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AI governance in India – law, policy and political economy

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Abstract

Artificial Intelligence technologies have elicited a range of policy responses in India, particularly as the Government of India attempts to position and project the country as a global leader in the production of AI technologies. Policy responses have ranged from providing public infrastructure to enable market-led AI production, to nationalising datasets in an effort to enable Big Data analysis through AI. This paper examines the recent history of AI policy in India from a critical political economy perspective, and argues that AI policy and governance in India constructs and legitimises a globally-dominant paradigm of informational capitalism, based on the construction of data as a productive resource for an information-based economic production, and encouraging self-regulation of harmful impacts by firms, even as it attempts to secure a strong hand for the state to determine, both through law and infrastructure, how such a market is structured and to what ends.

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Introduction

'Artificial Intelligence' is gaining prominence as a subject of legal and policy discourse around the world, including in India. In the course of the last decade, numerous countries have adopted 'AI strategies' and policies to enable the innovative potential of AI, even as they reckon with the potential risks and harms that these technologies entail. AI governance, therefore, is an increasingly important subject. The question of how these technologies should be governed, and to what ends, is a matter concerning many legal systems and policymakers around the world. This paper critically examines the emerging forms of AI governance in India, and examines its relationship with broader political economic concerns that it is co-constituted within.

The modern history of the set of technologies today referred to as 'Artificial Intelligence' is closely tied with the increasing adoption of networked technologies across the world, the rising influence of 'data science' as an epistemological and technoscientific paradigm, and an emergent form of political economy that shapes and is shaped by this paradigm (Kitchin, 2014). AI has captured policymakers' imagination as a potentially revolutionary technology, and the development and the use of AI technologies across the world reveals their appeal and their increasing role in a globalised information economy (Elish & Boyd, 2018). Public and private resources are increasingly being deployed for the

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creation and use of AI-based technologies, the world over. Recent examples of these include the use of AI-based software for content moderation on online platforms (Gillespie, 2020), AI in healthcare (Radhakrishnan, 2021), including for developing medicine and diagnoses, AI in policing and law enforcement (Brayne, 2017), including facial recognition and emotional recognition technologies, actuarial and risk-assessment technologies used in insurance and finance – the list goes on.

Policymakers in India, too, have pinned their hopes on a 'digital revolution' over the last two decades, hoping to leverage digitalisation and computerisation at scale to influence national economic development. Naturally, attention over the last few years has turned to the implications of AI for this developmental vision. Although a relatively nascent strand of policy discourse, the turn to 'AI' within the larger paradigm of technologically-oriented economic development has already begun influencing legal norms and institutions, public administration and economic policy. Further, policymakers have also begun to pay attention to potential consequences of AI that might require the adoption of specific regulatory frameworks, and have highlighted particular risks and points of failure of AI that are specific to the Indian context.

AI governance in India is still an emergent field, and one that is actively being shaped by organisational practices, legal developments and policy discourse. This paper examines the role of these practices and discourses in shaping the nature of AI governance in the Indian context, to understand how AI has been approached as an object of governance in India, what kind of political economy of AI is legitimised and institutionalised through emerging legal norms and institutions, and what implications does this have for how AI is governed and controlled. In doing so, it adopts a genealogical approach towards the study of AI governance and policy in India. This critical approach allows us to deconstruct how policy issues are framed and constituted within 'political' spaces – government institutions, legislatures, courts and media – to unpack the unspoken assumptions and values embedded within policy discourses and practices and to critically interrogate how these discourses and practices came to be, why they matter and how they might be different (Lövbrand & Stripple, 2015).

The political economy of AI governance

Political economy approaches to AI governance examine how the systems of AI governance (including legal regimes and government policy) are sites which construct, embed and reify particular expressions of economic and political power in the information economy. In critically investigating the role of the law (and systems of governance and ordering), it emphasises how inequality, dominance and injustice materialise through legal and political ordering of socio-technical systems, in this case, through the construction of 'Artificial Intelligence' and 'Big Data'.

Critical scholarship in this vein has characterised the emergence of new techniques and modes of production as 'informational capitalism'. Building on Manuel Castells' compelling characterisation of 'informationalism' as ' ... a technological paradigm based on the augmentation of the human capacity of information processing and communication' (Castells, 2004), 'informational capitalism' has been described as a system where 'market actors use knowledge, culture, and networked information technologies as means of extracting and appropriating

surplus value, including consumer surplus' (Cohen, 2019). In order to sustain this mode of extraction and production, information about individuals, populations and their environments must constantly be made available for analysis and 'mining', and technologies of data surveillance must constantly be legitimised, generally at the expense of privacy and autonomy (Gandy, 1993).

In India, informational capitalism has taken its own unique forms – producing new dynamics of economic and political relations between the state, citizens, and the 'market'. The rapid expansion of information infrastructure, through the widespread use of mobile internet and smartphone and cloud-based computing systems, as well as through the deployment of state-enabled digital infrastructure like the Aadhaar (or Unique Identification) project, has meant both that the Indian political economy has become inextricably enmeshed within globalised forms of informational capitalism, which is dominated by large, platform-based firms and new networked-institutional forms of transnational governance, even as it gives rise to new and contextually-specific forms of informationalism in India (Athique & Parthasarathi, 2020). The role of the Indian state as the facilitator of new forms of informational capitalism is particularly notable, as it channels law, industrial policy and infrastructural investment to create new forms of enclosed or platformised data-and-network-based markets and new relationships of governance between private actors, public institutions, technological systems and citizen-users (Mukherjee, 2019). These large-scale infrastructural interventions must be seen in the context of the Indian state's developmental ideals, to build a 'Digital India' or an infrastructural basis for a digital economy in a country where the workforce remains concentrated in the agricultural and industrial sectors, through channelling 'AI' for social good or 'data for development', and enrolling both a vast government bureaucracy as well as private investment and technological expertise in the process (Singh, 2019).

The production and use of contemporary 'Artificial Intelligence' technologies need to be viewed within this context of the global expansion of informational capitalism as the dominant paradigm for networked-informational economic production, especially as data-intensive forms of AI, particularly machine learning, have come to dominate computational data analytics. In India, these forms of 'AI' are being used in processes across the private and public sectors which lead to consequential decisions about welfare, healthcare, education, and law enforcement. In the process, they reconstitute and rematerialise social, economic and political relations through the organisation, classification and algorithmic management of data, and are constantly (re)producing new forms of political-economic subjectification and social stratification.

In this context, it is critical to examine and interrogate the role that emerging norms and institutions responsible for AI governance, including not only government and legal institutions, but also other actors involved in technology governance (which include institutions of global governance, standard-setting organisations, and multinational technology firms) in legitimising these developments, through the circulation of discourses, creation of legal entitlements like intellectual property rights and data protection regimes, and incentivising investments and creation of specific technologies, among others.

Policy discourses and legal constructions of 'AI' in India

In recent years, AI has become an important subject of policy and governance discourse in India, apparent from media and policy discourses. Artificial Intelligence has only recently entered the policy lexicon in India, but governmental interest in AI in India has ridden the various 'waves' and hype-cycles of Artificial Intelligence previously. For example, the Government of India piloted early 'expert systems' in government departments to assist in public administration of healthcare and job allocation, among other uses (Bajaj, Dubash, & Kowalski, 1990). However, for most part, the subject found little to no mention in technology policy or regulatory developments until recently.

A number of policy documents of the Government of India, as well as state governments, reveal recent policy priorities for AI. In 2018, the NITI Aayog – a government 'think tank' which *de facto* replaced the Planning Commission of India[1] - released the National Strategy for AI (Niti Aayog, 2020), articulating its vision for how India should approach the development and use of AI. The strategy adopts the perspective that AI (defined as 'the ability of machines to perform cognitive tasks') can be transformative for economic and social development, and seeks to 'steer' the development of AI towards solving societal needs, including in sectors of healthcare, infrastructure and education – namely, areas of the economy which have traditionally been heavily guided by the hand of government regulation and state control in a welfare economy. The strategy actively encourages experimentation among India's population by the private sector, positioning India as a 'playground' for the globalised data-based technology industry, which relies upon the datafication of people and their environments for commodification. The role of the state is conceived of as a 'facilitator' or enabler for private enterprise, explicitly echoing some established tenets of liberal economic policy, including the assertion that government investment in a particular economic field may 'crowd out' and disincentivise private spending, and that regulation can disincentivise 'innovation'.

Subsequently, NITI Aayog has published other documents outlining a vision for governing AI, including a report or 'roadmap' titled 'Responsible AI for All', in which it extolled the virtues of AI systems, and highlighted that AI governance must balance innovation with potential risks (Niti Aayog, 2022). These documents recommend a largely non-interventionist, self-regulatory approach towards AI, while recognising the possibility of risks to rights, which are, however, relayed as distant scenarios of unknown/unknowable risk, to be dealt with when such risks are more tangible or apparent. The AI roadmap, for example, states that ' . . . the development of AI systems may be done in collaboration with multi-disciplinary stakeholders to ensure adherence'.

NITI Aayog is not the only entity responsible for the development of AI policy and governance in India. In 2020, drawing on the broad principles outlined by NITI Aayog, the Department of Telecommunications published a paper outlining a vision for an AI Stack – intended to be an assemblage of databases, computational systems, APIs and governance processes, to function as an infrastructure on which AI 'solutions' can be further developed (Department of Telecommunications, 2020). Further, as AI and Big Data ostensibly fall under the ministerial purview of the Ministry of Electronics and IT ('Meity'), there have been parallel conversations on AI governance emerging from the aegis of the Ministry. In 2020, four expert committees tasked by Meity to 'promote AI and develop a policy framework' released reports on various aspects of Artificial

Intelligence in India. Their recommendations included, among other things, the need to make datasets more widely available for the development of Artificial Intelligence and the promotion of industry and the private sector in core areas of the economy, including agriculture, finance and healthcare. The committees' recommendations on governance also hailed ethical compliance, non-binding guidelines and 'self-regulation' as key to ensuring innovation in the sector (Meity, 2022).

Meity was also responsible for introducing key legislative and policy proposals on data governance, a crucial component within the larger discourse of developing AI technologies. In particular, the ministry was responsible for the framing and introduction of the Personal Data Protection Bill, 2019, a legislation intended to enable a 'free and fair digital economy' through introducing data protection measures and a regulatory structure for enabling exchanges of personal information. Among other things, the preparatory documents for the legislation (including the expert committee report on which it was based) extol the virtues of AI and Big Data and their 'transformative potential' to increase citizen welfare. Crucially, the report recommends that personal data of Indian residents be stored within territorial boundaries, with the intention that such data can be subject to government expropriation for the development of a domestic AI sector (Meity 2018). This is reflected in several provisions of the PDP Bill, 2019, which had carved out specific exemptions for activities like credit scoring and fraud detection, which are common use cases for AI and Big Data. Similarly, it also allowed for the acquisition of any 'non-personal' data by the Government, for 'better targeting' of services or for the formulation of 'evidence-based policy' – once again evidencing attempts to use AI to make consequential policy and administrative decisions.

The framing of data as a productive economic resource necessary for the functioning of the 'AI industry' is also a central premise of the Government of India's proposed Policy Framework for Non-Personal Data. Released in 2020, this policy aims to distinguish a category of information which falls outside a formal definition of 'personal data', and govern such information in a way that promotes economic growth and social welfare. The form of economic growth envisaged in this policy is also one where 'non-personal data' can become a tradeable commodity in an open market, acting as a valuable input for data analysis processes and contemporary AI technologies. Carrying this forward, in 2022 the Government of India released a Draft National Data Governance Framework Policy, which envisages and encourages public databases collected by public authorities to be shared for 'research, innovation and growth of the Indian Data and Al-based research and startup ecosystem'. In essence, the Government intends to open up 'non-personal' datasets and anonymised datasets of the vast files of information collected by public agencies for data mining and analysis for the purpose of private value generation through 'AI' (Meity, 2023).

Outside of formal government policy decisions and legislation, government administration is a crucial site where AI and Big Data are resulting in legal and institutional changes. The post-liberalisation trend for government administration has been to privatise and outsource government functions across the board, and this trend is being accelerated by the government's use of AI and Big Data systems. As various governments have adopted widescale projects for the digitalisation and computerisation of government administration, including welfare administration, education, healthcare and policing, there has been an increasing reliance on private contractors to whom important

administrative services and functions are being outsourced. This has included, for example, widespread shifts in law enforcement and policing functions, with the use of biometric recognition technologies (Centre for Internet and Society, 2021), changes in social welfare administration through the use of data-based decision-making (Joshi, 2021), and urban planning and infrastructural development through smart city projects (Datta, 2015). Administrative agencies in India have historically been provided a wide leeway in terms of framing and implementing policy, justified by the requirements for a welfare bureaucracy. The expansion of private surveillance and social ordering practices of AI systems into government administration are increasingly enabled both by the existing leeway provided to administrative agencies in developing and implementing public policy, as well as by a changing enabling legislative landscape explicitly incorporating the use of AI systems, which are inevitably privately procured. Two recent examples of these include the use of 'artificial intelligence' in taxation administration, incorporated under the Taxation (Amendment) Act, 2020, and the amendments to the Identification of Criminals Act, with the clear intention of reducing legal challenges for the use of AI-based facial recognition technologies in law enforcement, in light of the procurement of large facial recognition systems by the Central Government as well as by local police agencies.

Examining the political economy of AI governance in India

At first glance, many of the policy documents indicating priorities for AI governance might be dismissed as jargon-heavy documents, providing little to no indication of how AI governance might be implemented, and little to no direction of how the vague objectives they outline (innovation, transformation, ethics) might be achieved. However, these policy discourses and legal developments, when placed within the broader political and economic context of the development and use of 'AI' technologies, provide a picture both of the emerging nature of the information economy in India and the role of legal institutions and policy discourse in legitimising and institutionalising particular forms of political and economic power, in ways that are exacerbating forms of domination and inequality.

Sovereignty, AI supply chains and the construction of a data market

Policy discourse on AI in India frequently lauds its transformative impact and its potential for economic growth and social welfare, tied with imaginaries of a technological 'fourth industrial revolution' (Economic Times, 2022). This is in recognition of, and responding to trends over the last few decades, particularly in post-industrialised nations, which have noted the increasing centrality of information systems and information and communication technologies as increasingly important components and drivers of economic growth.

Understanding the Government of India's stances on the prioritisation of domestic AI industries requires an examination of the history and entanglements of India's IT sector with forces of globalisation. While India has had a burgeoning information technology and services sector, it has largely functioned as a jurisdiction to 'outsource' labour-intensive information service work, often called 'Business Process Outsourcing'.

Outside of IT services and the BPO industries, and scattered efforts at components manufacturing, the information economy in India has largely been cornered by global technology firms – including SaaS systems and web platforms, smartphone manufacturers and computation infrastructure providers (including cloud and personal computers). While the early activities of information processing and online services allowed governments to position the Indian labour economy as a provider of outsourcing services and integrate its economy into global supply chains, the advent of global platforms and data science or 'AI' activities as the core of contemporary information processing activities has increasingly meant that much of the productive surplus of information processing activities is generated outside of the Indian economy – through essentially unregulated cross-border data flows, and with the increasing adoption of SaaS as a model for online commerce (Saraswati, 2012).

Indian policymakers appear to be responding to these shifts in the global economy of information processing by reorienting industrial policy towards affirming 'sovereignty' over data and prioritising domestic data science and 'AI' (Kovacs & Ranganathan, 2019). Across legal documents, trade negotiations and media discourses in India, policymakers claim that personal data, including that relating to Indian citizens and their online activities, can play an important role in the creation of 'data-based' technologies, particularly machine learning-based systems developed on the creation and analysis of large datasets. In order to incentivise the production of 'AI' for, and in, the Indian economy, policymakers have engaged in a process of legitimising the creation, collection and processing of vast amounts of digitalised information about Indian citizens as a 'sovereign resource' which can serve as productive capital for the creation of AI systems.

This legitimation is occurring through the policy discourses and legal frameworks described above, that frame access to personal and non-personal data as indispensable for the growth of AI systems, and more broadly, imperative for market-led economic growth and the social transformation sought to be achieved through technological adoption. Indeed, the NITI Aayog strategy on AI, which informs much of contemporary AI policy-making in India, explicitly calls for the population of India to be an experimental 'test-bed' for data-based technologies, on the presumption that AI technologies would find rich and inexpensive 'raw material' (i.e. data of citizens) upon which any manner of insights about people and populations might be gained. Much of the policy discourse around AI in India has centred on the need for the country to 'benefit' from information 'generated in India'. The way to achieve this, it is claimed, is through reframing the vast amounts of digital traces and digitalised information about individuals and populations into 'productive resources' for data analytics and AI. The framing of 'data' as an 'oil' for the information economy has its roots in industrial and commercial policy documents going back to the draft 2019 E-Commerce Policy (Ministry of Commerce, 2019), and is repeatedly stressed in more recent policies like the draft Non-Personal Data Framework and the Draft National Data Governance Framework Policy (Meity, 2022).

Policy discourse on AI governance is already having material effect on legal institutions responsible for governing data, shaping government policies on the accessibility of citizen information to a 'marketplace' of private actors, and reframing the boundaries of privacy and data protection law and constitutional rights, as was observed when the

Personal Data Protection Bill was withdrawn on the grounds that it would hurt data-based innovation (Economic Times, 2021). A revamped Digital Personal Data Protection Act was passed in 2023, but substantially waters down rights over personal data, exempts various government data processing activities and allows the Central Government to exempt specific data processing activities. Looking ahead, legal interventions in the digital economy, including in the regulation of data-sharing arrangements between governments and the private sector, are likely to continue this trend of repurposing digital traces for their use in AI production.

Innovation, deregulation and procurement-as-policy

Another feature of policy discourse and legal paradigms relating to AI governance in India is its co-constitution within a post-liberalisation economy, in which the governance is divested away from institutions of the state and towards market-based logics and methods. This manifests particularly in two aspects of AI governance.

First is the apprehension towards regulation, framed as a barrier towards market-based economic growth and technological innovation. This is a common refrain of neoliberal economic policy which broadly finds acceptance within AI governance discourse in different ways, and is echoed in policy discourses in India. Although some of the policies acknowledge the harms and risks that arise from AI-based technologies (including discrimination, biases, risks to rights like privacy), the prescription to these harms is rarely an unequivocal call for a rights-based or regulatory paradigm which addresses them through state-intervention (for example, through the reframing of applicable rights against technology-mediated harms, or discussions on regulatory standards for AI). Rather, most policy discourses in India direct that these harms be addressed through 'self-regulation' and with reference to 'ethics', instead of through institutionalised legal mechanisms which provide clear recourse to structural harms or risks to rights. In particular, the 'ethical' model for AI governance has found much purchase in policy and regulatory discourse globally, often pushed by large technology corporations themselves (Khan et. al., 2022; Kuriyan & Ray, 2009). Yet, emerging critical consensus on these models is that they have been largely ineffective in curtailing the risks that AI technologies pose, creating insufficient incentives for structuring accountability and redress for the harms that these technologies are now known to lead to (Le Bui & Noble, 2020).

Secondly, the AI governance paradigms have resulted in increasing privatisation of important administrative and governance functions, including policy-making functions. As discussed previously, the dominant trend in the use of 'AI' and data-science-based technologies within government administration has been to outsource such technologies as service or technology procured through a private third party. The justifications for utilising 'data-based' systems and utilising so-called artificial intelligence systems align broadly with post-liberalisation economic policy of reliance on the market-based metrics to introduce greater efficiencies in government functions, including projected reductions in corruption from the absence of 'human' intervention, the cost-efficiency of Big Data methods in decision-making, and the supposed neutrality or objectivity of data-based observations and decisions (Sarkar, 2014). The myth of technological 'efficiency' introduced through digitisation has pervaded technology adoption and large-scale infrastructural projects in 'e-governance' more broadly, and the design and form that these

infrastructures take are varyingly influenced by the role of private players. Emerging models of outsourcing and privatisation like 'Public Private Partnerships' for the implementation of government infrastructural projects have resulted in institutional arrangements which prioritise the power and authority of private actors and their profit-maximisation motives over democratic imperatives and procedures which allow oversight and control over bureaucratic and administrative activity (Kuriyan & Ray, 2009).

While government procurement and outsourcing themselves are common features of government administration in India, the procurement of 'AI' or 'Big Data' based technologies has particular features which require greater scrutiny. The procurement of 'AI' technologies and data-based analytics is leading to an institutional transformation in the way in which government policy is conceived and implemented, displacing administrative discretion and publicly accountable features of government administration with mechanisms implemented by private actors through algorithmic decision-making systems (Mulligan & Bamberger, 2019). Although the adoption of data-based technologies and AI is seen merely as the automation of routine government administrative functions, in many cases, the translation of government policy into 'data' and algorithmic logics embedded within AI systems often requires making explicit policy choices, including choices about which data points represent 'ground truth' on which to base policy decisions, or how to model such data and algorithms to optimise for particular values and outputs, and in service of what outcomes (Citron, 2007). In doing so, the explicit policy-making functions of government are often delegated to technological systems that are procured from private actors. In many cases, public officials have little insight or input into the design or functioning of these systems. However, unlike administrative processes for formulating policy and implementing individualised decision-making, which are subject to the constraints of administrative law and constitutional bounds for the exercise of government power, there are few legal mechanisms which are able to pierce the technological veil of AI-based policy making, particularly when its implementation is coupled with the structural and organisational impediments to securing transparency, accountability and participation from the private actors involved in such projects.

Mechanisms for the accountability of government procurement are not intended to address such concerns of institutional shifts in policy-making processes, accountability and redress, or participation. Procurement mechanisms operate with the goal to increase transparency and efficiency in the procurement process and public expenditure, not to address issues of administrative policy and democratic processes post-facto. This institutional shift away from public accountability for government policy-making is largely unaddressed in AI governance policy or legal mechanisms in India, although guidelines on the Safe and Ethical use of AI, released in 2020 by the Tamil Nadu Government encourages an 'ethical' evaluation of AI procurement by state government departments. (Government of Tamil Nadu, 2020)

Conclusion

'Artificial Intelligence' and 'Big Data' hype cycles have attracted significant investment around the world, and concurrently significant interest from political actors interested in governing these emergent technologies of information accumulation and processing for

various ends. The interest and investment in these technologies closely follow the emergence of informationalism and informational capitalism as a mode of production in contemporary political economies. These technologies seek to drive individual behaviour and manage populations through the accumulation, commodification and analysis of 'data', with implications for social, political and economic equality. Policy discourses and legal systems influence the uptake of these technologies, and construct and legitimise their influence over political and economic systems.

The political economy of AI governance and policy in India is characterised both by the increasing divestment of oversight and regulation of these technologies to the private sector, as well as a facilitating role of the state in providing an infrastructural base for the production of AI technologies. On the one hand, the market-led development of 'Artificial Intelligence' technologies is seen as an economic and social imperative, and legal institutions are steered away from their regulation and oversight. At the same time, these developments cannot be explained away entirely through the lens of neoliberal capitalism, given the political and constitutional imperatives driving the developmental welfare state in India, which, at least notionally, requires some form of centralised economic planning. Instead, the state appears to be positioning itself as an essential facilitator of private-sector AI development, while retaining important controls over the shape that such development takes, and indeed, who seeks to gain from such development. These controls include, for example, what kinds of databases (or other material infrastructure) are available to access for AI development, and to whom, or which technological protocols become established standards for information infrastructures. One way in which this could potentially manifest in the production and use of AI technologies could be in privileging 'sovereign' AI, or more pertinently,the interests of domestic capital, over globally dominant firms.

This paper attempted to show how policy and legal discourse in India on the subject of AI governance is located within, continues and builds upon the logic of informationalism and datafication, and the ways in which these discourses reify particular forms of economic and political power which privilege the interests of private firms that deploy these technologies, generally at the expense of democratic values, social interests and individual rights. In particular, it indicates how legal institutions and norms are being deployed or sought to be deployed to serve the interests of private capital, which relies upon extractive practices of data collection and processing to create a social order that is often discriminatory and resists democratic efforts towards transparency and accountability. While the argument in this paper is diagnostic rather than prescriptive, it highlights the urgency for an agenda to reaffirm democratic participation within public policy-making on technology, reorienting legal frameworks including administrative and constitutional law, and regulatory institutions like data protection and competition law in ways that address the structural concerns posed by the emergent forms of data-based production that are being promoted and entrenched within the economy.

Note

1. The Planning Commission was the central government body responsible, among other things, for formulating economic and industrial policy. The Commission was disbanded

and its advisory and research roles in informing government policy have been largely subsumed within the NITI Aayog.

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