration

AI's impact in rural India extends beyond applications to foundational infrastructure.

BhuPRAHARI: Geospatial AI for Rural Assets

Launched by the Ministry of Rural Development in collaboration with IIT Delhi, BhuPRAHARI integrates satellite imagery and AI analytics to monitor assets created under rural employment schemes. Real-time asset tracking enhances transparency, accountability, and resource optimization.

AI in Agriculture

AI-driven systems provide:

- *Weather forecasting*
- *Pest surveillance*
- *Crop health monitoring*
- *Irrigation optimization*

Virtual assistants such as Kisan e-Mitra deliver scheme-related information directly to farmers, reducing information asymmetry and production risk.

AI in Education and Skilling

*The **National Council of Educational Research and Training** integrates AI into the DIKSHA platform through keyword-based search and read-aloud tools, improving accessibility.*

The YUVAI programme introduces students to AI through experiential learning, fostering problem-solving skills applicable to agriculture, health, and governance.

AI for Language Inclusion and Multilingual Governance

BHASHINI – National Language AI Platform

Launched in July 2022, BHASHINI supports over 36 Indian languages and integrates with 23+ government services. It provides translation, speech recognition, and voice interfaces, ensuring rural users can access services in their native languages.

Through partnerships with ministries and startups, BHASHINI embeds voice-first design into public platforms, promoting last-mile inclusion.

BharatGen AI

BharatGen, launched in June 2025 under the IndiaAI Mission, is India's first sovereign multilingual and multimodal large language model. Supporting 22 Indian languages, it integrates text, speech, and document-vision capabilities.

Built on India-centric datasets, BharatGen enables language-accessible applications across agriculture, governance, and citizen services.

Adi Vaani

Adi Vaani addresses communication barriers in tribal communities by delivering governance, education, and healthcare information in native languages. Beyond translation, it supports language preservation and cultural documentation.

Conclusion

Artificial Intelligence is evolving into a structural pillar of rural transformation in India. Embedded within ethical safeguards, multilingual accessibility, and Digital Public Infrastructure, AI strengthens governance, enhances transparency, and augments human capacity.

Rather than replacing human systems, AI complements frontline workers, improves data-driven planning, and bridges structural inequalities. As India advances toward Viksit Bharat@2047, the responsible and inclusive deployment of AI across rural ecosystems will be central to building resilient, equitable, and future-ready development systems.

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Introduction



Artificial Intelligence (AI) refers to the ability of **machines** to perform **cognitive tasks** such as learning, reasoning, and decision-making. In recent years, AI has rapidly moved from **experimental use** to **large-scale deployment**, driven by advances in data, computing power, and connectivity. In India, AI is being developed within a **social-purpose framework** aligned with the vision of **inclusive welfare**, positioning it as a public good aimed at equity and broad-based access rather than exclusivity. By strengthening service delivery, supporting data-driven governance, and integrating marginalised communities into formal systems, AI is particularly relevant to **rural development** across **agriculture, healthcare, skilling, employment, and local governance**.

National Strategy for Artificial Intelligence: AI for All

The **National Strategy for Artificial Intelligence**, launched by **NITI Aayog** in **June 2018**, identifies AI as a transformative tool to address India's development challenges by improving **access, affordability, and quality of essential services**. It prioritises inclusive and socially oriented growth, particularly in underserved sectors and regions, with rural India recognised as a key focus area due to persistent service and infrastructure gaps. In sectors such as **agriculture, healthcare, and education**, AI-enabled decision-support systems and data-driven platforms are envisaged to strengthen **frontline workers** and **local institutions**, extending services to remote populations without extensive physical infrastructure expansion.

The strategy emphasises augmentation rather than displacement of human labour, positioning AI as a support system for **farmers, health workers, teachers, and administrators**. It also highlights AI's role in promoting **inclusive economic participation** through **decentralised skilling, digital work opportunities, and technology-aligned training**. Under the **#AIforAll framework**, AI is framed as a catalyst for inclusive rural growth, strengthened governance, and enhanced human capacity.

India AI Governance Guidelines: Deploying AI Responsibly in Rural India

The **India AI Governance Guidelines**, launched by the **Ministry of Electronics and Information Technology (MeitY)** in **November 2025**, reorient AI policy from a focus on applications to **governance frameworks, safeguards, and institutional preparedness**-an approach particularly significant for rural India. The guidelines establish people-centric principles, such as **fairness, accountability, and transparency**, to mitigate the risks of bias, exclusion, and opaque decision-making. Recognising that global risk models may not fully capture India's socio-economic context, the framework advocates **India-specific risk assessment and protections**, especially in welfare delivery systems where automated tools influence targeting and service provision.

The framework comprises four key components:

- **Seven guiding principles (Sutras)** for ethical and responsible AI.
- **Key recommendations** across six pillars of AI governance.
- An **action plan** mapped to short, medium, and long-term timelines.
- **Practical guidelines** for industry, developers, and regulators to ensure transparent and accountable AI deployment.

It further promotes **system-level governance** through **Digital Public Infrastructure**, embedding privacy, interoperability, and accountability by design. A **whole-of-government approach** enhances coordination across ministries and states, **strengthening transparency, grievance redressal, and institutional capacity** to ensure inclusive and trust-based AI-enabled governance.

AI in Rural e-Governance and Decentralized Administration

Artificial Intelligence is increasingly being used to strengthen rural governance by improving transparency, efficiency, and citizen access to public services.

AI Tools for Gram Panchayat and Local Governance



AI is being directly integrated into **Panchayati Raj Institutions** to **strengthen decentralised governance**. One such tool is **SabhaSaar**, an **AI-enabled tool that generates structured minutes of Gram Sabha and Panchayat meetings** from audio or video inputs. By automating documentation, SabhaSaar reduces manual effort, improves consistency, and ensures timely and unbiased records. Integrated with BHASHINI, it supports functionality in 14 Indian languages, enabling multilingual accessibility across rural communities. By

streamlining administrative processes, *SabhaSaar* allows local officials to focus more effectively on governance outcomes and service delivery.



AI-enabled governance is further strengthened through digital platforms such as *eGramSwaraj* and *Gram Manchitra*. Developed under the **e-Panchayat Mission Mode Project** and launched in April 2020, eGramSwaraj consolidates key Panchayat functions—including **planning, budgeting, accounting, monitoring, asset management, and payments**—into a unified digital system. In **FY 2024-25**, the platform onboarded over **2.53 lakh gram panchayats**, along with **6,409 block panchayats** and **650 Zila panchayats**, reflecting its extensive adoption in decentralised governance.



Gram Manchitra complements administrative systems by offering **GIS-based visualisation and planning tools** to support rural development. It enables Panchayats to **map assets, monitor projects, and integrate spatial data** into Gram Panchayat Development Plans (GPDPs). By linking geotagged infrastructure with demographic and environmental data, the platform enables **evidence-based decision-making** across infrastructure planning, natural resource management, and disaster response, thereby strengthening alignment between planning and implementation. As of FY 2024–25, **2.44 lakh gram panchayats** have prepared and uploaded GPDPs, **2.06 lakh** have completed online transactions under the 15th Finance Commission grants, and **2.32 lakh** have conducted Gram Sabha meetings.



AIKosh: Use-Cases for Rural e-Governance



AIKosh serves as a national **repository of AI datasets** and models to advance **public-sector innovation**. It consolidates data from **governmental** and **non-governmental sources** and offers ready-to-deploy AI models across diverse sectors. With more than **7,500 datasets** and **273 AI models** spanning 20 industries, the platform lowers entry barriers for developers designing governance and service delivery applications. By enabling the reuse of foundational AI components, AIKosh accelerates the development of solutions for **rural e-governance** and **public administration**. As of 9 February 2026, the platform has recorded over **69.80 lakh visits**, **17,500 registered users**, and **5,004 model downloads**, underscoring the expanding role of shared data infrastructure in scaling AI for public good.

AI Infrastructure and Sectoral Integration in Rural India

The effective use of Artificial Intelligence in rural development extends beyond application design to the establishment of robust digital and institutional infrastructure. In India, AI infrastructure is being advanced through collaborative efforts involving government agencies, academic institutions, and national platforms. These initiatives integrate data resources, computational capacity, and domain expertise to enhance planning, monitoring, and service delivery in rural contexts. Collectively, they form the foundational ecosystem needed to scale AI solutions and align them with grassroots development priorities.

BhuPRAHARI: AI and Geospatial Infrastructure for Rural Asset Management

BhuPRAHARI, launched in **May 2025** by the **Ministry of Rural Development** in collaboration with **IIT Delhi**, integrates AI and geospatial technologies to monitor assets created under MGNREGA. Initially, the platform was utilised as a **water observatory** for monitoring **Amrit Sarovars**, enabling scientific assessment of water availability, and storage status through satellite- and ground-based data. The platform will now be utilised for monitoring assets created under the **Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin)** (VB-G RAM G). By leveraging ground- and satellite-based data with AI-driven analytics, the platform enables **real-time asset tracking, enhancing transparency, accountability, and resource optimisation**. This convergence of AI and geospatial infrastructure strengthens the planning and implementation of large-scale rural development programmes.

Digital ShramSetu Mission and AI for Informal Workers

The **Digital ShramSetu Mission** is a coordinated initiative to deploy AI and other frontier technologies within the **informal sector**. By aligning technological deployment with regulatory frameworks and impact assessment, the mission enhances service delivery and livelihood support for informal and rural workers, thereby promoting **inclusive and sustainable rural development**.

AI Infrastructure in Agriculture



In agriculture, AI operates as a **decision-support system** at the farm level, enabling data-driven management practices. Applications include **weather forecasting, pest detection, and optimization of sowing and irrigation schedules**. The Ministry of Agriculture and Farmers Welfare has deployed AI through initiatives such as **Kisan e-Mitra**, a virtual assistant

providing information on government schemes, including income support programmes. Additionally, platforms such as the **National Pest Surveillance System and Crop Health Monitoring** integrate **satellite imagery, meteorological data, and soil information** to generate real-time advisories. These interventions **reduce production risks, enhance productivity, and strengthen farmers' income security**, particularly in vulnerable regions.

AI Infrastructure for Education and Skilling



At the national level, NCERT's **DIKSHA** platform incorporates AI-enabled features such as keyword-based video search and read-aloud tools to enhance accessibility and promote **inclusive learning**, particularly for **students with visual impairments and diverse educational needs**. Complementing this, the **National e-Governance Division** under the Ministry of Electronics and Information Technology has introduced **Youth for Unnati and Vikas with AI (YUVAI)**-to equip students from **Classes VIII to XII** with foundational AI and socio-technical skills through experiential learning. By enabling AI across sectors, including agriculture, health, and rural development, the programme fosters **real-world problem-solving and future-ready competencies across diverse contexts**.

A State-Led Initiative to Promote AI in Rural Development

The **Suman Sakhi WhatsApp Chatbot** illustrates state-level adoption of AI to strengthen rural healthcare delivery. Launched under the **National Health Mission** in Madhya Pradesh, it employs **AI-enabled conversational tools** to provide women and families with **accessible maternal and newborn health information**. The platform offers details on delivery services, nearby health facilities, and support from frontline workers such as **ASHAs and ANMs**. Leveraging WhatsApp enhances **last-mile outreach**, particularly in rural and high-risk areas. Planned features, including **multilingual access, grievance redressal, and real-time updates**, demonstrate the potential of locally contextualised AI solutions to advance inclusive and responsive rural healthcare systems.

AI for Language Inclusion and Multilingual Governance

Artificial Intelligence is playing a central role in expanding language access and inclusion in India by enabling citizens, especially in rural, remote, and tribal areas, to interact with digital services in their own languages, thereby strengthening last-mile service delivery and participatory governance.

BHASHINI – National Mission on Natural Language Translation



BHASHINI is an AI-enabled language platform designed to reduce linguistic barriers to accessing digital services and is currently integrated with **over 23 government services**. Launched in July 2022, it offers **translation, speech-to-text, and voice-based interfaces** across more than **36 Indian languages**, promoting inclusion for users with limited literacy or digital proficiency, particularly in rural areas. Through integration with public digital infrastructure and cross-sector partnerships, the platform has scaled significantly. As of October 2025, BHASHINI supports over **350 AI language models** and has surpassed **one million downloads**.

BHASHINI operates as a collaborative ecosystem fostering **co-creation and innovation**, partnering with over **50 ministries, startups, and private entities** to develop multilingual solutions across **agriculture, governance, education, and public administration**. By integrating **voice-first and language-inclusive design** into digital platforms, it enhances last-mile connectivity and promotes **equitable participation** in the **digital economy**. In rural development contexts, BHASHINI ensures that **linguistic diversity** does not impede access to welfare schemes, information, or public services.



BHASHINI Sanchalan is a collaborative initiative of central ministries and the Digital India BHASHINI Division that strengthens multilingual governance through AI-enabled language technologies. Implemented under the broader BHASHINI programme, it integrates **voice-first interfaces** and **translation capabilities** into public digital systems to enhance governance processes and service delivery. The initiative supports the development of **domain-specific language models**, enhances translation accuracy, and standardises terminology through collaborative model training. The initiative promotes linguistic inclusion and citizen participation, particularly in rural and underserved regions.

BharatGen AI: India's Multilingual AI Model



BharatGen, launched in June 2025, is **India's first government-funded, sovereign, multilingual, and multimodal Large Language Model**. Developed under the National Mission on Interdisciplinary Cyber-Physical Systems and advanced through the IndiaAI Mission, it supports **22 Indian languages** and integrates text, speech, and document-vision capabilities. Built on **India-centric datasets** and led by a consortium of academic institutions, BharatGen establishes a domestically developed **AI stack for public and developmental applications**.

In the context of rural development, BharatGen enables inclusive, language-accessible AI solutions that **reduce literacy and digital barriers**. Its voice-enabled and multilingual capabilities support applications in **agriculture, governance, and citizen services, strengthening last-mile delivery and rural participation** in the digital economy.

Adi Vaani: Enabling Inclusive Rural and Tribal Development



Adi Vaani is an **AI-enabled language platform** designed to address communication barriers faced by tribal communities in remote and underserved regions. Under the **Adi Karmayogi framework**, it facilitates access to **governance, education, and healthcare services** in native tribal languages. Developed using authentic linguistic data from State Tribal Research Institutes, the platform integrates technological innovation with community knowledge. It incorporates feedback mechanisms to ensure **linguistic accuracy, cultural relevance, and continuous improvement**.

Beyond translation, Adi Vaani supports **language preservation, cultural documentation, and digital learning** by digitising endangered languages and oral traditions. By enhancing linguistic inclusion in public services and supporting community empowerment, the platform exemplifies the **responsible use of AI** to advance **inclusive rural and tribal development** aligned with national priorities.

Conclusion

Artificial Intelligence is **steadily evolving into a foundational pillar of rural transformation in India**, not merely as a technological intervention but as an integrated public infrastructure aligned with inclusive development goals. Through a combination of **strategic vision, governance safeguards, digital public infrastructure, multilingual platforms, and sectoral integration** across agriculture, healthcare, education, skilling, and local governance, AI is being institutionalised to augment human capacity rather than replace it. When embedded within principles of fairness, transparency, and linguistic inclusion, AI strengthens **last-mile service delivery**, enhances participatory governance, and reduces structural inequalities. As India advances toward **Viksit Bharat@2047**, the **responsible and people-centric deployment of AI in rural ecosystems** will remain central to building resilient, equitable, and future-ready development systems.