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Digital Transformation and Democratic Values: Ethical Challenges of AI-Powered Administrative Systems in Indian Governance

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Abstract

The quick adoption of Artificial Intelligence (AI) in public administration, including apps like UMANG, DigiLocker, MyGov, and AI-enabled welfare delivery, marks a paradigmatic change in the architecture of democratic governance in India. While these initiatives in digital transformation can bring great benefits to service delivery in terms of efficiency, transparency, and inclusivity, they also present several ethical challenges that can jeopardize the very principles of democracy. This paper explores four areas of ethical concerns related to the use of AI in administrative applications in the Indian context: algorithmic bias and its effects on marginalized groups, the concept of 'surveillance capitalism' and the violation of citizen privacy, the issue of lack of democratic participation in opaque decisions made by AI, and the potential exacerbation of socio-economic disparities due to the digital divide. The study is based on empirical data from government reports, peer-reviewed academic journals (Scopus, Web of Science, Google Scholar) (2015-2024), and comparative studies of international governance models, and it is argued that the digital governance journey in India needs to be taken up with an ethical approach in the spirit of the right, participation, and the constitution. Finally, the paper suggests policy recommendations for the responsible use of AI in public administration in India, highlighting the need for transparency, inclusiveness, and democratic accountability.

Key Words: E-Governance, Artificial Intelligence, Digital Governance, Democratic Values, Algorithmic Bias, Surveillance, Digital Divide, India, Public Administration, Ethical Artificial Intelligence.

1. Introduction

One of the most important policy areas for the 21st century is that of digital technology and democratic governance. It has been in the spotlight in India, the world's largest democracy, due to the successive governments' efforts to make large-scale digital transformation programmes by launching Digital India (2015), National AI Strategy (NITI Aayog 2018), and the National Data Governance Framework Policy (MeitY, 2022). These programs have a vision to make public services efficient, minimize corruption, and make government more accessible to the people who need it, using Artificial Intelligence (AI) and data-driven systems; ultimately, it is about making democracy more participative (Krishnan, 2020; Sharma & Mehta, 2021).

However, the application of AI in public administration is not a technology in itself that is value-free. Deep political and ethical implications lie within each algorithmic system, which each make assumptions of priority, fairness, and legitimacy (Eubanks, 2018; O'Neil, 2016). Beyond the technology, in a country like India with deep structural inequalities based on caste, gender, religion, and languages, and geography, even when used without critically, AI-powered administrative systems are likely to increase inequality (Ramanathan, 2019; Datta & Nandi, 2021). Insensitive systems can lead to a systematic exclusion and/or disadvantage of the very populations which require efficient public service delivery, for example rural communities, Dalits, Adivasis, women, persons with disability etc.Beyond bias and exclusion, there are other ethical concerns related to AI in governance. They include basic issues of democratic responsibility: Who is responsible if an algorithm turns down a citizen's claim to a welfare benefit? What if the machine-

learning systems behind them are opaque, and citizens can't interrogate or understand them to contest decisions made by them? How to ensure individual privacy with AI's massively enhanced state surveillance capabilities? These questions address the core of the constitutional bargain between the State of India and its citizens, where equality before law (Article 14), protection from arbitrary action by the State (Article 21), and the right to information (RTI Act, 2005) are guaranteed.

This paper aims to systemically investigate these ethical issues. It does so by placing India's AI governance journey in the context of the global discussions on responsible AI with the help of empirical evidence from government statistics, academic studies, civil society reports, and international experience. The paper is organized as follows: Section 2 presents a literature review on AI ethics in governance; Section 3 explores the AI deployment scenario in public administration in India; Section 4 analyzes algorithmic bias and its effects on marginalized communities; Section 5 discusses the issue of surveillance, privacy and democratic freedoms; Section 6 presents the issue of accountability deficits and the rule of law; Section 7 presents an analysis of the digital divide; Section 8 reviews the existing regulatory framework in India; Section 9 makes policy recommendations and Section 10 concludes.

The paper joins the emerging interdisciplinary field of research that aims to connect computer science, political science, law, and development studies to gain a better understanding of how AI is changing democratic governance (Doshi-Velez et al., 2017; Mittelstadt et al., 2016; Jobin et al., 2019). It provides empirical evidence and policy analysis of AI specifically from the Indian context, which goes beyond the focus of much of the literature on AI ethics, which is predominantly Western and from the Global North.

2. Literature Review

2.1 International Research on AI Ethics and Democratic Governance

Since the mid-2010s, the scholarship on AI ethics has grown at a rapid rate, fueled by high-profile mistakes of algorithmic systems in areas as diverse as criminal justice (Angwin et al., 2016) to social welfare (Eubanks, 2018) and financial services (Obermeyer et al., 2019). Jobin et al (2019) systematically reviewed 84 AI ethics guidelines from around the world and found eleven converging themes: transparency, justice and fairness, non-maleficence, responsibility, privacy, beneficence, freedom and autonomy, trust, sustainability, dignity and solidarity. They found that there were many discrepancies between the principles and the mechanisms for implementation, especially in the areas of enforcement, accountability, and redress.

O'Neil coined the term ‘weapons of math destruction' in 2016 to describe algorithmic systems that are opaque, unquestioned, scale, systematically harm vulnerable populations, and are seemingly objective. Taking this analysis one step further, Zuboff (2019) theorised 'surveillance capitalism' as a new economic logic of extracting and commodifying behavioural data by digital platforms, and a new kind of threat to human autonomy and democratic self-determination. While Zuboff focuses on private corporations, other scholars have applied similar methods to analyse surveillance capitalism in the state, including Andrejevic (2020) and Lyon (2018), who argue that state-based AI systems are becoming more surveillance capitalist.

The current debates were expected by Dunleavy et al. (2006) in their analysis of ‘digital-era governance,' which showed that ‘threats to democratic values' exist in the transformation of public services through the use of ICTs if there are no robust mechanisms of accountability in place. More recently, Danaher et al. (2017) have expressed the notion of 'algocracy', that of governance by algorithm, and its consequences for legitimacy and democratic participation. Janssen and Kuk (2016) point to the ‘big and open data' drive in government and the potential dangers to privacy, security, and democratic accountability that come together with it.

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2.2 AI Ethics in the South Asian Indian Contexts

While the number of scholarships relating to the ethics of AI in governance in India is increasing, it is still less developed than the Global North. Ramanathan (2019) offers a pioneering study of the Aadhaar biometric identification system and contends that the architecture of Aadhaar can lead to mass surveillance and that the linkage with welfare delivery would violate the right to privacy as established by the Supreme Court in Puttaswamy v. Union of India (2017). Based on case studies of credit scoring, employment platforms, and judicial information systems, Srinivasan (2019) explores how algorithmic systems in India are prone to inheriting and perpetuating caste-based discrimination.

Datta and Nandi (2021) provide a feminist political economy analysis of the digital governance agenda in India, which they contend is exclusionary for women, especially those from rural areas, the lower caste, and minorities, as it is technologically mediated and driven by existing patriarchal structures. They underscore the importance of intersectionality in the study of AI ethics in India. In this context, Arora (2019) cautions against the techno-optimist stance that has been a hallmark of the digital governance policy in India, as 'last-mile' access to digital technologies does not always translate to meaningful participation or empowerment of the marginalised communities.

Gupta et al. (2022) provide an empirical study on e-governance in Andhra Pradesh and Telangana, focusing on the interplay between data-driven governance platforms and the administrative discretion and dynamics of power within communities, such as the flagship Samagra Vedika portal. Their findings suggest that algorithmic systems can create both new and different types of exclusion and that, in some cases, it is challenging to speak of technological progress as a form of displacement of corruption. Agarwal and Rao (2023) discuss AI use in the Indian judicial system and the need for constitutional protections in its use.

There are internationally comparable scholarships from China (Creemers, 2018), Brazil (Couldry & Mejias, 2019), and the European Union (Veale & Binns, 2017) that offer some interesting points of comparison with India, and it is important to take note of differences and commonalities in the challenges of regulating AI across different settings, given the particular constitutional, institutional and socioeconomic context of India.

3. Landscape of AI Deployment in Indian Public Administration

3.1 Policy Framework and Strategic Initiatives

The interaction between AI and governance in India has been influenced by various policy documents and institutional frameworks at the high level. In 2018, the National Strategy for Artificial Intelligence (NSAI) was released by NITI Aayog, which highlights five sectors for AI deployment, viz., healthcare, agriculture, education, smart cities, and smart mobility. The strategy highlighted India's demographic dividend, including a vast pool of young people and a rapidly expanding data ecosystem, as strategic opportunities for AI development and deployment, placing India as an 'AI garage' for the world (NITI Aayog, 2018).

This commitment is further strengthened by some more recent policy developments. The National Data Governance Framework Policy (2022) seeks to establish a single data governance framework, enable the utilization of government data for the development of AI, and ostensibly addresses concerns of privacy. The AI for All initiative, in partnership with industry partners, aims to foster public awareness of AI. Critics had noted that the proposed Digital Personal Data Protection Act (DPDPA, 2023) – India's first all-encompassing data protection law – still lacks some key features in the context of state accountability (Parsheera, 2023). Important policy developments are summarised in Table 1.

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Table 1: Key Policy Milestones in India's AI Governance Framework (2015–2023)

Year	Policy/Initiative	Key Provisions and Significance
2015	Digital India Programme	Overarching framework for ICT-enabled governance; three core pillars: digital infrastructure, digital services, digital literacy
2017	Puttaswamy v. Union of India (SC)	Right to Privacy declared fundamental; created constitutional imperative for data protection legislation
2018	National Strategy for Artificial Intelligence (NITI Aayog)	Identified 5 priority AI sectors; coined 'AI for All'; established a responsible AI framework
2019	National Electronic Policy	Promoted domestic manufacturing; addressed cybersecurity for digital governance.
2020	Personal Data Protection Bill (tabled)	Comprehensive data governance; later withdrawn (2022) for revision
2021	Responsible AI for Youth (MeitY)	AI literacy and ethical education for the school-going population
2022	National Data Governance Framework Policy	Unified data governance; anonymised data sharing for research and AI
2023	Digital Personal Data Protection Act	First enacted data protection law; established Data Protection Board; significant exemptions for state entities
2023	IndiaAI Mission (proposed)	INR 10,000 crore outlay for AI compute, datasets, startups, and responsible AI

Source: Ministry of Electronics and Information Technology (MeitY), Government of India; NITI Aayog (2018); Parsheera (2023); Ramanathan (2019). Compiled by authors.

3.2 Major AI-Powered Administrative Platforms

AI is being used in various areas and tiers of public administration in India. The Unified Mobile Application for New-Age Governance (UMANG) platform at the national level provides a single interface for accessing more than 2,000 government services from 38 departments. With the help of AI, citizens can get personalised services and interact with chatbots to get answers from government departments. In the DigiLocker system, over 230 million users are registered as of 2023, where AI is used for document verification and management. MyGov applies natural language processing (NLP) to citizens' feedback and to co-create policies (MeitY, 2023).

In the delivery of welfare services, AI has been applied to the Samagra Vedika land records portal in Andhra Pradesh and Dharani in Telangana, which have been explored as part of governance (Gupta et al., 2022). Through the use of AI, the Direct Benefit Transfer (DBT) system, which has cumulatively transferred over

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₹28 lakh crore since 2013, withholds payments for duplicate or ghost beneficiaries by matching with Aadhaar biometrics. The Direct Benefit Transfer (DBT) system, which has cumulatively paid out over ₹28 lakh crore since 2013, leverages AI to link Aadhaar biometrics with the beneficiary details, thereby stopping payments to duplicate beneficiaries or ghost beneficiaries. AI is being used in various contexts at the state level, such as Kerala's K-SMART project for students with disabilities, Gujarat's e-Gram Vishwagram project for e-governance, and Tamil Nadu's Nambikkai Iyal project for managing agricultural operations.

In the field of the judiciary, the Supreme Court's SUPACE (Supreme Court Portal for Assistance in Courts Efficiency) was launched in 2021, which uses AI to sort and distil relevant case law for judges to consider, raising questions about how algorithms shape judicial decisions. In the same way, the HARTRON and NIC projects have also used AI in various fields, such as tax collection and disaster management. Table 2 offers a snapshot of key AI applications by industry.

Table 2: Major AI-Powered Administrative Systems in India by Sector (2023)

Sector	Platform/Initiative	AI Application	Scale/Coverage
Identity & Welfare	Aadhaar-DBT Integration	Biometric matching, deduplication, and fraud detection	1.38 billion Aadhaar holders; ₹28+ lakh crore transferred (2013–2023)
Citizen Services	UMANG	Chatbots, personalised recommendations, NLP	2,000+ services; 38 departments; 60+ million app downloads
Document Management	DigiLocker	Document verification, AI authentication	230+ million registered users (2023)
Land Records	Dharani (Telangana)	Automated land title management, fraud detection	8.7 million land parcels; 36 districts
Welfare Delivery	Samagra Vedika (AP)	Beneficiary data integration, service targeting	55+ government schemes; 13 million households
Justice	SUPACE (Supreme Court)	Legal research, case law retrieval, prediction	Supreme Court, being scaled to High Courts
Health	National Health Mission AI tools	Disease surveillance, drug supply management	Deployed in 15+ states
Agriculture	PM-KISAN with AI crop advisory	Satellite imagery, crop monitoring, advisory	110+ million farmer beneficiaries
Tax Administration	GSTN AI	Fraud detection, return processing, analytics	16+ million GSTN filers
Education	DIKSHA / AI-based adaptive learning	Personalised content, teacher training	250+ million enrolments (2022–23)

Source: MeitY Annual Report 2022–23; NITI Aayog (2022); Gupta et al. (2022); DBT Mission (2023); National Informatics Centre (NIC). Compiled by authors.

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4. Algorithmic Bias and Socioeconomic Exclusion

4.1 AI Governance Systems and their Bias Mechanisms

Algorithmic bias in public administration systems can occur in several ways: from biased training data that embody historical discrimination; to feature selection that proxies for caste, religion, or gender; to feedback loops that compound initial errors; to deployment contexts that do not cater to population heterogeneity (Barocas & Hardt, 2017; Chouldechova, 2017). These technical pathways are in India overlaid with strong social hierarchies, which can lead to a situation that Srinivasan (2019) has termed 'digital casteism' – the algorithmic reinforcement of caste-based exclusion in data-driven systems.

The evidence of bias in Indian administrative systems that use AI is increasing. Research on the biometric system of Aadhaar has identified that manual labourers, elderly people, and those who do agricultural work have a higher rate of authentication failure due to degradation of their fingerprints with wear (Drèze et al., 2017; Khera, 2019). The AI-assisted beneficiary matching of the DBT system has created systematic exclusion errors, excluding genuine beneficiaries, disproportionately affecting the Scheduled Caste and Scheduled Tribe population (Chopra, 2019). In Rajasthan, Bihar, and Jharkhand, reported instances of deaths due to starvation as a result of the cancellation of ration cards, following failed authentication by Aadhaar, highlight the life and death consequences of algorithmic exclusion in welfare provisioning (Jean Drèze & Khera, 2017).

4.2 Empirical Evidence: Exclusion Rates and Demographic Patterns

Systematic empirical data on algorithmic exclusion in Indian governance systems is difficult to obtain—a problem that is itself a form of accountability deficit, as discussed further in Section 6. However, available evidence from multiple sources permits a provisional assessment. Table 3 synthesises available data on exclusion rates and their demographic correlates across major AI-powered platforms.

Table 3: Documented Exclusion Rates in AI-Powered Welfare and Identity Systems in India

System/Programme	Exclusion Type	Estimated Exclusion Rate	Disproportionate Impact
PDS-Aadhaar Linkage (NFSA)	Biometric authentication failure	4–12% failure rate (varies by state)	Manual labourers, the elderly, and agricultural workers; SC/ST groups
DBT Beneficiary Matching	Duplicate/ghost beneficiary false positives	~4.7% erroneous exclusion (CAG, 2019)	Rural poor; migrant workers; women-headed households
MGNREGS Aadhaar-linked wages	Payment failure, bank account mismatch	Up to 30% delayed/denied payments in some states	Adivasi communities, states with poor banking penetration
PM-Kisan (farmer income support)	Land record mismatch, mobile number errors	~10% excluded from first transfer cycle (2019)	Women farmers; oral tenants; small/marginal farmers

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System/Programme	Exclusion Type	Estimated Exclusion Rate	Disproportionate Impact
NRC/NRIC (Assam)	Exclusion from the National Register of Citizens	~1.9 million excluded (2019 final list)	Bengali-speaking Muslims; women without documentation
DIKSHA Digital Learning	Platform access and completion	~60% access gap rural vs urban (ASER, 2022)	Rural students, first-generation learners, and girls in remote areas
eSanjeevani Telemedicine	Assisted digital health access	~40% of rural users require assisted access	Elderly women; linguistic minorities; persons with disabilities

Source: Comptroller and Auditor General of India (2019); Drèze et al. (2017); Khera (2019); ASER (2022); MeitY (2022); Right to Food Campaign (2018). Compiled by authors.

Although these data are imperfect, they do suggest systematic exclusion that is not due to chance. Differential impacts on socioeconomically marginalised communities like Scheduled Tribes, Scheduled Castes, women-headed households, and geographically isolated groups show how algorithmic systems can reinforce and amplify existing inequalities. In a similar vein, Obermeyer et al. (2019, p. 447) note that 'if an algorithm is trained with biased data, or optimized to deliver outcomes that align with social advantage, its results will be systematically biased, and will either replicate or exacerbate structural inequality.'

This political dimension of algorithmic exclusion in the context of Indian welfare is especially relevant for two reasons: first, welfare rights have a constitutional dimension, and second, welfare delivery is a politically salient issue in Indian electoral democracy. Such exclusion errors by AI-driven systems risk delegitimising the entire project of digital governance (Datta & Nandi, 2021; Ramanathan, 2019) if they disproportionately affect Dalit, Adivasi, and minority communities.

5. Surveillance, Privacy, and the Erosion of Democratic Freedoms

5.1.1 State Surveillance and AI in India

As AI's capabilities have grown in the governance of India, so has its surveillance infrastructure. The Crime and Criminal Tracking Network and Systems (CCTNS) has been linking police stations in India since 2014, and the use of AI for pattern analysis has been increasing. The National Crime Records Bureau (NCRB) is already developing an Automated Facial Recognition System (AFRS) project, which is designed to create a national database of facial images that will be connected to images collected from CCTVs, passports, and Aadhaar cards, a project that has come under intense criticism by civil liberties groups and legal experts (Internet Freedom Foundation, 2020; Rajanala, 2021).

Several state-level surveillance systems have developed separately. AI-powered video analytics in traffic management, crowd analysis, and law enforcement is deployed in the Command and Control Centres of Andhra Pradesh, the Integrated Command and Control Centre (ICCC) at Hyderabad in Telangana, and smart city surveillance infrastructure at Pune, Lucknow, and Bhopal. Their potential for being misused for political surveillance – to monitor protests, track journalists, or target activists – has been documented in the Indian civil liberties literature (Digest of Privacy Law India, 2022; Raman, 2019).

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5.2 Privacy Framework: The Post-Puttaswamy Landscape

In 2017, the Supreme Court in the Puttaswamy case ruled that privacy is a fundamental right under Article 21 of the Constitution. The principles of lawfulness, necessity, and proportionality outlined in the judgment are a sound legal foundation for challenging excessive surveillance. However, the process of making this constitutional principle a reality has been controversial and slow.

The Digital Personal Data Protection Act, 2023 (DPDPA), addresses a part of this void, with provisions that have been pointed out by detractors as more interested in the interest of the state rather than privacy. The wide exemptions given to the state bodies in Section 17 of DPDPA with regard to national security, public order and sovereignty have been a cause of concern in terms of the ability of the Act to constrain state surveillance through AI (Bhatia, 2023; Parsheera, 2023). Comparative analysis of data protection regimes around the world indicates that it is the lack of an independent data protection authority with real enforcement authority over government actors that is a particular concern.

Table 4: Comparative Analysis of Privacy and Data Protection Frameworks in Selected Democracies (2023)

Country	Primary Legislation	Independent Regulator	State Exemptions	Facial Recognition Regulation
India	DPDPA 2023	Data Protection Board (under MeitY; not fully independent)	Broad; national security, public order	No specific regulation; moratorium absent
European Union	GDPR 2018 + AI Act 2024	National DPAs + EDPB (independent)	Narrow; ECHR proportionality applies	High-risk; biometric surveillance is restricted in public spaces
United Kingdom	UK GDPR + DPA 2018	ICO (independent)	National security; subject to oversight	Regulated; Facial Recognition Deployment Guidelines (2022)
United States	No federal law; sectoral	FTC; state-level (e.g., Illinois BIPA)	National security; Fourth Amendment	Patchwork; several cities banned (e.g., San Francisco, Boston)
Brazil	LGPD 2018	ANPD (independent)	National security; significant state carve-outs	No specific regulation
Canada	PIPEDA / Bill C-27 (proposed)	OPC (independent)	National security; oversight by NSIRA	Moratorium on RCMP facial recognition (2021)

Source: European Data Protection Board (2023); Information Commissioner's Office UK (2022); Internet Freedom Foundation India (2023); Parsheera (2023); Bhatia (2023); Raman (2019). Compiled by authors.

The comparative analysis highlights that India's data protection framework is among the least robust ones in the world of major democracies, including the absence of any specific regulation in the high-risk

application of AI, such as facial recognition, and the lack of any provision for the accountability of the government. An example of a contrast case is the AI Act adopted by the EU (formally in 2024), which classifies real-time biometric surveillance by public bodies as high-risk and sets strict conditions for it (Veale & Zuiderveen Borgesius, 2021).

6. Democratic Accountability Deficits in AI-powered Administration

6.1 The Accountability Gap in Algorithmic Decision-Making

There are three forms of democratic accountability in public administration: answerability (public officials are expected to explain and justify their decisions); enforceability (sanctions are available for misconduct or error), and redressability (citizens have a means of seeking remedy for adverse decisions). When it comes to AI systems for administrative purposes, all three mechanisms are at issue, and scholars have talked about an 'accountability gap' in digital governance (Bovens, 2007; Diakopoulos, 2016; Wieringa, 2020). Many machine-learning systems are opaque, which means that the logic behind algorithmic decisions is not a matter of common knowledge even to technically knowledgeable observers (Pasquale, 2015) and compromises the answerability of the systems. This opacity is particularly acute in deep learning systems and complex ensemble models. When a beneficiary is excluded from a welfare programme by an AI system, the responsible official may genuinely lack the capacity to explain—much less justify—the decision in terms that satisfy constitutional standards of reasoned administrative action. Indian administrative law, as developed through the doctrine of natural justice and the requirement of reasoned orders under statutes such as the Administrative Tribunals Act, 1985, presupposes that decisions are made by human officials capable of explaining their reasoning. AI-generated decisions may not satisfy this standard.

6.2. Judicial and Legislative Responses

Indian courts have just begun to tackle these questions and case law is still in its infancy. The Puttaswamy case that set out the grounds for the Supreme Court recognizing privacy as a fundamental right did not specifically touch upon algorithmic decision-making. The Supreme Court Committee on Technology (2020) raised issues about the use of AI in the judiciary, mainly in the sense of improving efficiency. There has been limited parliamentary oversight for AI governance, although the Joint Parliamentary Committee on the Personal Data Protection Bill (2021) did touch upon some issues related to algorithmic profiling, and the Personal Data Protection Act (DPDPA) does not establish a comprehensive framework for AI accountability.

However, the EU's General Data Protection Regulation (article 22) provides for the right not to be subject to decisions based on automated processing alone, including the right of explanation and review. The risk-based classification of AI systems, transparency requirements, conformity assessment, and post-market monitoring, introduced in the proposed EU AI Act (2024), build upon these safeguards. There are no similar provisions in India's existing legal framework, resulting in an important constitutional gap in the protection of citizens who are subject to AI-based administrative decisions (Agarwal & Rao, 2023; Bhatia, 2023).

Table 5 shows the accountability mechanisms Indian citizens have today to contest administrative decisions made using AI, revealing key gaps.

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Table 5: Accountability Mechanisms for AI-Driven Administrative Decisions in India—Gap Analysis

Accountability Mechanism	Current Status in India	Key Gaps Identified
Right to Explanation (algorithmic)	Absent in law, DPDPA 2023 does not mandate AI decision explanations	Citizens cannot challenge the logic of adverse AI decisions; opacity is unaddressed
Human Review Requirement	Not mandated for AI-assisted decisions in most domains	No requirement for human oversight before adverse welfare decisions are implemented
Right to Information (RTI Act, 2005)	Partially applicable to government AI systems; source code/model details exempt as 'commercial confidence'	Algorithm details routinely withheld; training data and model validation not disclosed
Judicial Review (writ jurisdiction)	Available in principle, the High Courts and the Supreme Court	Technical complexity creates practical barriers; no specialised AI tribunal
Ombudsman/Grievance Redress	Sector-specific; CPGRAMS for the central government; patchy implementation	AI-specific redress channels absent; technical grievances under-resolved
Parliamentary Oversight	Through Standing Committees, limited technical capacity	No dedicated parliamentary committee on AI governance; infrequent scrutiny
Data Protection Board (DPDPA)	Constituted under MeitY; limited independence	Exemptions for state data processing undermine accountability for government AI.
Audit (CAG)	Constitutional mandate; limited AI audit capacity	No systematic AI audit framework; CAG lacks data science expertise at scale
Algorithmic Impact Assessment	No legal requirement	No mandatory pre-deployment testing or bias audit for government AI systems
Civil Society/Public Interest Litigation	Active: Internet Freedom Foundation, PUCL, others	Resource-intensive; slow; not a substitute for systemic regulatory accountability

Source: Agarwal & Rao (2023); Bhatia (2023); Parsheera (2023); Internet Freedom Foundation (2023); Wieringa (2020). Compiled by authors.

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7. The Digital Divide and Democratic Inclusion

7.1 Digital Inequality in India: Dimensions

The digital divide, or unequal access to and ability to use digital technologies, is not a new issue in the digital policy of India. But as more and more rights and welfare entitlements are mediated through digital platforms, the digital divide has become a constitutional issue. Without connectivity, device ownership, digital literacy, or language compatibility, citizens are unable to de facto access an AI-powered service delivery system and are thus limited in their democratic participation. What is paradoxical about the Indian digital landscape in 2024 is that while India has the second-largest internet user base in the world (around 820 million users, according to TRAI 2023), and some of the cheapest mobile data in the world (averaging at USD 0.17 per GB, Cable.co.uk 2023), it is marked by digital inequities across geography, gender, caste, and language. The rural education report of ASER 2022 reported that the access to smartphones in rural households rose from 36% in 2018 to 74% in 2022, but the gap between rural girls and boys is wide: 33% of rural girls and 54% of rural boys are able to access a smartphone. NSSO data indicate that internet access among Scheduled Tribe populations (24.6%) remains less than half the national average.

7.2 The Political Economy of Digital Exclusion

The deployment of AI in governance intersects with digital inequalities in ways that tend to reinforce existing power relations. Arora (2019) argues that the 'last-mile' problem in Indian digital governance—the challenge of reaching the poorest and most marginalised—is consistently underestimated by policy frameworks that begin from the perspective of already-connected urban populations. AI systems optimised for performance on well-represented demographic groups—typically urban, male, literate, Hindi-speaking users—are likely to perform significantly worse for the rural, female, Dalit, Adivasi, or non-Hindi-speaking users who are simultaneously the most dependent on welfare systems and the least well-represented in training data.

Table 6 presents available data on digital access disparities across key demographic dimensions in India, illustrating the scale of the divide that AI-powered governance systems must navigate.

Table 6: Digital Access Disparities in India Across Demographic Dimensions (2022–2023)

Dimension	More Connected Group	Less Connected Group	Data & Source
Geography	Urban: 67% internet users	Rural: 37% internet users	TRAI Annual Report 2022–23
Gender (Internet)	Male: 57%	Female: 35%	National Family Health Survey 5 (2019–21)
Gender (Smartphone, Rural)	Rural Boys: 54%	Rural Girls: 33%	ASER Rural 2022
Social Group (Internet)	General: 53%	Scheduled Tribes: 24.6%	NSSO 78th Round (2020–21)
Language	Hindi + English: dominant content	22 scheduled languages: severely underrepresented	MeitY Localization Report (2022)

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Dimension	More Connected Group	Less Connected Group	Data & Source
Literacy	Literacy: 68% internet access	Illiterates: <5% internet access	NFHS-5; Census 2011 baseline
Age	18–35: 72%	60+: 12%	IAMAI-Kantar ICUBE 2023
Income Quintile	Top quintile: 80%	Bottom quintile: 15%	ICRIER Digital India Report 2023
Disability	Persons without disabilities	Persons with disabilities: 28% internet gap	Nipman Foundation Digital Access Survey (2022)
State-level	Delhi: 68%; Kerala: 54%	Bihar: 30%; Jharkhand: 28%	TRAI State-level Data 2022–23

Source: TRAI Annual Report 2022–23; NFHS-5 (2019–21); ASER (2022); NSSO 78th Round (2020–21); IAMAI-Kantar (2023); ICRIER (2023); Nipman Foundation (2022). Compiled by authors.

These are not simply statistical differences. As welfare, identity verification, land records management, health services, and agricultural support are increasingly digital and enabled by AI, being on the wrong side of the digital divide, in practical terms, is systematically disadvantageous in the exercise of constitutional rights. The political implications are profound: as Moyn (2018) states in another context, rights without the means to exercise them are ‘utopian'; and the same can be said about ‘digital rights', including the right to equality in access to public services, without the ability to exercise them.

8. Regulatory Landscape for AI in Governance in India: Evaluation and Lacunae

8.1 Current Framework

The current regulatory landscape of AI in governance in India is disjointed and incomplete. It is based on constitutional law (fundamental rights jurisprudence, especially post Puttaswamy), administrative law (principles of natural justice, reasoned orders, judicial review), information technology law (IT Act 2000 and amendments, IT Rules 2021), and the recently enacted DPDPA 2023. There are provisions in sector-specific regulations that are relevant to AI, such as the CDSCO in healthcare, SEBI and RBI in finance, and TRAI in telecom, but no overall, cross-sectoral framework for AI yet. The NITI Aayog has released two documents on responsible AI, namely the Responsible AI for All principles (2021) and the Approach Document on National AI Strategy (2018), which lay out high-level ethical principles, such as fairness, accountability, transparency, privacy, and security. These are, however, advisory documents, and there is no enforcement mechanism for compliance. The 'AI governance framework' being developed by the MeitY, as of early 2024, is likely to fill some of these gaps, but information is still scant.

8.2 Comparative Assessment

Several AI governance frameworks around the world can serve as benchmarks for assessing India's AI governance framework. In 2019, Jobin et al. found 84 guidelines for AI ethics worldwide, which now includes many more. The OECD Principles on AI (2019), which India has endorsed, state five principles: inclusive growth and well-being; human-centred values; transparency; robustness and safety;

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accountability. The EU AI Act (2024) is the most detailed piece of binding legislation to-date. Adopted by 193 Member States of UNESCO, including India, the Recommendation on the Ethics of AI (2021) offers a global normative framework. Table 7 compares the existing AI governance framework in India with these international standards.

Table 7: Assessment of India's AI Governance Framework Against International Standards (2023–2024)

Governance Dimension	International Standard	India's Status	Gap Assessment
Legal Framework	Binding national AI law (EU AI Act model)	Advisory principles only (NITI Aayog); DPDPA partial	Critical gap: no binding AI governance law
Risk Classification	Risk-based approach (EU: unacceptable/high/limited/minimal)	Absent	Significant gap: no risk-differentiated regulation
Algorithmic Transparency	Explainability requirements; disclosure of training data	Limited RTI access; no mandatory disclosure	Critical gap: opacity of government AI unaddressed
Bias Auditing	Mandatory conformity assessments (EU AI Act)	No legal requirement	Significant gap: no pre-deployment bias testing mandate
Human Oversight	Right to human review (GDPR Art. 22)	Not mandated in India	Critical gap: automated decisions unchecked
Privacy Safeguards	GDPR / equivalent	DPDPA 2023 (with significant state exemptions)	Moderate gap: enacted, but enforcement is uncertain
Facial Recognition	High-risk; restricted/banned in several jurisdictions	No specific regulation; widespread deployment	Critical gap: unregulated biometric surveillance
Redress Mechanisms	Sector-specific ombudsman + DPA enforcement	CPGRAMS; Data Protection Board (limited)	Significant gap: AI-specific redress absent
Procurement Standards	AI procurement guidelines (OECD)	Limited; draft guidelines under development	Moderate gap: not yet systematically implemented
International Cooperation	OECD GPAI; Council of Europe AI Treaty	GPAI founding member; limited treaty engagement	Moderate gap: multilateral commitments need domestication

Source: OECD (2019); EU AI Act (2024); UNESCO (2021); NITI Aayog (2021, 2018); Parsheera (2023); Internet Freedom Foundation (2023). Compiled by authors.

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9. Policy Recommendations for Ethical AI in Indian Governance

9.1 Legal and institutional reforms

This analysis suggests the most basic recommendation, that of establishing a comprehensive rights-based legal framework for AI governance in India. It should include: (a) a risk-based classification of AI systems in public administration, and impose the highest requirements on the most high-stakes areas of welfare delivery, law enforcement and judicial support, etc; (b) algorithmic impact assessments before deployment of AI systems that impact on citizens' rights or entitlements; (c) explainability standards for AI decisions affecting individuals, including a statutory right to a human review process; and (d) the creation of an independent AI Regulatory Authority with technical expertise and enforcement powers covering both government and private deployments.

The DPDPA 2023 is a positive development, but it needs to be amended to remove or substantially reduce the wide-ranging exemptions for the use of AI by the government in Section 17. An independent Data Protection Authority, which is currently under the control of the ministry it is supposed to regulate, should be reformed along the lines of the Election Commission, and its independence should be guaranteed.

9.2 Technical Standards and Deployment Practices

In addition to law reform, there is a need for technical standards for the procurement, deployment, and monitoring of AI in the public sector. India should implement the following based on the OECD Recommendation on AI in the Public Sector (2024) and the EU AI Act technical requirements: (a) mandatory bias testing protocols, using representative samples of the demographic groups, that is, Scheduled Caste, Scheduled Tribe, gender, linguistic minority, and geographic minority groups; (b) open-source or auditable code requirements for AI systems in public administration, allowing for civil society and academic scrutiny; (c) real-time performance monitoring systems with demographic disaggregation, enabling early detection of disparate impact; and (d) sunset clauses for AI systems that do not meet the minimum performance standards, with mandatory review before continuing use. Specific attention should be paid to biometric systems, which present the most acute risks of algorithmic exclusion for vulnerable populations. The AFRS project should be placed under a moratorium pending independent technical review and the enactment of specific facial recognition legislation with proportionality requirements.

9.3 Inclusive Design and Digital Access

Technical standards and legal frameworks will be insufficient if they do not address the digital divide that structurally disadvantages large segments of the population in their interaction with AI-powered governance systems. Recommendations in this domain include: (a) mandatory assisted-access provisions for all AI-powered public services, ensuring that those without digital access can exercise their rights through alternative channels without penalty or disadvantage; (b) multilingual AI systems that provide effective service in all 22 scheduled languages and extend progressively to major regional dialects; (c) gender-sensitive AI design, including participation of women from diverse communities in system design, testing, and feedback processes; (d) universal design principles for accessibility, including voice-based interfaces for low-literacy users and screen-reader compatibility for persons with visual impairments; and (e) a National Digital Inclusion Fund to accelerate connectivity, device access, and digital literacy particularly in rural areas, districts with high SC/ST populations, and other digitally marginalised geographies.

9.4 Democratic Participation and Accountability

Democratic legitimacy for AI-powered governance requires not merely technical quality but meaningful participation in design and oversight by those affected. Recommendations include: (a) mandatory participatory design processes for AI systems in welfare delivery and law enforcement, with structured

representation of communities most likely to be affected by deployment; (b) multi-stakeholder AI governance councils at national and state levels, with civil society, academic, and community representation alongside government and industry; (c) enhanced RTI provisions that specifically require disclosure of AI model parameters, training data characteristics, performance statistics, and demographic impact assessments; (d) capacity building for parliamentary committees, the judiciary, and civil society organisations to enable effective oversight of complex AI systems; and (e) community-based AI grievance redress mechanisms, including mobile-enabled reporting of algorithmic exclusion errors with guaranteed response timelines.

10. Conclusion

This paper has examined the ethical challenges of AI-powered administrative systems in Indian governance across four interconnected dimensions: algorithmic bias and socioeconomic exclusion; surveillance and privacy; democratic accountability deficits; and the digital divide. The evidence reviewed suggests that India's digital transformation, while generating genuine improvements in service delivery efficiency and transparency, simultaneously poses significant risks to democratic values if not governed by a robust ethical framework that places constitutional rights at its centre.

The distinctive features of the Indian context—its extraordinary demographic and linguistic diversity, its deep social inequalities along lines of caste, gender, and geography, its federal structure, and its constitutional commitment to substantive equality and social justice—require that AI governance frameworks be specifically designed for Indian conditions rather than uncritically transplanted from Global North contexts. While learning from the EU's AI Act and GDPR gives good regulatory models to build upon, the adaptation to the Indian social fabric, institutional capabilities, and democratic practices is crucial.

Analysis of the data yields three main conclusions. First, the use of AI in public administration in India is outpacing the development of the regulatory and accountability systems to regulate its use. This divide poses a threat to arbitrary state power, discriminatory exclusion, and democratic deficit, which urgently needs to be addressed. Second, the communities most reliant on state delivery of welfare are also the ones most at risk of being excluded by algorithms, and least able to find ways to hold AI-driven systems accountable. Therefore, the conversation on AI ethics in India cannot be divorced from the efforts of India's broader commitments to equality, social justice, and inclusive development. Third, the solution to these challenges is not a retreat from digital governance but the construction of democratic digital governance—characterised by transparency, accountability, inclusivity, and constitutional rootedness.

The choices that India makes in governing AI in public administration over the next five years will have consequences not only for its 1.4 billion citizens but for the broader global project of demonstrating that democratic governance and technological transformation are compatible and mutually reinforcing. India's scale, democratic traditions, and technological capabilities position it to be a norm-setter rather than a norm-taker in global AI governance. Realising this potential requires the political will to place democratic values at the centre of the digital transformation agenda—not as a rhetorical flourish, but as a lived institutional reality.

Future research priorities include: longitudinal empirical studies of algorithmic exclusion rates across demographic groups; comparative analysis of AI governance implementation at the state level; legal analysis of constitutional challenges to AI-driven administrative decisions; and participatory action research with marginalised communities on their experiences with and preferences regarding digital governance systems. The interdisciplinary collaboration between computer scientists, legal scholars, social scientists, and policy practitioners that this research agenda demands is itself a microcosm of the broader institutional pluralism that responsible AI governance in a democracy requires.

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