



Public Affairs Index

Governance in the States of India

2022

3 Themes | 5 Sub-themes | 22 Indicators



PUBLIC AFFAIRS CENTRE
Committed to good governance





Public Affairs Index - 2022

Research Team: Gurucharan Gollerkeri | Anjana Kizhpadathil | Nidhi Sharma | Sai Sidharth M. | Ramana H. M.

ISBN: 978-81-955107-19

Suggested Citation: Gollerkeri, G.; Kizhpadathil, A.; Sharma, N.; Manikandan, S. S.; Heggalal, M. R.;(2022).

Public Affairs Index. Bengaluru : PAC

ISBN: 978-81-955107-19

Public Affairs Centre (PAC) engages in action research focussing on Sustainable Development Goals (SDGs) in the context of India. PAC is a not for profit Think Tank established in 1994 with a mandate to improve the quality of governance in India. The Centre is also a pioneer in deploying innovative Social Accountability Tools (SAT) to measure the quality and adequacy of public services. Over the years, its scope of work has expanded to include the whole gamut of research-advocacy-action to lead evidence-based research on governance across sectors, geographies and populations in India. PAC ensures that gender is an over-arching theme in all its focus research areas.

Public Affairs Centre



PUBLIC AFFAIRS CENTRE
Committed to good governance

www.pacindia.org

© 2022 Public Affairs Centre

Some rights reserved. Content in this publication can be freely shared, distributed or adapted. However, any work, adapted or otherwise, derived from this publication must be attributed to Public Affairs Centre, Bengaluru. This work may not be used for commercial purposes.

Design by



PUBLIC AFFAIRS FOUNDATION
Partnership for Better Governance

www.pafglobal.org

www.pacindia.org

Public Affairs Index

Governance in the States of India

2022

3 Themes | 5 Sub-themes | 22 Indicators

Preface

Preface



Completing seventy-five years of freedom is an important milestone, and as a country, India has much to be proud of. In great measure, this has been possible because of the vision for action contained in the Constitution of India, the Preamble of which aspires: to secure to all its citizens JUSTICE, Social, Economic, and Political. Successive governments at the Centre and in the States have strived to fulfil this mandate. This imperative circumscribes the analytical framework of the Public Affairs Index (PAI) 2022, in assessing the governance performance of the states looking forward India@2047.

Justice is the first principle of society, as truth is a base for human quest for knowledge. Therefore, laws, institutions, and programmes of the state need to be evaluated concurrently on how well they serve the imperative of justice; and must be reformed, from time to time, if they are unfair. Each citizen is entitled to inviolability - of life, liberty, and well-being - rooted in the idea of justice that even the aim of the overall progress of society cannot override. These first principles are enshrined in Constitution of India, articulating the conviction that these rights-based entitlements are not negotiable either in political bargaining or in a social calculus. To this end, the Constitution provides a framework assigning rights and duties across the basic institutions of the state, as well as amongst the citizens. It also defines the distribution of roles and responsibilities between the Union and the States.

In the constitutional framework, the States in India have been assigned an important role and serve as the theatres of development action. The roles and responsibilities assigned to the states cover the vast canvas of human development sectors, and much of this mandate draws on Part IV of the Constitution - Directive Principles of State Policy. The Constituent Assembly was prescient: although nation-building is a cooperative venture for mutual benefit, they recognised that it will face the barriers of conflict of interests. The Constitution thus sets out the rules of engagement for the state and society alike; principles that would advance Justice – Political, Social, and Economic.

Contextualising this during *Azadi ka Amrit Mahotsav*, the Seventh Edition of the PAI makes a paradigmatic shift in its approach adopting the constitutionally mandated framework of the roles and responsibilities of the States in India as the basis to assess the quality and adequacy of their governance performance during the year 2021-2022. The themes, sub-themes, and the indicators used to measure the governance performance of the states are thus drawn primarily from the concept of justice enshrined in the Constitution of India. From a methodological perspective too, PAI 2022 is far more rigorous than its precursors of the previous editions. The focus of the Public Affairs

Centre (PAC) on the methodology applied for PAI 2022 has been to infuse scientific rigour in the analysis and to eliminate subjectivity. The technical note, provided as an annexure to this report, on the methodology elaborates on how this has been achieved.

While the ranking of the states serves the purpose of providing a picture of comparative performance from the cooperative federalism perspective, the delta-measurement analysis identifies states that have, despite the legacy weight of backwardness, outperformed those states that rank higher. This gives the reader the perspective of competitive federalism leading to the process of development convergence occurring, slowly but surely, across the country. PAC presents the PAI 2022, with a deep sense of epistemic humility, and in the hope that the key findings and recommendations contained in the state fact sheets will help the states in India to serve their people better in ensuring equity and justice.

G. Gurucharan
Director
Public Affairs Centre



Research Team



Gurucharan Gollerkeri is Director, Public Affairs Centre (PAC), Bengaluru. A civil servant from the Indian Administrative Service, in the higher echelons of Government for over 34 years, he retired as Secretary to the Government of India, in 2016. He served with distinction as the first director of the India Centre for Migration (ICM), a policy 'think-tank' on International Migration, during 2010-13. Based on his work at the ICM, he co-authored 'Migration Matters: Mobility in a Globalizing World' (OUP, 2016). In 2004-05, Mr. Gollerkeri was a Visiting Fellow at the Centre for Public Policy at the Indian Institute of Management, Bangalore. Mr. Gollerkeri spearheaded the PAI 2021 project.



Anjana Kizhpadathil is a Programme Officer at the PAC. As the Team Lead for PAI 2022, she ushered the transformation of the conceptual framework from Sustainable Development Goals to Constitutional Morality. She oversaw and ensured robustness of methodology, accuracy in data collection and rigour of research in all components of the report. Anjana holds a Master's degree in Public Policy and Governance.



Nidhi Sharma is a Senior Programme Officer at the PAC. She conceptualised the empirical application of Narrative Policy Framework in PAI 2022 to qualitatively complement the quantitative ranking of States. She oversaw Natural Language Processing-based efforts in deriving relevant narratives and helmed the interpretation of the same in PAI 2022's Chapter on 'Narratives of Justice'. She also extended support in developing select indicators within the conceptual framework and anchored data analysis efforts to map the performance 'delta' of States. Nidhi holds a Master's degree in Public Policy and Governance.

Data Team



Thomas Jacob heads the Centre for Open Data Research (CODR) – the analytics arm of PAC. He is the strategic supervisor for PAI 2022 and responsible for ensuring the robustness and veracity of data and methodology. He holds a Master's degree in Computer Science. His research interests include Information Systems Architecture, Design & Development of Enterprise Business Solutions, Data Engineering, Data Science & Analytics, AI & ML.



Sai Sidharth M is a former Associate Data Scientist at the Public Affairs Centre, Bengaluru. He played a key role in researching and developing the methodology adopted for constructing the Composite Index. He holds a Bachelor's degree in Statistics and Master's in Biostatistics and Demography. Sidharth's research interests surround statistical modeling and application of data science to solve real-world problems.



Ramana H. M. is an Associate Data Scientist at PAC and led the efforts to research and develop Natural Language Processing based models for Sentiment Analysis. He also supported the team with Data Extraction and Data Pre-processing for the Governance Model and co-authored sections of Sentiment Analysis. He holds a Bachelor's degree in Computer Science and Engineering. Ramana's research interests include localisation of Artificial Intelligence, Image Processing, and Data Analysis.

Editing And Design Team



Dr. Annapoorna Ravichander, Executive Director, Public Affairs Foundation and Head-Policy Engagement and Communication, PAC oversees all the activities related to branding, engaging with stakeholders and policy engagement. She was overall in charge of the production and editing of PAI 2021.



Esha Daftari is a Graphic Designer. She oversees all design elements and brings in her experience of using graphics, photography and designing in mailing complex information as an easy to read experience based on the audience. She started her career 12 years back as a Graphic Designer and has been working as a Freelance Photographer since the last 8 years. She has conducted Photography workshops for beginners, students and corporates. For PAI 2021 she developed and designed the infographics and relevant graphics.



Vashisth Vyas has 15 years experience in graphic, web and UI/UX designing. His professional experience varies from marketing to creative consultant. In the initial years of his career, he worked as a Marketing Executive and Manager for various industries. Later, he diversified towards more creative areas of designing and art. He was appointed as Asst Manager-Design and worked as a Graphics designer, UI & UX designer for a couple of creative agencies and now he serves as a Creative Consultant.

The PAI 2022 Team has greatly benefitted from the intellectual contribution, review and guidance of **Prof. Rituparna Sen** from Indian Statistical Institute (ISI), Bengaluru. In addition, the Team has drawn from consultations with **Mr. GMP Reddy** (Senior Fellow, PAC), **Mr. Gopal B. Hosur** (Distinguished Fellow, PAC) and **Dr. Meena Nair** (Head of Research, PAC). The Team also acknowledges the contribution of Ms. Jayamani Yadav from Azim Premji University for her assistance in literature review, data verification and preliminary analysis.

Executive Summary

"These principles of liberty, equality and fraternity are not to be treated as separate items in a trinity. They form a union of trinity in the sense that to divorce one from the other is to defeat the very purpose of democracy."

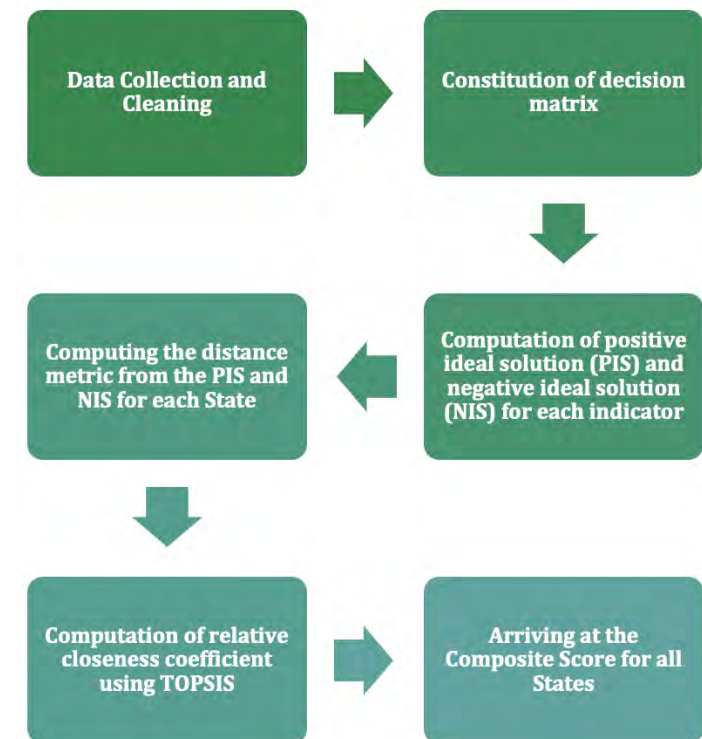
Dr. B. R. Ambedkar
(Constituent Assembly Debates,
Vol. XI, 62, Nov. 25, 1949)

75 years since India's *"Tryst with Destiny"*, a quantitative evaluation of developmental progress of States in India is neither unconventional nor unwarranted. Recognising the central role of States in India as platforms of development action, the emphasis of Public Affairs Index 2022 (PAI 2022) is to evaluate governance in the sub-national units in India.

In an era of data-driven governance and ubiquitous nature of Index-driven analyses, continuous upgradation and re-evaluation holds pre-eminence. The Public Affairs Index (PAI) conventionally undertakes a triennial re-evaluation and re-assessment of the methodology and the framework used for its analysis. PAI 2022, the seventh edition of the annual publication, underwent a paradigmatic shift in its approach on multiple fronts. PAI 2022 undertakes a methodological shift from Principal Component Analysis (PCA) adopted in PAI 2021 to a Multi Criteria Decision Making (MCDM) based approach. The framework of analysis in the PAI 2022 also underwent a transition from the Sustainable Development Goals (SDGs) based model of Equity, Growth and Sustainability to a Constitutionally enshrined conception of Justice – Social, Economic and Political.

PAI 2022 introduces a Multi-Criteria Decision Making (MCDM) approach using the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) methodology to arrive at the Composite Index. The concept behind usage of TOPSIS is that the alternative chosen should be closest to the positive ideal situation and farthest from the negative ideal solution. This methodology does not involve specifying weights to individual indicators and are measured only based on the deviations from the ideal solution

sets. Deviation is measured using the Mahalanobis distance, in order to take into account, the covariance structure between the indicators. In arriving at the Composite Index, the following steps were undertaken -



In assessing governance in the States of India, the Constitutionally rooted conception of Justice was operationalised through Themes, Sub-themes and indicators. PAI 2022 identified 22 indicators that would quantitatively measure Social, Economic and Political Justice in the States of India. This, as visualised, formed the framework of analysis for PAI 2022.

Theme	Sub-theme	Indicator
Economic Justice 	Revenues of State	Public Expenditure on Development
		Labour Productivity
		Own Source Revenue Mobilisation
	Social Security and Social Insurance	Unemployment Rate
		Gender Contrasted Worker Population Ratio
		Standard of living of MGNREGS workers
		Gini Index
		Coverage of Social Safety Net
Political Justice 	Rule of Law	Functional Devolution
		Commitment to Fiscal Federalism
		Police Efficiency
		Undertrial Population in Prisons
		Crime Rate
Social Justice 	Control of Material Resources	Households with improved sanitation services
		Households with improved drinking water sources
		Access to Clean Cooking Fuel
		Uninterrupted Power Supply
	Securing Social Order for Promotion of Welfare	Trade and Logistics Ecosystem
		Premature Mortality
		Early Childhood Development Outcomes
		Learning Achievements
		Land Degradation

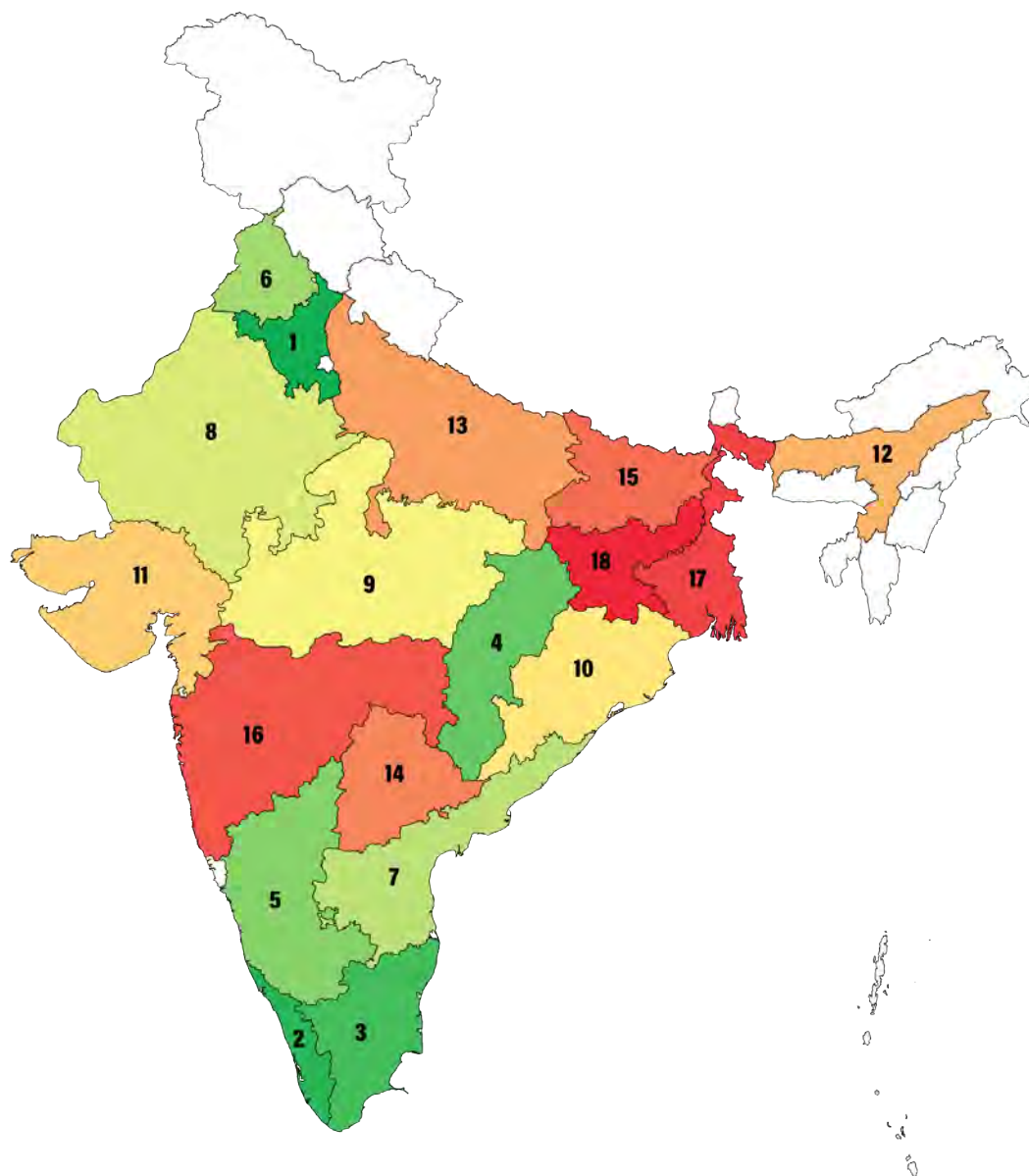
Accounting for variation in States of India, an elbow method was used to categorise States based on log of population size of these States. They were bifurcated into Large and Small States. PAI 2022 exempts analysis of Union Territories due to difficulty in accessing reliable data and irrelevance of certain Constitutionally mandated functions.

Despite the paradigmatic shift in PAI's conceptual underpinnings, commonalities between performance parameters were identified. A Time Delta Analysis was undertaken to assess the trajectory of States along key metrics of governance.

As an addendum to the quantitative exercise, PAI 2022 also launches a qualitative enquiry into the citizen-centricity of States, its policies and politics. Policy objects mapped to the Constitution of India were placed in a Narrative Policy Framework. The social construction of policies was abstracted through a mining and processing of messages - colloquially called 'tweets' - on the microblogging social platform, Twitter. The tenor of tweets -negative or positive- and the prevailing public sentiment in States were analysed using a range of Natural Language Processing algorithms. Interpretations of the dominant narratives are compiled in the Chapter titled '*Narratives of Justice*'.

PAI 2022, through its efforts in quantitatively measuring Sub-national governance intends to trigger policy reorientation and action in areas where States fare poorly. As a head-start, to the policy action, PAI 2022 provides State-level factsheets highlighting areas of accomplishments and aspirations. The factsheets in this report also offer broad set of recommendations to help steer development policies through focussed research.

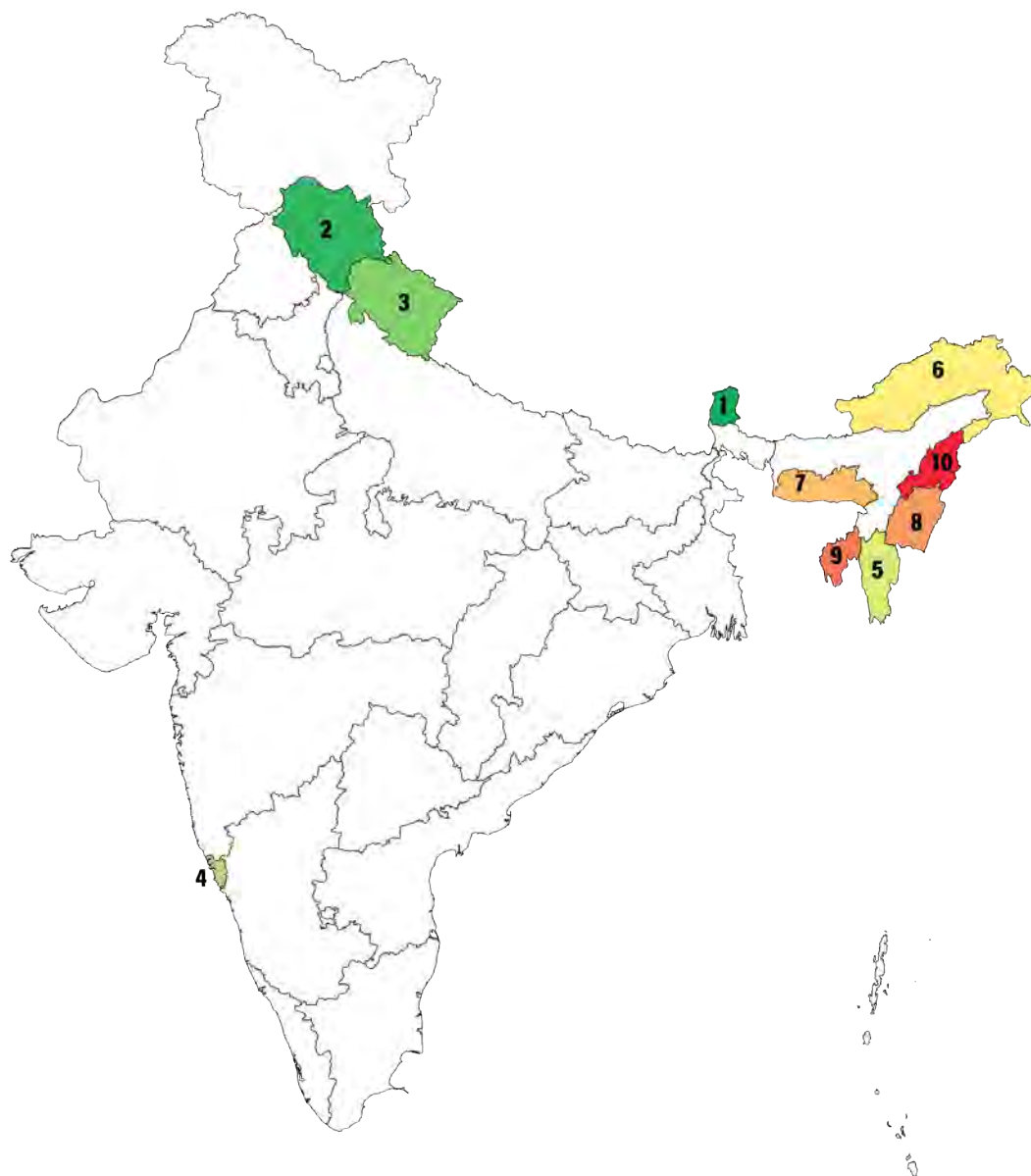
Executive Summary



Rank	Large States	Index
1	Haryana	0.695
2	Tamil Nadu	0.667
3	Kerala	0.667
4	Chhattisgarh	0.631
5	Punjab	0.622
6	Karnataka	0.622
7	Andhra Pradesh	0.593
8	Madhya Pradesh	0.577
9	Rajasthan	0.553
10	Gujarat	0.547
11	Odisha	0.541
12	Uttar Pradesh	0.520
13	Assam	0.502
14	Telangana	0.487
15	Bihar	0.461
16	Maharashtra	0.442
17	West Bengal	0.424
18	Jharkhand	0.353



OVERALL RANKINGS



OVERALL RANKINGS

CONTENTS

Introduction	1
Economic Justice : Equities and Inequities	7
Political Justice : The Rule of Law	19
Social Justice : Endowments and Entitlements	31
Narratives of Justice : Citizens' Perspectives	43
Reflections on the Future	77
References	83
State Fact Sheets	89
Annexures	119
Details of Indicators used in PAI 2022	
Technical Note on Multi Criteria Decision Making Model	
Technical Note on Sentiment Analysis	
Sub-theme and Theme level ranks and scores	
Sentiment Analysis - Additional Insights	
Delta Analysis Indicators and Sources	
Delta Analysis Results	
Media Reach for PAI 2021	


PUBLIC AFFAIRS CENTRE
Committed to good governance

"The working of a Constitution does not depend wholly upon the nature of the Constitution. The Constitution can provide only the organs of State such as the Legislature, the Executive and the Judiciary. The factors on which the working of those organs of the State depend are the people and the political parties they will set up as their instruments to carry out their wishes and their politics."

Dr. B. R. Ambedkar

(Constituent Assembly Debates,
Vol. XI, 58, Nov. 25, 1949)

Over the years since India attained Independence and became the 'Union of India', the nature of Indian federalism managed to garner a number of adjectives like "cooperative federalism", "bargaining federalism" and "quasi-federal" (Austin, 1966) (Morris, 1971) (Wheare, 1949). Recently, these adjectives have also found mention and priority in policy level conversations in the country. To quote the former Vice-President of India, "Competitive and cooperative federalism have become integral parts of our political lexicon" (PIB, 2018). This discourse, also finds endorsement as one of the objectives of the NITI Aayog, the apex public policy Think Tank of the Government of India. This policy-shift to a first-principle based approach in the Indian policy-making scenario offers the opportunity to boost development through cooperative and competitive federalism.

Recognising the importance of sub-national units in the development process of the country, the Public Affairs Index (PAI) 2022 is an effort in this regard in assessing governance in the States of India. In the era of data-driven decision-making, quantitative measurements have also permeated the policy-making space. PAI 2022 attempts to quantify and assess sub-national governance using a conceptually sound framework and a statistically robust methodological approach to suit this particular use-case.

With the definition of what PAI attempts to measure in place, arriving at the conceptual framework to analyse sub-national governance takes lead. In PAI 2020 and 2021, a model based on the Sustainable Development Goals (SDGs) framework of the United Nations (UN) 2030 Agenda was used. The globally agreed commitments to achieve

these 2030 targets appeared most appropriate as it offered precise policy directions for governments worldwide. While the SDGs framework continues to retain relevance in policy conversations of the country and its sub-national units; there still is a need to conceptually ground development efforts. PAI 2022 grounds the same in the Constitution of India; assessing States on the basis of what they are Constitutionally mandated to do.

A Constitutional Renaissance

The Constitution plays significantly diverse roles of establishing the supremacy of law in the country, enshrining natural and unalienable rights to all its citizens, assignment of governance responsibilities through democratic principles and the consequential limits to the powers thereof. The identification of the role of a Constitution in a democracy calls for invoking discourses from the 'Age of Enlightenment'. The evolution from the 'state of nature' to that of modern society finds its intellectual provenance in the 'Age of Enlightenment'; particularly the social contract theory credited to Thomas Hobbes, John Locke and Jean-Jacques Rousseau (De Selincourt, 1937).

Forefronting this discourse, Thomas Hobbes theorises that, in order to bypass the brutish 'state of nature', a "multitude of men, are made one person" to form 'body politic'. The 'body politic' then willingly subjugate themselves to a sovereign providing them with necessary legitimacy. Hobbes holds that even when the 'body politic' subjects themselves to a sovereign power, they continue to remain authors of the sovereign's actions (Skinner, 2010).

John Locke, influencing the American '*Declaration of Independence*', builds on Hobbes' imagination suggesting that people join the '*body politic*' to protect basic rights and promote the common good of society. Locke proposed the social contract as the source of legitimacy for the government that protected the natural and unalienable rights of people (Lemark, 2007).

The product of the intellectual contributions made in this '*Age of Enlightenment*' is what paves the way to Constitutionalism in modern democratic societies. The doctrine of Constitutionalism puts in the fore, the supremacy of law and acts as the source of legitimising modern day governments.

A Constitution, in its attempt to rationalise '*sovereignty*' "*marries justice with power....to tame that power and turn it to the service of a civil society*" (Lutz, 2006).

International interpretations of the social contract and constitutional morality require a more nuanced local interpretation. The Preamble to the Indian Constitution with the words "*We, the People of India*" strengthens the derivation of power of sovereignty as bestowed by the governed. In this context, quoting Nani Palkhivala, "*The Constitution represents charters of power granted by liberty, and not charters of liberty granted by power. Liberty is not the gift of the state to the people; it is the people enjoying liberty as the citizens of a free republic who have granted powers to the legislature and the executive*" (Kamath, 2022).

The spirit of justice invoked in the Preamble can be interpreted as the guiding principle of the Fundamental Rights and the Directive Principles of State Policies (Ahmad and Ali, 2016). In this context, PAI 2022 places justice as the governing principle of India's state policies. Therefore, the framework implored in conceptually grounding PAI 2022 is Justice; as pronounced in the Preamble to the Indian Constitution –

"JUSTICE, social, economic and political"

While conversations of justice invoke theories including utilitarianism, egalitarianism and libertarianism, among others, a detailed discussion on the idea of justice and the theoretical nature of justice in the Indian context is beyond the ambit of this work.

While assessing the states in the backdrop of governance, exploring the question '*What Should Governments do?*' becomes important. This leads to the distribution of legislative and administrative relations in the Indian Constitution via the Seventh Schedule. The functions placed under the jurisdiction of the Central Government, State Governments and combined jurisdiction of both the Governments are identified in List I – Union List, List II – State List and List III – Concurrent List, respectively. Apart from this, the Directive Principles of State Policy (DPSPs) and the Fundamental Rights provide the broad architecture for governance in the State.

This conceptual scrutiny also necessitates arriving at a definition for governance to base the new model. The definition adopted in PAI 2022 is from the works of Kaufmann, Kraay and Mastruzzi for de-

veloping the World Governance Indicators. The definition reads – "*The traditions and institutions by which authority in a country is exercised. More specifically, this includes: (1) The process by which governments are selected, monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) the respect of citizens and the state for the institutions that govern economic and social interactions among them*" (2003).

Quantifying Governance

The identification of the conceptual foundation and the Sub-thematic areas is followed by identification of indicators. The items in the State List, items transferred to the Concurrent List through the 46th Constitutional Amendment Act, 1976, the Directive Principles of State Policy, and the Fundamental Rights were carefully scrutinised through the lens of Justice to arrive at a thematic classification of mandated functions. This led to the identification of the broad Sub-thematic areas for evaluating governance performances with a nomenclature inspired from the Constitution.

These Sub-themes were then populated with corresponding indicators that would quantitatively measure the performance of the States. With the thumb-rule to choose indicators that measure governance outcomes, PAI 2022 identified 22 indicators that would quantitatively measure Social, Economic and Political Justice in the States of India. These indicators map to Sub-themes and Themes which are

presented in **Table 1**. Elaborate details of corresponding Constitutional provision, rationale for choice of indicator, data source & year, computation formula and data caveats are provided as an Annexure in this Report.

Theme	Sub-theme	Indicator
Economic Justice 	Revenues of State	Public Expenditure on Development
		Labour Productivity
		Own Source Revenue Mobilisation
	Social Security and Social Insurance	Unemployment Rate
		Gender Contrasted Worker Population Ratio
		Standard of living of MGNREGS workers
		Gini Index
		Coverage of Social Safety Net
Political Justice 	Rule of Law	Functional Devolution
		Commitment to Fiscal Federalism
		Police Efficiency
		Undertrial Population in Prisons
		Crime Rate
Social Justice 	Control of Material Resources	Households with improved sanitation services
		Households with improved drinking water sources
		Access to Clean Cooking Fuel
		Uninterrupted Power Supply
		Trade and Logistics Ecosystem
	Securing Social Order for Promotion of Welfare	Premature Mortality
		Early Childhood Development Outcomes
		Learning Achievements
		Land Degradation

Table 1: Framework for PAI 2022

While previous editions of PAI evaluated States and Union Territories (UTs) in the Union of India, PAI 2022 exempts Union Territories from the analysis. As PAI 2022's conceptual framework assesses compliance to the Constitutionally-mandated responsibilities of the Sub-national units, the primary reasons for omission of UTs was the absence of Legislative Assemblies in most cases. UTs with Legislative Assemblies – Delhi, Puducherry and Jammu & Kashmir – were initially taken into account and later ruled out. This was because of unavailability of data coupled with the irrelevance of certain indicators due to the administrative jurisdictions of Union Territories, as opposed to States.

The 28 States in the Union of India, were bifurcated on the basis of elbow plot of the log values of population enumeration from Census 2011 of all States. Based on the plot, the States were divided into 18 Large States and 10 Small States (Refer to **Table 2**).

<i>Small States</i>		<i>Large States</i>	
1	Arunachal Pradesh	1	Andhra Pradesh
2	Goa	2	Assam
3	Himachal Pradesh	3	Bihar
4	Manipur	4	Chhattisgarh
5	Meghalaya	5	Gujarat
6	Mizoram	6	Haryana
7	Nagaland	7	Jharkhand
8	Sikkim	8	Karnataka
9	Tripura	9	Kerala
10	Uttarakhand	10	Madhya Pradesh
		11	Maharashtra
		12	Odisha
		13	Punjab
		14	Rajasthan
		15	Tamil Nadu
		16	Telangana
		17	Uttar Pradesh
		18	West Bengal

Table 2: List of States Considered for PAI 2022

Methodology

Accompanying the paradigmatic shift in the conceptual framework and the model, the methodology adopted for PAI 2022 also realised a significant shift. PAI 2022 aims at summarising a set of governance indicators grouped into various Sub-themes and Themes to assess the governance performance of the states and rank them. This process involves careful selection of indicators and the application of suitable techniques to arrive at a composite score indicative of governance effectiveness of the states.

PAI 2016, 2017 and 2018 used weighted averages at each level of aggregation where the weights assigned to each indicator were either uniformly distributed or assigned using subjective analysis by domain experts. In PAI 2019, 2020 and 2021 the approach towards arriving at the Composite Index involved applying Principal Component Analysis (PCA) so as to avoid subjective weights.

PAI 2022 introduces a Multi-Criteria Decision Making (MCDM) approach using the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) methodology to arrive at the Composite Index. The concept behind usage of TOPSIS is that the alternative chosen should be closest to the positive ideal situation and farthest from the negative ideal solution. This methodology does not involve specifying weights to individual indicators and are measured only based on the deviations from the ideal solution sets. Deviation is measured using the Mahalanobis distance, in order to take into account, the covariance structure between the indicators.

Arriving at a Composite Index

The data for PAI 2022 is organised from a bottom up approach consisting of 22 indicators all of which have been sourced from Central Government databases. The governance framework is developed in such a way that each indicator corresponds to one of the Sub-themes. A group of indicators was aggregated to a Sub-theme and the group of Sub-themes was aggregated to a Theme. The values at the Theme-level were then aggregated to arrive at a composite score for the States.

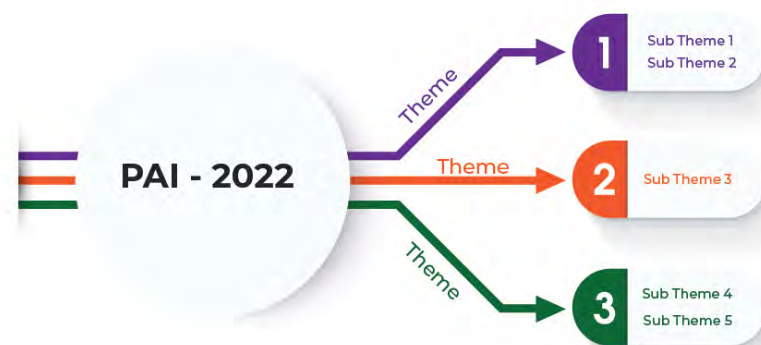


Figure 1 - Hierarchical structure of PAI 2022 Governance Framework

A Composite Index is calculated at each level (refer **Figure 1**) in the PAI 2022 model using the indicators that correspond to the respective Sub-themes and the corresponding Sub-themes to the Themes. At the top-most level (Theme level), the arithmetic mean of themes is taken to arrive at the PAI 2022 score.

Significance of Multi Criteria Decision Making

Multi Criteria Decision Making (MCDM) is one of the prominent branches of decision making. It deals with the development of computational tools for objective evaluation of given alternatives with respect to the multiple attributes involved in the decision making process (Triantaphyllou, 2000). The PAI 2022 analysis involves the usage of TOPSIS method to rank States on governance parameters. It determines the best solution from a set of alternatives with certain attributes. The best alternative is chosen based on the distances from the positive and negative ideal values. For example, in the Table below, assuming that it is a positive indicator, the positive ideal solution will be 89 and the negative ideal solution will be 12. All the State values will then be measured against these values and the distance separation measure will be calculated.

States	Indicator Value
State A	20
State B	89
State C	43
State D	56
State E	12

Table 3 - Calculation of Positive and Negative ideal solution

The broad steps involved in the computation of the TOPSIS score are:

- Constituting a decision matrix
- Specifying the impacts of the indicators
- Determining positive and negative ideal solutions
- Computing distance separation measures from the positive and negative ideal solution sets
- Computing the relative closeness to ideal solution i.e. the TOPSIS score.

Arriving at the distance separation measure

Once the positive and negative ideal solutions were determined, a suitable distance separation measure was chosen. Out of the various distance measures, PAI 2022 adopted the Ma-

halanobis distance. Euclidean distance was another considered alternative; however, it appeared insufficient in terms of investigating the relationship between the criteria in the MCDM process and including it in the decision process. The Mahalanobis distance accounts for the scaling of the coordinate axes, correlation between the different features while measuring the distance from the ideal situation.

Thus, the PAI 2022 calculation using the MCDM methodology follows a systematic and scientific procedure to arrive at the composite score from a set of indicators mapped to various Sub-themes and Themes aggregated at multiple levels. This method is robust and sensitive as it –

- Eliminates subjectivity by using a suitable distance metric as a measure of separation from the ideal solution sets
- Provides a mechanism to decompose the Index at the Sub-theme and Theme level to facilitate comparison and policy-making.

A more detailed Technical Note on the methodology is provided as an Annexure to this report.

Supplementary Analysis

As an addendum to the quantitative exercise, PAI 2022 also launches a qualitative enquiry into the citizen-centricity of States, their policies and politics. Policy objects mapped to the Constitution of India were placed in a Narrative Policy Framework. The social construction of policies was abstracted through a mining and processing of mes-

sages -colloquially called 'tweets'- on the microblogging social platform, Twitter. The tenor of tweets -negative or positive- and the prevailing public sentiment in States was analysed using a range of Natural Language Processing algorithms. Interpretations of the dominant narratives are compiled in the Chapter titled '*Narratives of Justice*'.

Further, despite the paradigmatic shift in PAI's conceptual underpinnings, commonalities between performance parameters was identified. A Time Delta Analysis was undertaken to assess the trajectory of States along key metrics of governance. The insights from the same are included in the Conclusion and the detailed results are attached as an Annexure to the Report

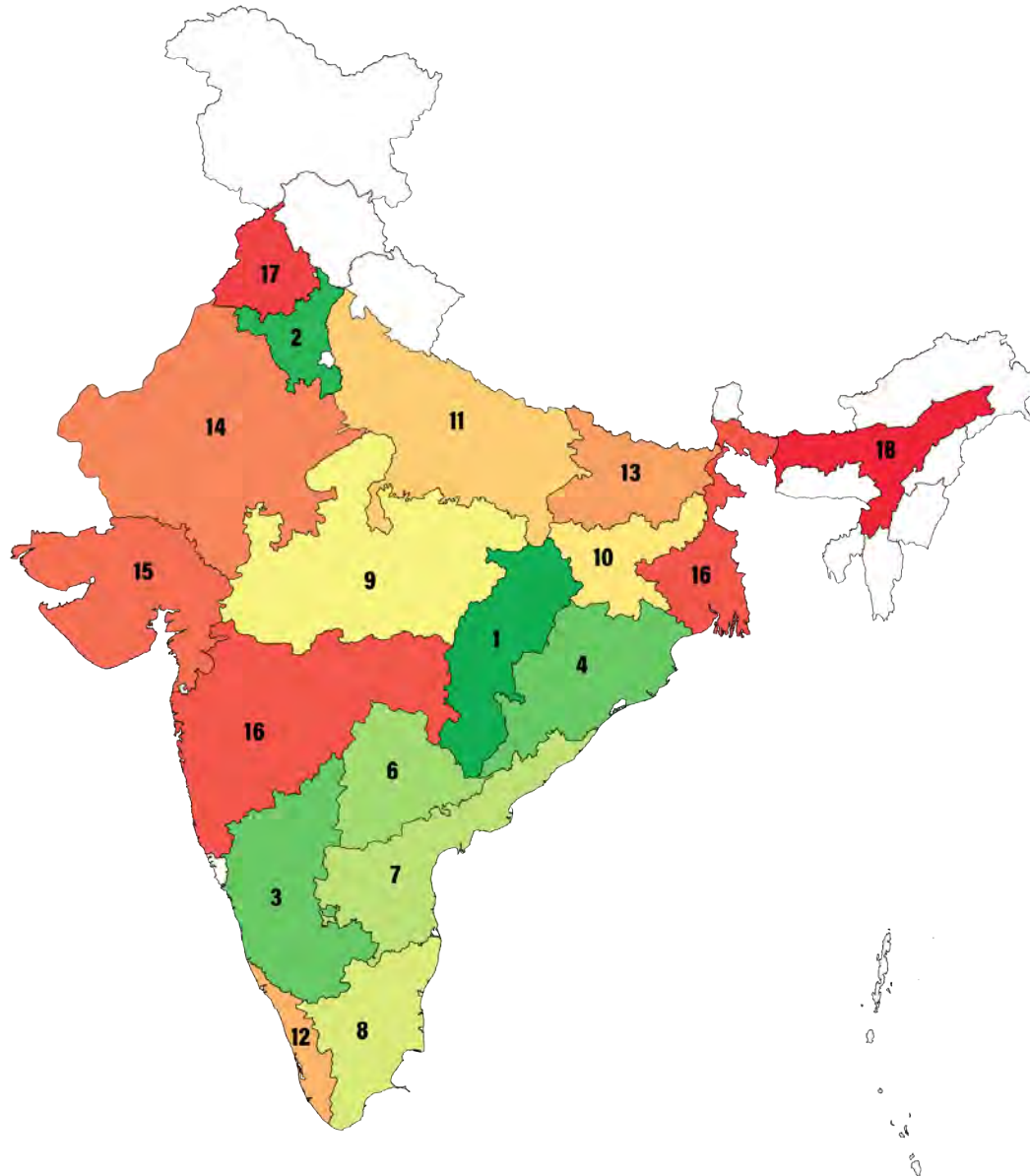
To sum up, PAI 2022 attempts to locate the conceptual foundation that could drive development efforts in India. Identifying the supremacy of law that holds true in any Constitutional democracy, The Indian Constitution serves this purpose; in precision, through the lens of Justice – Economic, Social and Political. PAI 2022 evaluates the 18 Large States and 12 Small States in India through the framework of what they are Constitutionally mandated to do. Supporting this quantitative model is an empirical application of Narrative Policy Framework as a qualitative supplement to the ranking of States.



ECONOMIC JUSTICE : EQUITIES AND INEQUITIES



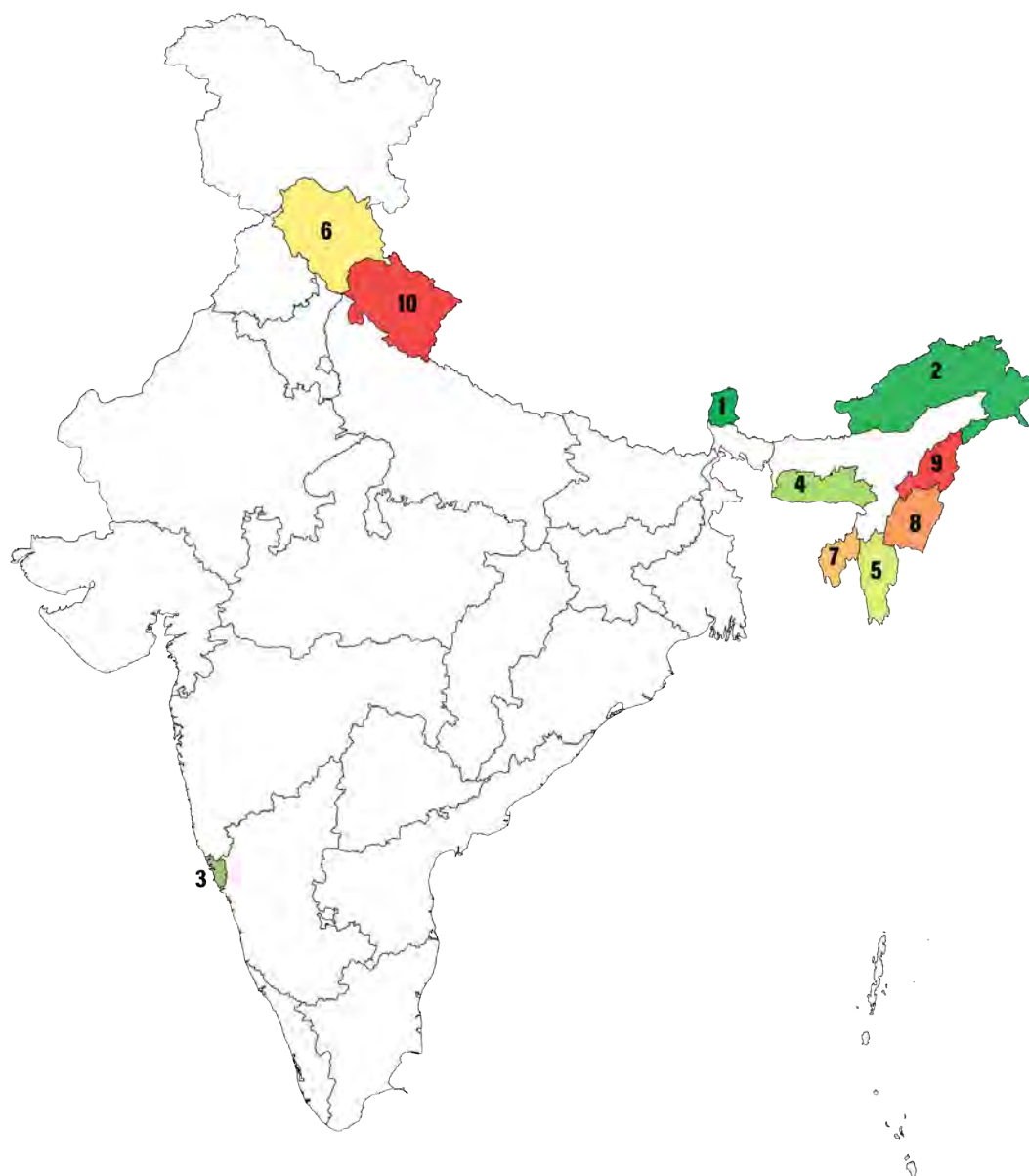
Equities and Inequities



Rank	Large States	Index
1	Chhattisgarh	0.830
2	Haryana	0.800
3	Karnataka	0.790
4	Odisha	0.690
5	Assam	0.607
6	Telangana	0.607
7	Andhra Pradesh	0.585
8	Tamil Nadu	0.582
9	Madhya Pradesh	0.573
10	Jharkhand	0.511
11	Uttar Pradesh	0.497
12	Kerala	0.495
13	Bihar	0.455
14	Rajasthan	0.444
15	Gujarat	0.415
16	Maharashtra	0.403
17	Punjab	0.334
18	West Bengal	0.180



Economic Justice



Rank	Small States	Index
1	Sikkim	0.612
2	Arunachal Pradesh	0.532
3	Goa	0.519
4	Meghalaya	0.485
5	Mizoram	0.428
6	Himachal Pradesh	0.368
7	Tripura	0.314
8	Manipur	0.279
9	Nagaland	0.231
10	Uttarakhand	0.093

Highest Index Value Lowest Index Value



Economic Justice



“On the social plane, we have in India a society based on the principle of graded inequality which elevation for some and degradation for others. On the economic plane, we have a society in which there are some who have immense wealth as against many who live in abject poverty. On the 26th of January 1950, we are going to enter into a life of contradictions.....How long shall we continue to live this life of contradictions? How long shall we continue to deny equality in our social and economic life? If we continue to deny it for long, we will do so only by putting our political democracy in peril. We must remove this contradiction at the earliest possible moment.”

Dr. B. R. Ambedkar

(Constituent Assembly Debates,
Vol. XI, 62, Nov. 25, 1949)

Economic Justice is a fundamental and foundational aspect of Justice. Economic distribution and re-distribution has been a recurrent feature in different conceptions of Justice like utilitarianism, libertarianism and distributive justice. Economic indicators like Gross National Income (GNI), Gross Domestic Product (GDP) and Poverty Rates are often considered measures of developmental progress by international organisations like the United Nations, the World Bank, etc. This provides adequate reason to assume centrality of Economic Justice in scaling governance performances.

The Preamble to the Constitution of India also highlights the importance of Economic Justice. Economic and social planning is meticulously included as an item in the Concurrent List under the Seventh Schedule of the Constitution; apportioning the responsibility equally between the States and the Centre. Items such as economic planning, poverty alleviation, distribution of common resources also feature in the Eleventh and Twelfth Schedule providing the required importance to local governments in the economic planning of the country.

Apart from attention to responsibility of economic planning, the Directive Principles of State Policies (DP-SPs) offer obligatory attention to equitable division of wealth and common resources, equal opportunities in terms of employment, education and health, as well as, freeing from the slavery of economic necessity. In essence, the Constitution of India carefully and presciently offers a roadmap that will lead India to Economic Justice.

A country's economic progression could be understood and measured on two separate aspects – economic growth and economic development. Economic growth is generally understood as an improvement in the value of goods and services in the economy; whereas, economic development considers improvement in the quality of life and general economic well-being of the community that has accomplished economic growth. In PAI 2022, Economic Justice takes into consideration both these aspects of a country's economic progression.

Economic strategies adopted by the different levels of government cater to different policy goals and geographies. The intentional policy swerve at the national level through investments, liberalisation, regulation, etc. could be to promulgate the economy to a particular direction that boosts the development status of the country. These swerves may not always align with the policy direction adopted by the sub-national units. While some States' policies focus on improving manufacturing outcomes, others' might focus on building an agriculture or services driven economy.

Regardless of policy choices adopted to drive economic growth, improving the standard of living and overall income by boosting the country's economic output is an apparent responsibility. If measured in terms of Gross Domestic Product (GDP), India has managed to cater to this need. From 2014-15 to 2019-20, India experienced a steady increase in the Gross Domestic Product (GDP at constant prices); as seen in **Figure 1**:

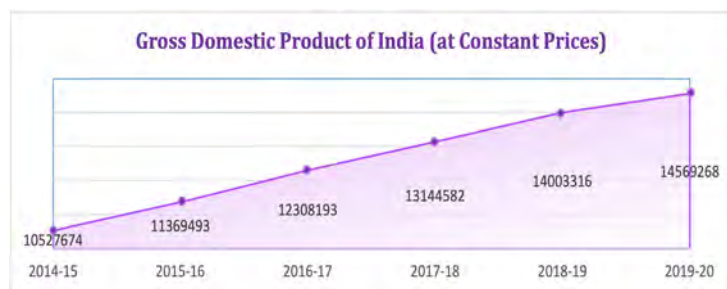


Figure 1: Year-wise GDP of India

Author's Construction using data sourced from National Statistical Office (NSO)

Increase in GDP, naturally contributes to an increase in the funds available for government spending. While governments are in a constant endeavour to balance and prioritise the multitudinous policy priorities, bearing the fundamental responsibility for economic development, it becomes important for governments to show sustained commitment to economic development.

From the perspective of Economic Justice, in PAI 2022, development expenditure is considered as an appropriate measure for initiatives. The Reserve Bank of India's compilation from Union and State government budgets show that State governments spend more percentage of their total expenditure than the Central Government on development expenditure. This may be because according to the Seventh Schedule, most of the State Government's responsibilities are directed at development, while the Union List has several items including defence, naval, military and air forces, etc. consuming a huge portion of its revenue.

Figure 2 shows the Central and State development expenditure patterns from 1993-94 to 2020-21.

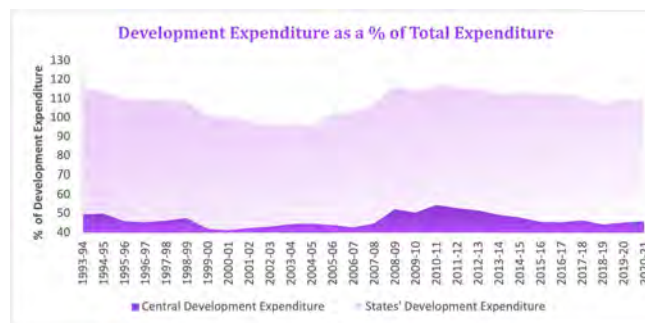


Figure 2: Proportion of Development Expenditure to GSDP

Exponential growth in capital formation also leads to concentration of wealth in certain pockets. As a ramification, distribution and redistribution of wealth becomes a burdening responsibility of the State. In the context of Economic Justice, an equitable and collective prosperity becomes important. A recent report titled '*The State of Inequality in India*' examines how, in the pre-COVID-19 years, from 2017-18 to 2019-20 the top 1% earners of the population have amassed 6.82% of the total income; an increment from 6.14% in 2017-18 while the bottom 50% earners' income remained stagnant at 20% (Kapoor and Duggal, 2022). This sense of economic stagnation and necessity has been compared to slavery (Drèze, 2019).

Often quoted as '*socio-economic development*', Economic Justice is closely intertwined with Social Justice. This addendum to economic growth is especially important in the Indian context as the inequality in distribution of wealth also has caste and gender connotations (Dreze and Sen, 2013). In the context of unequal growth patterns, poverty, though dramatically romanticised, experienced a much required

conceptual shift to a more multi-dimensional approach. However, even this fails to look at caste-based and gender-based discrimination of poverty. In order to correct this lopsided nature of economic growth, there is a need for sound economic and social policies. Economic Justice in PAI 2022 considers this aspect, as well.

The construction of Sub-themes under Economic Justice had to adequately represent the more financial aspects of government policy reforms, as well as, the distributive aspects of the policies with the ambition of providing protection against concentration of wealth in the larger society. Economic planning is fundamental to development. Mindless spending without alignment to the policies of the State often leads to unfavourable outcomes. As the unpredictable nature of economics is difficult to conquer, constant re-evaluation, assessment of impact and needs and corresponding course correction are the only ways forward. Indicators used to quantitatively represent Economic Justice in the PAI 2022 model focuses on the macroeconomic policies, as well as, the budgetary choices adopted by States and UTs in order to reduce poverty, boost social equity, and enable sustainable growth in the society. **Table 1** provides the details of the choice of indicators and the framework used in the analysis of Economic Justice in PAI 2022.



Equities and Inequities

Sub-Theme	Indicators
Revenues of State	Public Expenditure on Development
	Labour Productivity
	Own Source Revenue Mobilisation
Social Security and Social Insurance	Unemployment Rate
	Gender Contrasted Worker Population Ratio
	Standard of living of MGNREGS workers
	Gini Index
	Coverage of Social Safety Net

Table 1: Framework for Economic Justice

Analysis of Ranks

The ranks of the States under Economic Justice is characterised by performance under two Sub-themes – Revenues of State (ROS) which measures economic growth and Social Security and Social Insurance (SSSI) which measures social-economic development. There is a strong dependency between these aspects as the fiscal policies, risks and stability of a State is what provides the liberty to determine and fund its development plan. Policy choices of the State governments, revenue and expenditure patterns of government budgets, structural transformation of the economies, increasing unemployment due to skills gap mismatch, as well as, the high rates of unemployment among the skilled and educated population are some of the broad themes that will be explored in this chapter.

The range of scores under Economic Justice varies widely between the best and the worst performing States. Among Large States, the highest value is 0.8540 and the lowest value is 0.1687. Among Small States, the highest value is 0.7139 and the lowest value is 0.1127. This Theme shows the second highest range between the States and contributes significantly to the movement of the final

scores. Among the Large States, Chhattisgarh, Haryana and Karnataka ranked 1st, 2nd and 3rd respectively under Economic Justice. These States also retained the top four positions under both the Sub-themes. Among Small States, Goa, Meghalaya and Arunachal secured the top three ranks. Unlike what was observed among Large States, while top performers in the Theme, corresponded with top performance under ROS, ranks under SSSI did not conform to expectations.

Economic Stability as Administrative Freedom

Fiscal stability and sustainability are fundamental for the States to achieve autonomy to ensure overall development and welfare. The efficiency of revenue generation, labour productivity and investment patterns of the States are evaluated under the sub-theme Revenues of State (ROS). Good performance under the ROS is an indication of sound economic policies that contribute to the overall development of the State.

Among Large States, under ROS, the top five positions are retained by the top five performers under the Economic Justice Theme - Chhattisgarh, Haryana, Karnataka, Assam and Odisha. While Haryana and Chhattisgarh managed to maintain top two positions under Economic Justice theme and Revenues of State Sub-theme, Odisha pushed Karnataka to the 4th position under ROS. Chhattisgarh's allocation of funds towards the development sector is the highest among the Large States, which could be an indication of fiscal policy changes in order to improve developmental outcomes in the State.

The performance of Chhattisgarh, Assam and Odisha seems to have been propelled by the proportion of GSDP that the States have allocated for development expenditure; 17.9%, 16.7% and 16.4%, respectively. The two other placeholders, Haryana (9.1%) and Karnataka (9.7%) showed comparatively smaller allocation, their scores were boosted by good performance in labour productivity.

Large States with relatively high labour productivity showed comparatively low allocation to development than States with low labour productivity (illustrated in Figures 3 and 4). This inverse trend holds true for most Large States; with the exception of Andhra Pradesh and West Bengal. These States did not show a striking movement in their positions between these indicators.

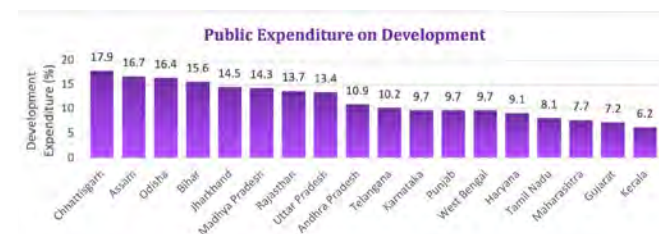


Figure 3: State-wise Expenditure on Development



Figure 4: State-wise GSDP per hour

Haryana's performance under ROS has been propelled by its best performance under the indicator measuring labour productivity – GSDP per hour. This indicator has been constructed by standardising the GSDP of the State to the average time spent by the working group in economic and related activities. This could be a good indication of high labour productivity and increase in real wage rates.

However, the cost of living should also be factored while evaluating relative positions of the States. Kerala and Haryana show relatively high rural Poverty Lines; ₹1018 and ₹1015, respectively, computed as per Tendulkar method on Mixed Reference Period (MRP). Taken as a proxy to estimate cost of living in these States, the values fall on the upper end of the spectrum second only to Punjab (₹1054) among the Large States. In comparison to these States, Karnataka shows a lower rural Poverty Line (₹902); still higher than the all India value of ₹816.

These three States also have a higher urban population share as per Census 2011; 50.78% in Karnataka (highest among the Large States), 47.7% in Kerala (third highest among Large States) and 34.88% in Haryana. This is important as cost of living is typically higher in States with higher urban population. Kerala and Karnataka also exhibit higher rates of inflation between 2014-15 and 2020-21 when compared to Haryana. Kerala, Haryana and Karnataka have managed to reduce their inflation rates considerably in 2020-21 – 6.0, 5.9 and 5.8 respectively – all below the national average of 6.2. Haryana, unlike Kerala and Karnataka, has managed to retain its inflation lower than the all India value since 2015-16 (RBI, 2020-21).

States like Kerala, Gujarat, Maharashtra and Tamil Nadu show lower allocation – less than 9% of GSDP – to development among the Large States. These States, however, recorded multidimensional poverty rates lower than the national average. It was also observed that States that showed high development sector allocation are States with lower Multi-dimensional Poverty Index values; like Chhattisgarh, Assam, Odisha, Bihar, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh. The percentage of multi-dimensionally poor people in these States are higher than the national average of 25%. This is an optimistic indication of fiscal efforts made by these States to improve developmental outcomes (NITI Aayog, 2021).

Small States showed higher allocation to development, when compared to Large States. Unlike observed among Large States, Mizoram, Manipur, Tripura, Himachal Pradesh, Sikkim and Goa allocated more than 12% of their GSDP for development despite recording lower than national average values of multi-dimensional poverty (RBI 2020-21).

All financial planning requires resources that will be allocated and reallocated depending on the need. Therefore, it becomes important to assess how successful a State is in mobilising much needed resources to fund its policies and programmes. Tax is the most prominent source of income for every organisation; be it a local association or State governments. Most developmental projects are funded using revenue from tax. In India, States' revenues come from different sources – own tax revenue, share in central taxes, State's non-tax revenue and central grants-in-aid, as per the recommendations of the Finance Commissions. As per the Seventh Schedule of the In-

dian Constitution, own tax revenue source of the States includes taxes on land revenue, taxes on agricultural income, electricity duty, luxury tax, entertainment tax, and stamp duty.

Among Large States, only Assam and Gujarat recorded less than 5% contribution towards GSDP. Uttar Pradesh and Telangana recorded 7.3% and 7.1% contribution to GSDP, respectively. Among Small States, OTR contributed to more than 5% of Goa's and Meghalaya's GSDP.

Haryana's Own Tax Revenue (OTR) and share of development expenditure reduced from 6.8% of GSDP in 2015-16 to 5.8% of GSDP in 2019-20. While land tax revenue is a significant source of income for State governments, in 2020-21 (accounts), only 4.8% - ₹20.68 crore - of its OTR is derived from land revenue (Economic Survey of Haryana, 2021-22).

While State budgets witnessed accretion in development expenditure; a consequential portion is spent on interest payments and loan repayment. In the backdrop of Sri Lanka's financial crisis, these States should carefully reassess their State budgets for fiscal risks as it could prove untenable in the long run. Quoting the 'State Finances: A Study of State Budgets', "the ratio of interest payments to revenue receipts has been increasing in recent years at a steady pace, indicating erosion of debt sustainability" (RBI, 2022).

An analysis of 2019-20 (accounts) of State budgets show that Punjab, West Bengal, Kerala, Haryana, Andhra Pradesh and Tamil Nadu spend



more than 15% of their State revenue receipts on interest payments (Table 2). This is also reflected in the poor performance of West Bengal (18th rank), Andhra Pradesh (13th rank) and Punjab (15th rank) under ROS. While Haryana and Kerala have secured the 1st and 6th rank, respectively, under ROS; the high debt-to-GSDP ratio could prove self-sabotaging.

Large States	Interest Payments to Revenue Receipts (%)	Small States	Interest Payments to Revenue Receipts (%)
Punjab	25.11	Uttarakhand	14.50
West Bengal	21.93	Himachal Pradesh	12.98
Kerala	21.20	Goa	12.35
Haryana	20.06	Tripura	10.05
Andhra Pradesh	15.87	Meghalaya	7.75
Tamil Nadu	15.83	Sikkim	7.56
Rajasthan	14.13	Nagaland	7.07
Gujarat	14.08	Manipur	6.15
Telangana	14.01	Arunachal Pradesh	3.71
Maharashtra	10.70	Mizoram	3.21
Karnataka	10.05		
Madhya Pradesh	9.33		
Uttar Pradesh	9.10		
Jharkhand	8.56		
Bihar	7.71		
Chhattisgarh	7.42		
Assam	5.85		
Odisha	4.51		

Table 2: State-wise Ratio of Interest Payments to Revenue Receipts

The disposition of the Small States is comparatively better than Large States. However, Uttarakhand, Himachal Pradesh, Goa and Tripura should tread with caution as their interest payment-to-revenue receipts

ratio is over 10%. In addition to high rates of interest payment, Himachal Pradesh also experiences a revenue deficit, reflected in its below average performance on Economic Justice among Small States; with 7th rank in the Governance Model and Delta Analysis. It is interesting to note that Economic Justice is the only pillar where Himachal Pradesh has not secured the 2nd rank.

A study conducted using stress tests show further deterioration of fiscal conditions among States with currently high debt/GSDP ratio – Bihar, Kerala, Punjab, Rajasthan and West Bengal. “*With their debt-GSDP ratio likely to remain above 35 per cent in 2026-27*” (Mukherjee et al., 2022). The study concludes that rising expenditure on non-merit freebies adopted during election campaigns, expanding contingent liabilities and overdue of DISCOMs could further debt unsustainability. In a bench headed by the Chief Justice of India, the Supreme Court calling for a panel to discuss the ‘irrational freebie’ issue is a positive acknowledgement of the issue at hand.

The States were also evaluated on the basis of their performance in Delta Analysis; where States are ranked on the basis of longitudinal difference-based comparisons of their performance. Assam and Chhattisgarh held the top two spots under ROS and maintained their good performance. While Karnataka and Odisha got bumped a few spots down, Haryana showed the highest dip from 1st rank in the Governance Model to 16th rank in Delta Analysis under ROS. West Bengal, Punjab, Jharkhand and Maharashtra showed substantial upward movement in ranks, deserving praise as it is indicative of commitment to good performance.

Enhancing Development Outcomes through Social Protection

While a State cannot necessarily control equitable division of economic wealth in all sectors, SSSI sub-theme assesses the standard of living of individuals receiving the notified wage for MGNREGS in comparison to the Poverty Line of the State. Haryana, Kerala and Karnataka have shown the best performance among Large States in this indicator; which corresponds to the high labour productivity observed in these States. Gujarat is an outlier among Large States in this trend. It ranked fourth under labour productivity; however, the distance of a MGNREGS worker’s wage from the State’s poverty line did not show a gap as high as those observed in other States with high labour productivity. This observation is accompanied by its relatively lower development sector expenditure.

Gini coefficients are an established estimate of income inequality. While Census 2011 is the last available most comprehensive dataset to compute Gini coefficient, PAI 2022 uses consumption expenditure per household as recorded in the PLFS data; which is representative at the State level to compute the coefficient.

States like Tamil Nadu, Gujarat and Andhra Pradesh show an interesting pattern between the two Sub-themes under Economic Justice. These three States rank poorly under Revenues of State but well under Social Security and Social Insurance. Tamil Nadu ranks 14th under

Revenues of State, but 2nd under Social Security and Social Insurance. Similarly, Gujarat ranks 17th under Revenues of State; but 8th under Social Security and Social Insurance and Andhra Pradesh ranks 13th under ROS and 5th under SSSI. The boost in performance under SSSI of these States is characterised by an improved sense of economic equality among these States. Tamil Nadu shows the best performance with a score of 0.3199, Gujarat, 2nd best with a score of 0.3393 and Andhra Pradesh, 5th best, with a score of 0.3518.

Bihar, Andhra Pradesh, Tamil Nadu, Telangana and Kerala show the least income inequality among the Large States; Maharashtra, Jharkhand and Karnataka show worst performance. Traditionally, increase in national income is known to have a moderating effect on income inequality (Brueckner et al., 2015). In order to assess whether States in India follow this trend, the Gini coefficients of the Large States were compared to their respective per capita Net Domestic Product (NDP); refer to **Tables 3 and 4**. Per capita NDP of the Large States ranged between ₹1,76,199 and ₹30,621.

Large States				
States	Gini Coefficient	Gini Rank	Per Capita NDP (₹)	Per Capita NDP Rank
Tamil Nadu	0.31990	1	149329	7
Gujarat	0.33939	2	164310	2
Kerala	0.34206	3	149563	6
Haryana	0.34398	4	176199	1
Andhra Pradesh	0.35176	5	113927	9
Punjab	0.36216	6	119162	8
Assam	0.37457	7	60660	15
Rajasthan	0.40210	8	78390	11
Telangana	0.40372	9	155221	3
Karnataka	0.40606	10	154861	4
West Bengal	0.42676	11	71719	13
Chhattisgarh	0.43900	12	75278	12
Uttar Pradesh	0.44294	13	44618	17
Madhya Pradesh	0.45092	14	62236	14
Bihar	0.45832	15	30621	18
Maharashtra	0.46867	16	152566	5
Jharkhand	0.48255	17	57246	16
Odisha	0.48972	18	82257	10

Table 3: Comparison of Gini Coefficient with per Capita NDP for Large States

Small States				
States	Gini Coefficient	Gini Rank	Per Capita NDP (₹)	Per Capita NDP Rank
Goa	0.30294	1	303687	1
Arunchal Pradesh	0.35241	2	105451	6
Himachal Pradesh	0.37006	3	142155	4
Meghalaya	0.37430	4	62435	9
Tripura	0.39414	5	89234	7
Nagaland	0.41797	6	71247	8
Mizoram	0.41972	7	131781	5
Sikkim	0.42457	8	251494	2
Uttarakhand	0.42541	9	158919	3
Manipur	0.43316	10	53930	10

Table 4: Comparison of Gini Coefficient with per Capita NDP for Small States

Bihar, despite recording the lowest rates of income distribution, has the least per capita income among Large States. This sense of equitable distribution in wealth could alternatively be an equitable spread of poverty in the State; requiring immediate policy intervention and course correction.

Larges States with highest NDP per capita – Haryana, Gujarat and Telangana – did not perform well in terms of equitable division of income among its citizens. Karnataka and Maharashtra, with the 4th and 5th highest NDP per capita among Large States recorded high levels of income inequality. This does not come as a great surprise, as Maharashtra, despite a poverty rate lower than national average, houses 18% of the country's slum population. These States may have to caution themselves against contributing to worsening regional disparities and rural-urban divide.

Gini coefficients of Small States range between 0.2237 and 0.6882; indicating huge inter-State variations. Corresponding figures for Large States range between 0.2306 and 0.3788; a much small range in comparison to Small States.

Contrary to its 2nd best per capita NDP among Small and Large States, Sikkim shows poor income inequality. Until recently, Sikkim showed high rates of unemployment which could have caused the poor income inequality. Uttarakhand also shows a similar trend of high per capita NDP but highest gini coefficient among Small States; indicative of high rates of income inequality.



Equities and Inequities

While equitable division of wealth is a prime indicator of Economic Justice, a decent standard of living is another important factor in discussions surrounding human development. Unemployment rates impact the States' ranks under SSSI, as well as, Economic Justice. The top three Large States in PAI 2022, Haryana, Kerala and Tamil Nadu, seem to be struggling with high rates of unemployment. Similarly, the 1st rank holder under Small States, Goa, records the 2nd highest unemployment rate. Sikkim, the 3rd rank holder, until recently struggled with high rates of unemployment; however, the State has managed to reduce unemployment rate from 3.6 in 2017-18 to 3.3 in 2018-19, 2.4 in 2019-20 and 1.2 in 2020-21 according to the Periodic Labour Force Survey (PLFS). The State also records high levels of suicides with employment as the leading cause (National Crime Records Bureau, 2020).

PLFS 2020-21 annual report records high incidence of unemployment among people with post graduate and above qualifications. **Figure 5** plots the average unemployment rates of Small States and Large States according to levels of general education. Across States, the general trends show that higher instances of unemployment are recorded among individuals with higher levels of education. Most States, with the exception of Haryana, Goa and Bihar, have recorded less than 1% unemployment rate among the illiterate population in the State. All other States record highest rate of unemployment among individuals with diploma or higher levels of employment; barring Uttarakhand where 17.4% individuals with high school level education were unemployed.

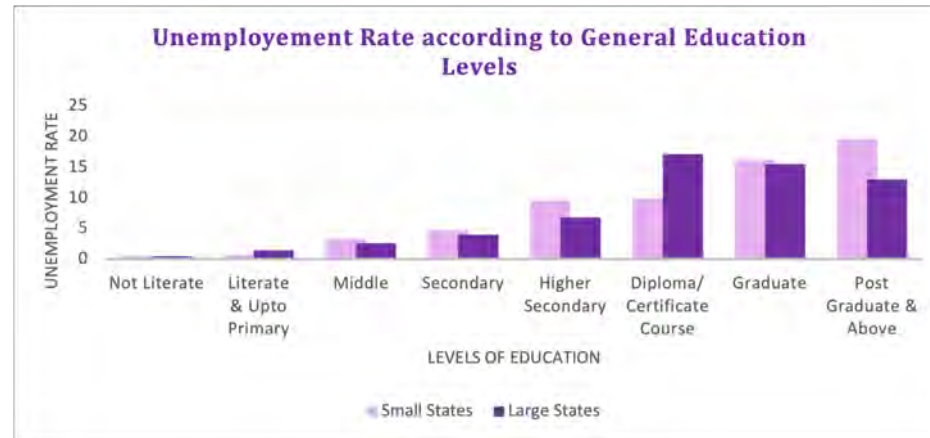


Figure 5: Unemployment rates of Small and Large States according to education levels

The increase in levels of education seems to be proportional to rates of unemployment in most States; which is a very alarming trend. While the different States have actively prioritised formal education and upskilling with enthusiastic implementation of the Right to Education, National Education Policy, regular update of data on enrollment, dropouts, pupil teacher ratio, as well as, school infrastructure, efforts to provide jobs to these highly qualified and trained individuals seems to have fallen short.

The performance of Kerala requires some attention; Economic Justice is the only area where the State does not appear as a top performer. Kerala secured the 11th rank under Economic Justice with a score of 0.5338, which is just over the average scores of all States (0.5603). While managing to secure the 6th rank under the sub-theme of Revenues of State; Kerala ranked 13th rank under Social Security and Social Insurance; contrary to expectations.

Kerala's score has been pulled down by its notoriously high unemployment rate of 11.6. While the heavy legacy of early commitment to human development through the widely appreciated '*Kerala Model of Development*' garnered adequate and necessary policy focus towards improving health outcomes, educational outcomes and improved sense of democracy in the State; the State seems to be struggling

with the third dimension of Human Development – a decent standard of living. The continuous peril of higher than national level unemployment rates have started to reflect in the State's governance performance.

The pandemic-induced reverse migration has had a terrible trajectory. High rates of reverse migration experienced by the State could further increase unemployment rates. Kerala Migration Survey-2018 reports 2.1 million emigrants from Kerala across the world. With COVID-19 and the Gulf countries actively reducing foreign employees, this number would have substantially reduced as the State of Kerala alone reported 1.2 million return migrants from GCC countries (Ratha, et al., 2021).

Kerala's high unemployment rate is caused by substantially high female unemployment in

comparison to male unemployment rates. While the overall unemployment rate of Kerala has been substantially higher than the national figures; the unemployment rates of the females are much higher than males. A similar trend is observed in the case of Goa. Rural and Urban Goa experiences a high female-male divide in unemployment rates. **Figure 6** depicts the male and female unemployment rate in Kerala, and Goa in comparison to the national values from 2017-18 to 2020-21.

Kerala also struggled with notoriously poor labour force participation rates among women despite high levels of education. Some have theorised lower FLFPR to high remittances from migrant family members as a cause (Kerala Migration Reports, 2020).

Gender contrasted Worker Population Ratio (WPR) show disturbing trends. All States considered in PAI 2022, record higher WPR among males than females. Urbanisation seems to be strong deterrent to female WPR across States; with an exception of Mizoram where urban WPR is slightly higher than rural WPR. The State wise trends and illustrated in **Figure 7 and 8**.



Figure 6: Gender-disaggregated Unemployment Rates

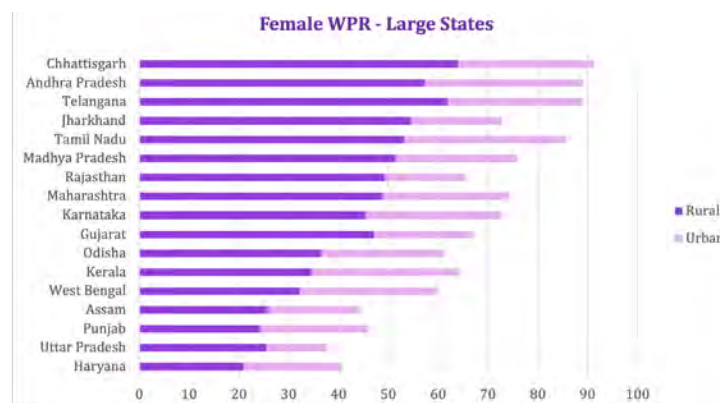


Figure 7: Urban-Rural divide in Female WPR (Large States)

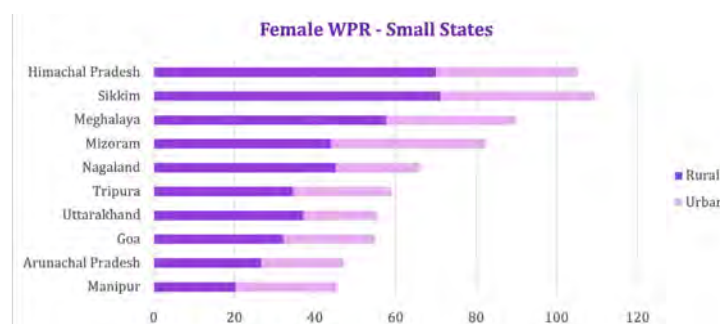


Figure 8: Urban-Rural divide in Female WPR (Small States)

Average Female WPR of Small States is higher than large States. Sikkim and Himachal Pradesh record highest female WPR among all States. Female unemployment rates in Bihar, Rajasthan, Uttar Pradesh and Assam are substantially higher in urban than rural areas. These States also record low urban female WPR. This is a serious indication of reduced access and entry barriers for urban women into the labour market. Unless immediately remedied, this would further widen gender inequality in the State. While States like Haryana, Punjab, West Bengal and Kerala have managed to reduce the rural-urban divide, none of them record a female WPR higher than 32, raising alarm. Chhattisgarh, among Large States, and Himachal Pradesh, Sikkim and Meghalaya, among Small States, are the only few States recording a WPR of more than 50 (PLFS, 2020-21).

While India does not have a universal social protection scheme, the centrally sponsored National Social Assistance Programme (NSAP) covers certain sections of vulnerable population through four schemes – Indira Gandhi National Old Age Pension Scheme, Indira Gandhi National Disability Pension Scheme, Indira Gandhi National Widow Pension Scheme and National Family Benefit Scheme. The SSSI sub-theme measures the extent of coverage achieved by IGNOAPS and IGNDPS among the target population. Several States implement State sponsored pension schemes, as well. However, that has not been covered in PAI 2022.



Nine out of 18 large States covered more than 10% of the target population under these schemes. Bihar, Jharkhand and Odisha covered more than 15% of its target population among large States; while Maharashtra and Punjab covered less than 5% of the target beneficiaries. Small States performed slightly better in this regard where six out of 10 States covered more than 10% of the target beneficiaries. Tripura, Nagaland and Sikkim showed maximum coverage (above 15%) and Arunachal Pradesh and Goa showed least coverage; 2.3% and 3.2% respectively.

Conclusion

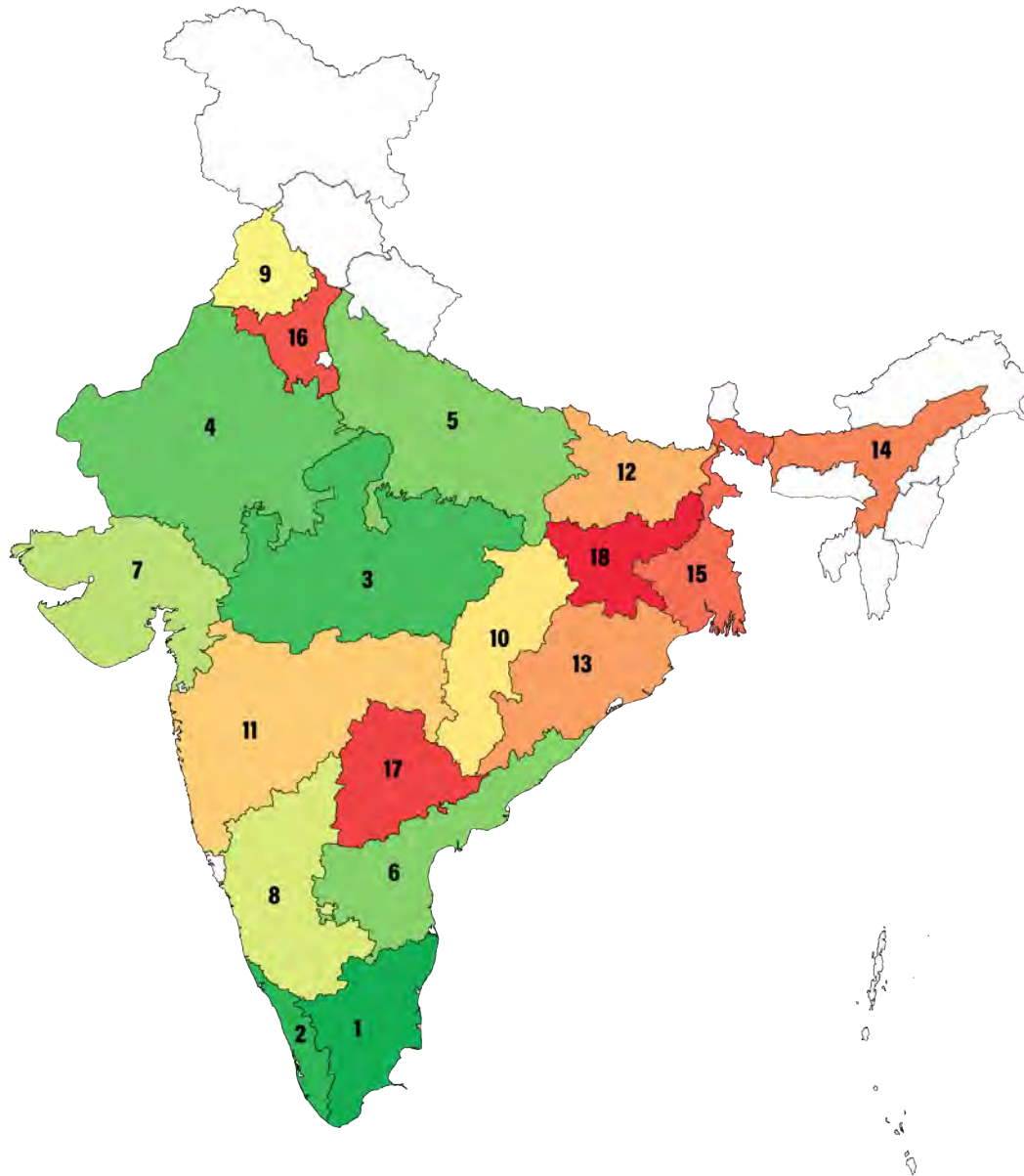
Delta Analysis of States displays interesting insights. When compared to the Economic Justice ranks in PAI 2022, the corresponding Delta Analysis ranks of South - Indian States show a decline – Kerala (11th to 17th), Tamil Nadu (6th to 10th), Andhra Pradesh (7th to 12th) and Karnataka (3rd to 13th). Telangana is the only exception to this trend; where the Delta Analysis rank (8th) was slightly higher than the PAI 2022 rank (9th). Whereas, States that recorded high rates of multi-dimensional poverty like Bihar, Jharkhand and Uttar Pradesh secured higher ranks in Delta Analysis compared to the PAI 2022 (NITI Aayog, 2021). Ranks of these States under Economic Justice in Delta Analysis were 6th, 2nd and 5th, respectively; which is a considerable improvement from the 15th, 12th and 7th in PAI 2022. This upward movement of traditionally poor performers, coupled with higher development sector expenditure, is indicative of efforts made by these State in identifying areas of concern and subsequent policy attention.

Protuberant from the analysis of States' performance on Economic Justice is a grim trend of unsustainability. Concentration of unemployment among the educated and skilled section of the society, potential fiscal risks arising from debts and high income inequality despite high per capita GSDP are some of the observed trends that warrant immediate intervention. If unaddressed, these could prove detrimental to human development and cost the progress achieved by the State thus far.

While urbanisation is considered a spatial dimension of development, this has led to high unemployment rates and low WPR among females in urban areas. Early stages of development lead to concentration of wealth in personal (inequality) and spatial (urban) dimensions (Castells-Quintana and Royuela, 2015). Early detection and prevention of widening gender inequality should be prioritised by State governments currently at risk. Therefore, early adoption of planned urbanisation and course corrective measures would provide long term stability to India's development.



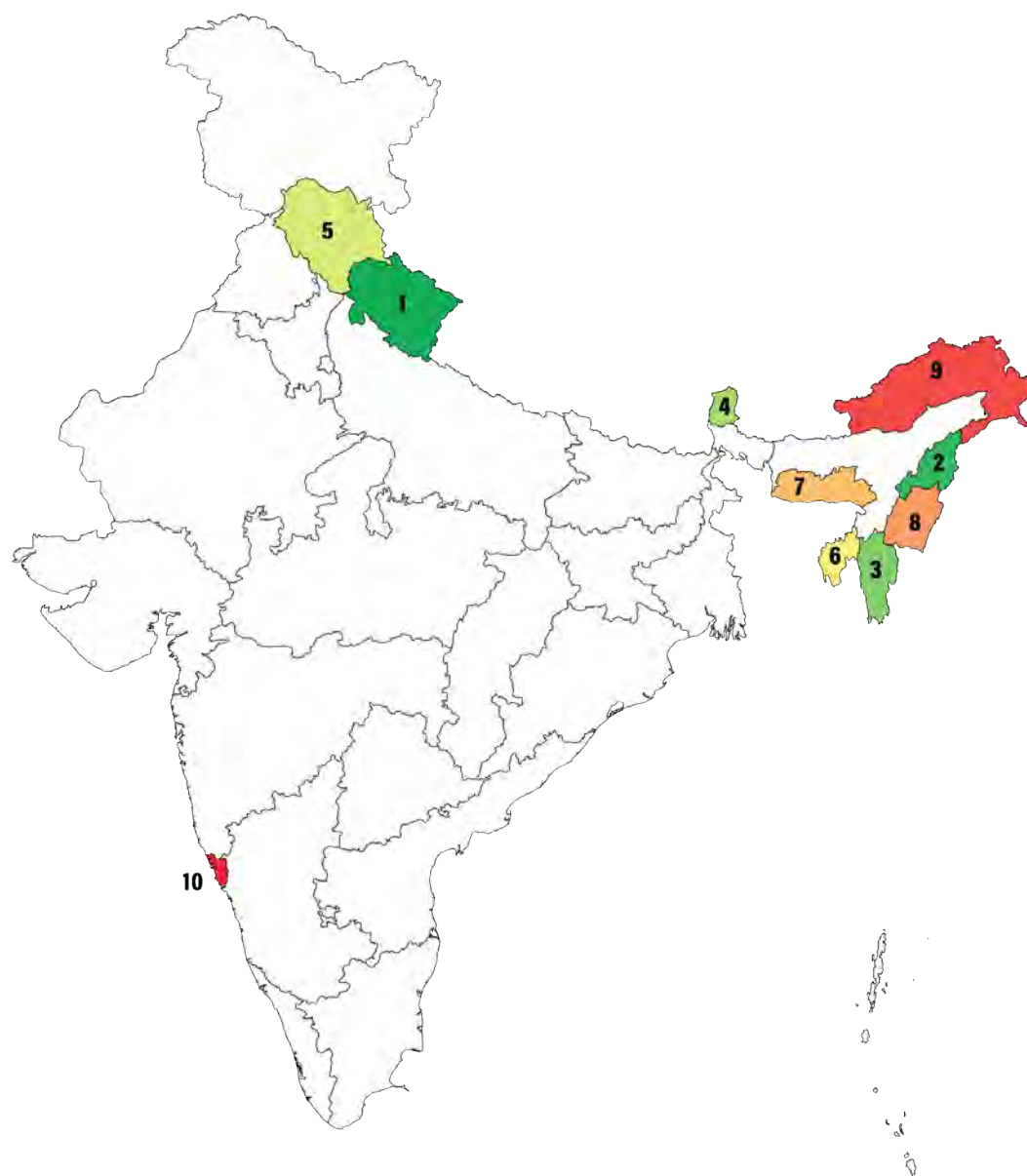
POLITICAL JUSTICE : THE RULE OF LAW



Rank	Large States	Index
1	Tamil Nadu	0.875
2	Kerala	0.797
3	Madhya Pradesh	0.734
4	Rajasthan	0.724
5	Uttar Pradesh	0.682
6	Andhra Pradesh	0.657
7	Gujarat	0.641
8	Karnataka	0.639
9	Punjab	0.616
10	Chhattisgarh	0.609
11	Maharashtra	0.597
12	Bihar	0.589
13	Odisha	0.571
14	Assam	0.528
15	West Bengal	0.522
16	Haryana	0.521
17	Telangana	0.464
18	Jharkhand	0.457

Highest Index Value Lowest Index Value





Rank	Small States	Index
1	Uttarakhand	0.615
2	Nagaland	0.594
3	Mizoram	0.562
4	Sikkim	0.548
5	Himachal Pradesh	0.496
6	Tripura	0.488
7	Meghalaya	0.487
8	Manipur	0.434
9	Arunachal Pradesh	0.429
10	Goa	0.380

Highest Index Value Lowest Index Value



Political Justice



“Who should be in power is left to be determined by the people, as it must be, if the system is to satisfy the tests of democracy. But whoever captures power will not be free to do what he likes with it. In the exercise of it, he will have to respect these instruments of instructions which are called Directive Principles. He cannot ignore them. He may not have to answer for their breach in a Court of Law. But he will certainly have to answer for them before the electorate at election time. What great value these directive principles possess will be realized better when the forces of right contrive to capture power.”

Dr. B. R. Ambedkar

(Constituent Assembly Debates, Vol. VII, 40,
Nov. 4, 1948)

The conceptualisation of the Political Justice Theme in PAI 2022 relies heavily on the fundamental principle of ‘Rule of Law’. In Albert Venn Dicey’s exploration of ‘*The Law of the Constitution*’ (1885), he defines the three fundamental principles of Rule of Law –

1. Supremacy of Law
2. Equality before Law
3. Predominance of Legal Spirit.

The Indian Constitution adopts some of these principles in its conceptualisation. Article 14 states that “*The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India*”.

The judiciary has also played a significant role by frequently invoking, defining and upholding the Rule of Law in the country. In the proceedings of several cases in the judiciary, notably in the case of *Keshavananda Bharti v. State of Kerala*, the Supreme Court realised Rule of Law as the “*basic structure*” of the Indian Constitution. The judgement holds that, “*Our Constitution postulates Rule of Law in the sense of supremacy of the Constitution and the laws as opposed to arbitrariness*”. In *Som Raj v. State of Haryana*, the judgement held that, “*The absence of arbitrary power is the first postulate of rule of law upon which our whole constitutional edifice is based*”

Within the conceptualisation of Rule of Law, the prominent themes explored under Political Justice include the efficient governance of the criminal justice system and the commitment of States in realising the federalist structure of democracy as identified by the 73rd and 74th Constitutional Amendment Acts. The list of indicators is illustrated in **Table 1**.

Theme	Sub-theme	Indicator
Political Justice 	Rule of Law 	Functional Devolution
		Commitment to Fiscal Federalism
		Police Efficiency
		Undertrial Population in Prisons
		Crime Rate

Table 1: List of Indicators Considered for Political Justice

Within the context of the Indian Constitution, the first five items under the List II – State List of the Seventh Schedule attribute responsibilities relating to Public Order, Police, Prisons and Local Government to the State Governments. Moreover, the scope of administrative responsibilities of items like criminal law, code of criminal procedure, preventive detention, inter-state transfer of prisoners is placed under the List III – Concurrent List.

While all citizens are considered equal before the law, there are sections of society more vulnerable than others due to ascribed and prescribed traits. Commitment to upliftment of the weaker sections in the society finds prominent mention in the Indian Constitution. Part XVI of the Constitution awards substantial primacy to the Indian Government’s commitment to the protection of Scheduled Castes (SCs) and Scheduled Tribes (STs). Article 46 of the Constitution places “*promotion of educational and economic interests of Scheduled Castes, Scheduled Tribes and other weaker sections*” as a Directive Principle of State Policy, further strengthening the Constitutional commitment to protection of socially vulnerable groups.

Through the 73rd and 74th Constitutional Amendment Acts, 'women and child development' and 'welfare of the weaker sections, and in particular, of the Scheduled Castes and the Scheduled Tribes' appear in the Eleventh and Twelfth Schedule of the Indian Constitution thus, placing it as a primary responsibility of the local government. While the crimes against vulnerable sections of the society does not feature as a separate indicator in measuring Political Justice; special attention is provided in the analysis of disaggregated nature of crimes in the following sections.

Another important aspect of the supremacy of the Rule of Law is compliance to the democratic governance structures as envisaged in the Indian Constitution. Through the 73rd and 74th Constitutional Amendment Acts, institutions of Local Self-Government (LSG) were awarded Constitutional status, thus mandating the conduct of regular local body elections and devolution of items from the Eleventh and Twelfth Schedule to the jurisdiction of the Rural Local Bodies (RLBs) and Urban Local Bodies (ULBs) respectively.

Crime and Punishment

This section explores the comparative performance of the States in establishing an efficient criminal justice system necessary for the maintenance of law and order. Criminal justice, in this context, refers to the institutions, processes and personnel important for preserving public order and imparting a sense of security to all its citizens. This includes law enforcement agencies, courts and corrective institutions like prisons and reformatories.

As per the Seventh Schedule of the Indian Constitution, 'Public Order', 'Police' and 'Prisons' are items under List II - State List; thereby making it the responsibility of the State Government to maintain law and order in their jurisdictions. At the same time, 'Criminal Law' and 'Criminal Procedure' is placed under the List III - Concurrent List; placing a shared liability between the State and Central Governments.

Despite the placement of 'Police' under the State's jurisdiction, the Central Government is the prominent law-making body. While the administrative management of Police is under State control, The Indian Penal Code (IPC), 1860, the Code of Criminal Procedure (CrPC), 1973 and the Indian Evidence Act, 1872 govern criminal law in India.

In PAI 2022, the various States' commitment to criminal justice is measured using three indicators

1. Rate of Violent Crimes
2. Percentage of Undertrial Population in Prisons
3. Efficiency of Police Disposal of Crimes.

These indicators broadly capture the performance of law enforcement bodies, corrective institutions and maintenance of public order.

Ordered on the basis of rate of violent crimes (as defined by the National Crime Records Bureau), Gujarat, Andhra Pradesh and Tamil Nadu record lowest rates and Bihar, West Bengal and Assam record the highest among Large States. Among the Small States, Tripura, Arunachal Pradesh and Himachal Pradesh record the highest rates of violent crimes while Nagaland, Mizoram and Manipur record the

lowest. The States had to be analysed on the basis of the disaggregated crime heads to understand whether certain sections of the society continued to experience targeted violence.

Parable of Law

The legal discourse in India, since the making of the Constitution identifies the importance of emphasising and offering legal protection to the socially disadvantaged communities. Through the Fundamental Right to Equality, the Indian Constitution attempts to permeate a sense of equality before law to all Indian citizens. The SCs and STs (Prevention of Atrocities) Act, 1989 was introduced due to inadequacy of the existing laws to offer necessary protection for SCs and STs. The document reads -

"An Act to prevent the commission of offences of atrocities against the members of the Scheduled Castes and the Scheduled Tribes, to provide for Special Courts for the trial of such offences and for the relief and rehabilitation of the victims of such offences and for matters connected therewith or incidental thereto."

In addition to this, the 65th Constitutional Amendment Act of 1990 introduced a multi-member National Commission for SC and ST to understand the underlying causative factors for caste-based violence and offer institutional correctives. The first report submitted by the Commission highlighted the continued experiences of atrocities committed by members of the upper caste on SCs and STs.



Despite these constitutional, legal and institutional measures to keep atrocities against SCs and STs under check, India struggles to eliminate caste-based violence and experiences a year-on-year increase in the record of such crimes. National Crime Records Bureau - 2020 (NCRB-2020) report highlights a 9.4% increase in reported crimes against SCs and STs from 2019 to 2020. The analysis that follows, closely attends to the disaggregated nature of crimes in the Large and Small States.

According to NCRB 2020 data, Madhya Pradesh, Rajasthan, Bihar, Telangana and Gujarat record high instances of crime against SCs. Rajasthan, Telangana and Madhya Pradesh simultaneously record high rates of crimes against STs. The high rate of crimes against STs in Rajasthan and Andhra Pradesh is also coupled with a low charge-sheeting rate of 52.1 and 67.4 respectively, which is a matter of immediate concern.

Kerala, despite the 2nd rank under Political Justice, experiences the highest rate of crimes against STs among Large States and struggles to arrest this rate. With a crime rate of 26.8 per lakh population against STs, it is the highest among all Large States. West Bengal, Assam and Punjab, among Large States record very low rates of atrocities against SCs and STs, deserving praise.

According to the first report of the National Commission for SCs and STs (1992-1993), Madhya Pradesh, Gujarat, Rajasthan, Kerala,

Goa and Uttar Pradesh record the highest rate of crimes against SCs per lakh population. Alarming, Madhya Pradesh, Rajasthan, Gujarat and Uttar Pradesh continue to report high crime rate against SCs per lakh population. The report highlights Kerala, Madhya Pradesh and Rajasthan record the highest rates of crimes against STs per lakh population. Similar to the observations for SCs, these States continue to experience high rate of crimes against STs per lakh population. Keeping in mind constraints of measurement error, this could be an indication for establishing research groups to identify the root cause of perpetually high rates of crimes against SCs and STs in these States.

Haryana's position, despite its 1st rank in the PAI 2022, warrants immediate attention to its efforts in reducing crime. The State records high rate of violent crimes per lakh population in comparison to other Large States. A comparative analysis of the different type of crimes reveals that the State experiences high rates of crimes against children (47.6 per lakh population) and crimes against women (94.7 per lakh population). Similar to Haryana, despite the 1st rank among Small States, Sikkim also grapples with high rates of crime against women – 44.2 per lakh population – and an alarmingly high rate of crime against children – 71.4 per lakh population.

An alarming trend is observed in Rajasthan, Haryana and Assam in crimes against women. While Assam manages to protect the socially vulnerable groups and maintain low rates of crimes against SCs and STs, the State records a dangerously high rate of crime against women with a registered rate of 154.3 per lakh population. The high rate of crime against women in Assam and Rajasthan is accompanied by a poor charge-sheet-

ing rate of less than 64%. This trend could be an indication of poor ease of access which could act as a deterrent to women seeking state support and protection. Telangana on the other hand, records high rate of crime against women, but also shows high charge-sheeting rate of 90.1%. This could be understood as active measures undertaken by Government of Telangana to improve the safety of women in the State which could eventually lead to reduction in the high rate of crime against women.

Crime against women can occur in private spaces, as well as, public spaces. Crime against women in public spaces restrict the mobility of women and deter their participation in education and workforce (Borker, 2018) (Siddique, 2018). A time-series analysis of Female Labour Force Participation (FLFPR) and crimes against women draw correlations which suggest that with every additional crime per lakh population, FLFPR decreases by 6.3 percentage points; which amounts to roughly 32 women (Chakraborty and Lohawala, 2021). While there could be a combination of factors influencing poor female employment, a comparison of the two is worth exploring.

A comparison of rate of crime against women and an indicator measuring the differences between male and female worker population ratio from the Sub-theme Social Security and Social Insurance from the Economic Justice theme show that Assam, Odisha, Haryana and West Bengal with high rates of crime against women also experience female Worker Population Ratios (WPR) much lower than the male WPR. Telangana and Rajasthan are outliers to this observed trend. Assam also registers the high-

est female secondary school dropout rates in the country - 31.4. Odisha, Telangana and West Bengal fare comparatively better than Assam with female secondary dropout rate of 15.4, 13.4 and 13.3 respectively. Recording one of the lowest female secondary dropout rates of 8.8, Rajasthan does not follow the pattern emerging among other States with high rates of crime against women.

Police Efficiency in Crime Disposal

Law enforcement is a prominent component of the criminal justice system. The police can also be considered, via procedural justice, the closest interaction the society has with the judiciary. This necessitates the inclusion of police efficiency in the quantitative scrutiny of Political Justice. PAI 2022 uses the percentage of cases that were true but had to be disposed due to insufficient evidence or lack of evidence; henceforth referred as police efficiency/ inefficiency in crime disposal. This analysis includes crimes under the Indian Penal Code (IPC) and the Special and Local Laws (SLL). The inability to generate evidence and trace clues could be considered as an outcome of various factors – high constabulary strength, low police-to-population ratio, lack of adequate training and low motivation, among others – a few of which have been explained below.

Among Large States, in Haryana and Assam, 48.8% and 34.3%, respectively, were disposed due to insufficient evidence; alarmingly higher than most Large States. Jharkhand also experiences a similar drift with 20.2% of all cases disposed due to insufficient evidence. As an over-burdened police force could be an underlying cause of reduced police effi-

ciency; the percentage gap between the State sanctioned police strength per lakh population and the actual was measured for all States (Bureau of Police Research and Development, 2020) (Illustrated in Table 2).

States (Large and Small)	Percentage of cases disposed due to insufficient evidence	Police Personnel (Sanctioned)	Police Personnel (Actual)	Percentage Gap between Sanctioned and Actual
Meghalaya	74.29	509.23	455.56	-11%
Manipur	71.77	1123.57	942.93	-16%
Haryana	48.85	241.63	180.19	-25%
Arunachal Pradesh	38.70	1011.45	830.31	-18%
Assam	34.32	251.97	207.49	-18%
Nagaland	28.27	1237.30	1300.93	5%
Mizoram	27.52	942.07	674.54	-28%
Sikkim	23.84	972.71	851.27	-12%
Jharkhand	20.26	218.15	172.18	-21%
Maharashtra	15.90	198.12	174.87	-12%
Tripura	15.89	740.68	568.06	-23%
Uttar Pradesh	13.61	183.19	133.85	-27%
Odisha	13.20	146.36	129.31	-12%
Rajasthan	12.94	142.14	122.36	-14%
Bihar	11.51	115.26	76.20	-34%
Punjab	11.33	321.00	268.50	-16%
Karnataka	10.89	158.23	125.95	-20%
Chhattisgarh	9.33	261.38	220.53	-16%
Telangana	9.17	209.85	130.88	-38%
Goa	8.69	659.16	511.78	-22%
Madhya Pradesh	6.43	158.01	120.02	-24%
Himachal Pradesh	5.85	257.25	240.52	-7%
West Bengal	5.36	157.38	100.53	-36%
Andhra Pradesh	5.21	141.06	113.68	-19%
Uttarakhand	5.20	196.87	188.16	-4%
Tamil Nadu	4.03	164.62	148.54	-10%
Gujarat	1.42	162.72	122.78	-25%
Kerala	0.71	177.60	152.49	-14%

Table 2: Percentage Gap between Sanctioned and Actual Police per lakh population

Small States, despite smaller jurisdictions and higher number of State sanctioned police personnel per lakh population, high rates of police inefficiency are recorded. In Meghalaya and Manipur, 74.3%

and 71.8% of all cases were disposed due to insufficient evidence despite high number of police personnel per lakh population. As many factors influence the State sanctioned number of police personnel, the frequent insurgencies experienced in North-Eastern States could have been an influential determinant. The North-Eastern States, barring Assam, as per actual police strength, record more than 500 police personnel per lakh population.

Despite relatively high police strength per lakh population, Meghalaya, Manipur, Arunachal Pradesh, Assam, Nagaland, Mizoram and Sikkim sequentially record high proportion of cases disposed due to insufficient evidence. The percentage of such cases range between 74.3% and 23.8%; monumentally contributing to high rates of police inefficiency among Small States as opposed to Large States.

In Kerala, Gujarat and Tamil Nadu, less than 5% of all cases are disposed due to insufficient evidence – 0.71%, 1.42% and 4.03% respectively. Out of these States, Tamil Nadu records



the lowest percentage gap between the sanctioned and the actual police strength in the State; 10% less than the sanctioned number of police per lakh population. This is closely followed by Kerala with a 14% difference between sanctioned and actual police personnel per lakh population. Gujarat and Tamil Nadu, corresponding to its comparatively low gap between sanctioned and actual police strength, register crime rate lower than all other Large State, barring Andhra Pradesh.

Among Large States, West Bengal, Telangana, Bihar, Uttar Pradesh and Haryana record a percentage gap of more than 25% between sanctioned and actual police staff. Among these States, West Bengal, Bihar and Haryana, correspondingly, also record the highest rate of crimes per lakh population among Large States. This could be an indication that the high rate of vacancies in police personnel among these States could be a causative factor for high rates of crime. Providing statistical strength to the observed interdependency, a strong correlation coefficient of -0.69 is observed between crimes rates and vacancies among Haryana, Bihar and West Bengal. This is an indication for these States to actively improve the police strength that seems to be contributing to reduction in rates of crimes.

Detention and Reformatory Action

In the Indian Constitution, 'Prisons' fall under List II – State List of the Seventh Schedule. While this places prisons under the admin-

istrative control of the State Government, prisons are largely governed by the Prisons Act of 1894 and Prison Manuals in respective States.

The Model Prison Manual (2016) accentuates the reformatory role of prisons in the Indian criminal justice system. The manual cites the Indian Jails Committee (1919-20), the various Prison Reforms Committees, United Nations Standard Minimum Rules for the Treatment of Prisoners (1955), International Covenant on Civil and Political Rights (1977) to highlight the centrality of reformation as the most prominent objective of prisons in the country.

Kerala, Tamil Nadu and Telangana, among the Large States record less than 65% undertrial population in prisons. These States also experience comparatively lower prison occupancy rates according to the Prison Statistics of India – 2020. Out of the States with undertrial population of more than 80% - Bihar, Punjab, Odisha, Maharashtra and Haryana, Maharashtra and Bihar are the only States experiencing prison overcrowding. Among Small States, Sikkim, Uttarakhand and Meghalaya have a prison occupancy rate of more than 150%. Himachal Pradesh also experiences a mild overcrowding with an occupancy rate of 107%. 72.6% of prison population in Meghalaya and 81.5% in Sikkim consist of undertrial population.

Section 436A of the Code of Criminal Procedure provides specific guidelines to determine release of undertrials. The Code allows release on personal bond for undertrials who have been detained for longer than half of the maximum sentence for the charged offence; this cannot be applied to offences punishable with a death sentence. A study conducted by Amnesty International

India, show that a large number of prison officials lack the legal awareness to accurately determine the conditions for release under section 436A (2017).

Delay in judicial proceedings is another causative factor of high rate of undertrial population in prisons. Among Small States, in Manipur, Himachal Pradesh, Arunachal Pradesh and Meghalaya, more than 10% of undertrial population have been detained for more than three years. In these States, duration of trial for more than 20% of the IPC and SLL crime cases lasted more than five years. The instance of Manipur is slightly more worrying; trials of nearly 545 of all IPC and SLL cases lasted for more than five years. Maharashtra, Gujarat and Uttar Pradesh among Large States had undertrial prisoners who were detained for longer than three years. Among the Small States with high rate of undertrial population, it is noteworthy that more than 20% of all IPC and SLL crimes took longer than five years to complete trials.

Delay in judicial proceedings and high proportion of undertrial population in prisons could create a stress on prison capacity causing prison overcrowding. According to the Prison Statistics – 2020, nearly 46% of all Small and Large States house prisoners over their capacities. Out of these States, Uttar Pradesh, Sikkim, Uttarakhand, Madhya Pradesh and Meghalaya experience an overcrowding of over 50% above capacity. This incidentally creates an additional burden on institutional capacity, poses health risks, challenges the basic right of prisoners and derails the reformatory and rehabilitative objectives of such institutions (Ministry of Home Affairs, 2011).

Juvenile Delinquency

Juvenile delinquency is another matter requiring immediate attention by all States. According to the NCRB-2020, Chhattisgarh, Madhya Pradesh, Tamil Nadu, Haryana and Maharashtra record the highest rate of crime by juveniles. Out of these States, Chhattisgarh and Tamil Nadu show an increase in the crime by juveniles from 2018 to 2020; while Madhya Pradesh, Haryana and Maharashtra record a decline.

Tamil Nadu's nature of crime necessitates a deeper enquiry as unlike the other States, total rate of violent crimes in Tamil Nadu is one of the lowest among Large States; 14.4 per lakh population. Yet, the state records high rate of crime by juveniles – 16.4 per lakh population. The incidence of crime by juveniles has increased by 47.3% from 2018 to 2020. The recorded number of crimes by juveniles increased from 2304 in 2018 to 2686 in 2019 and 3394 in 2020.

An analysis of the percentage of undertrial population between 18-30 years of age show interesting findings. More than 50% of undertrials in Chhattisgarh, Karnataka, Haryana, Gujarat, Madhya Pradesh, Jharkhand, Rajasthan and Odisha are between 18-30 years of age. Among Small States, Arunachal Pradesh, Meghalaya and Sikkim see more than 53% of undertrial in the age group 18-30 (Tables 3 and 4).

Large States			
States	Number of Undertrials between 18 - 30 Years	Total number of Undertrials	% Share of Undertrials in 18-30 age group
Chhattisgarh	7357	11963	61.5
Karnataka	6128	10577	57.9
Haryana	8348	14951	55.8
Gujarat	5466	10195	53.6
Madhya Pradesh	16987	31712	53.6
Jharkhand	9055	17103	52.9
Rajasthan	8844	16930	52.2
Odisha	8006	15619	51.3
Telangana	1786	3946	45.3
Assam	2936	6495	45.2
Bihar	19964	44187	45.2
Punjab	7018	15643	44.9
Uttar Pradesh	36145	80557	44.9
Andhra Pradesh	2240	5001	44.8
West Bengal	8850	20144	43.9
Maharashtra	11405	26171	43.6
Kerala	1475	3569	41.3
Tamil Nadu	3378	8709	38.8

Table 3: Percentage of Undertrial Population in 18-30 age group among Large States

Small States			
States	Number of Undertrials between 18 - 30 Years	Total number of Undertrials	% Share of Undertrials in 18-30 age group
Arunachal Pradesh	80	127	63.0
Meghalaya	463	821	56.4
Sikkim	176	328	53.7
Uttarakhand	1858	3906	47.6
Tripura	223	472	47.2
Nagaland	112	261	42.9
Manipur	189	506	37.4
Himachal Pradesh	582	1574	37.0
Goa	153	419	36.5
Mizoram	219	609	36.0

Table 4: Percentage of Undertrial Population in 18-30 age group among Small States

The long-term detainment of young adults capable of significant contribution to the economy may lead to long-term damage and can be seen as a failure of compliance to the reformatory role of such institutions (Barry and Ziedenburg, 2013).

Principle of Subsidiarity

Efficient devolution of funds, functions and functionaries are becoming fundamentally important due to the nature of items envisioned in the Eleventh and Twelfth Schedule of the Constitution of India. More importantly, in the case of Rural Local Bodies as they are seen as the primary implantation body of several state and central schemes and programmes. Often called the “last mile institution”, these bodies are the first point of contact for most citizens. Local Self-Governments (LSGs), due to its proximity to the governed, assumes the position of the ‘Everyday State’ within the Indian democratic structure. Apportioning the sense of governance to the sub-national units, therefore becomes conceptually important and constitutionally required.

The Rural Local Bodies (RLBs) and Urban Local Bodies (ULBs) derive constitutional recognition through the 73rd and 74th Amendments. Barring Meghalaya, Mizoram and Nagaland, all other Indian States are constitutionally mandated to establish RLBs and ULBs and functionally devolve responsibilities as entrusted under the Twelfth and Eleventh Schedule of the Constitution of India. The Large and Small States considered for PAI 2022 were evaluated for their commitment to devolution.



Tamil Nadu, Madhya Pradesh and Haryana have devolved all 29 functions envisaged in the Eleventh Schedule to Rural Local Bodies and all the 18 functions envisaged in the Twelfth Schedule to Urban Local Bodies as per the Fifteenth Finance Commission Report (XV FC Report). Telangana, Punjab, Andhra Pradesh and Assam record least percentage of devolution among Large States. While no Small State managed to devolve all mandatorily envisaged functions to LSGs, Himachal Pradesh emerged the best performer; with 26 out of 29 functions devolved to RLBs and 17 out of 18 functions devolved to ULBs.

The local government bodies are responsible for implementation of various Central and State schemes including Mahatma Gandhi National Rural Employment Guarantee Scheme, Ujjwala Scheme, Saubhagya Scheme, Jal Jeevan Mission and various other schemes that provide essential service like employment, sanitation, clean water, nutrition, education, etc. As most of these directly connect to indicators of Human Development – standard of living, education and health – it raises the importance of an efficient and democratic local government structure.

Assessing the best performers in devolution on matters relating to sanitation and water, contrary to expectation of better performance with higher levels of devolution, Punjab and Andhra Pradesh with poor level of decentralisation show high progress. The status of Haryana and Kerala deserves praise

as these States have attained good levels of functional decentralisation and show high levels of progress in supplying clean water and safe sanitation facilities as indicated in NFHS-5. Madhya Pradesh and Tamil Nadu show high levels of functional devolution but poor performance in their efforts to drive safe sanitation practices. Madhya Pradesh struggles with low access to improved drinking water sources, as well.

The case of Arunachal Pradesh goes against the general current. While most Large and Small States seem to have achieved higher rate of urban devolution in comparison to rural devolution, Arunachal Pradesh managed to devolve all 29 functions to RLBs but has devolved only 13 of the 18 functions to ULBs. A similar trend is observed in the case of Sikkim where all 29 functions have been devolved to RLBs but only 8 out of the 18 functions have been devolved to ULBs. In the case of Sikkim, the official recognition and integration of traditional local government structures – Dzumsa – as a Panchayati Raj Institution (PRI) makes it easier for functional devolution. Similarly, administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram enjoys special provisions under the Sixth Schedule of the Constitution of India. This allows for the formation of Autonomous District Councils (ADC). These ADCs are granted the autonomy to frame laws to protect indigenous interests. However, these States, despite low levels of functional devolution, have been regular in constituting and implementing SFC. With the exception of Tripura, Assam has constituted the sixth SFC, Tripura - fifth and Meghalaya – fourth; indicating commitment to fiscal federalism.

Article 234-I of the Constitution mandates the Governor of each state to quinquennially constitute a Finance

Commission to review the financial position of the Panchayats. The Finance Commission, via Article 243Y, also reviews the financial position of Municipalities. This includes recommendations regarding fund sharing between the State and the LSG institutions, taxes that could be appropriated and grants-in-aid; thereby highlighting the role of constitution of the Finance Commissions as an integral contributor to ensuring fiscal federalism. The PAI 2022 framework uses the State Finance Commission (SFC) currently active in each State as an indicator of the extent of fiscal federalism in the State.

Assam, Bihar, Punjab and Rajasthan, according to the Fifteenth Finance Commission (XV FC) reports, have currently constituted the Sixth SFC among the Large States. Jharkhand, Gujarat and Chhattisgarh have constituted the Third SFC. Though Telangana on record has only constituted one SFC, the State was formed only in 2012, calling for a data caveat. Among the Small States, Meghalaya, Nagaland and Mizoram are exempt from the 73rd Constitutional (Amendment) Act; data estimation techniques have been used to arrive at the SFC status for Meghalaya and Nagaland.

The XV FC report identifies non-compliance to the constitutional provisions for constituting SFCs in States like Andhra Pradesh, Chhattisgarh, Goa, Jharkhand and Telangana. Maharashtra has constituted the Fifth SFC in the State, but is currently implementing the recommendations of the Third SFC. The delayed implementation of recommendations could also be understood as incompliance.

Conclusion

Tamil Nadu, Kerala and Madhya Pradesh exhibited best performance under Political Justice while Haryana, Telangana and Jharkhand fared poorly among Large States. The performance of Tamil Nadu is noteworthy; the State record low rates of crimes, low proportion of undertrials in prisons and high police efficiency. Tamil Nadu has also devolved all Constitutionally mandated functions to the RLBs and ULBs. The good performance of Kerala is backed by comparatively high police efficiency, low undertrial population in prisons, improved commitment to devolution and commitment to constitution of SFCs. While Madhya Pradesh does not show exemplary performance with respect to indicators relating to criminal justice, the State has performed well in functionally devolving functions to RLBs and ULBs. Madhya Pradesh has also been regular in constituting and implementing the recommendations of the SFCs. Among Small States, Uttarakhand, Nagaland and Mizoram topped in the Political Justice Theme while Manipur, Arunachal Pradesh and Goa showed poor performance.

Top performers in PAI 2022 among Large States – Haryana – struggles with poor performance in indicators relating to Political Justice; particularly pertaining to the criminal justice system. While Haryana ranked 16th out of the Large States under Political Justice. Evidently, the range of scores between States were lowest in Political Justice Theme when compared to Economic Justice and Political Justice. While comparatively better overall performance is recorded by States, the average rate of crimes, proportion of undertrial population and

police inefficiency requires immediate policy intervention.

An effective criminal justice system should ideally act as a torchbearer of access to legal aid. While increased reporting of crimes may reflect in the form of high rate of crime in the short run, it would, in due course, create a heightened sense of safety and security. The increased instances of reporting of crimes would also be seen as an improvement in access to legal aid. High rates of convictions could be an incentive to boost reporting of crimes and eventually reduce the rate of crimes.

The Minister of Home Affairs, Government of India, announced India's commitment to increase conviction rates to 90% to achieve a "*citizen friendly and effective criminal justice system in the country*" (Press Information Bureau, 2022). This is far from reality where only Mizoram (94.7%), Nagaland (80.3%) and Madhya Pradesh (74.8%) have currently achieved a conviction rate higher than 75%. The average conviction rate for Large and Small States for IPC crimes is recorded as 58.4% (NCRB-2020). However, the average conviction rates are higher for SLL crime cases - 87.6% for Large and Small States combined.

Rajasthan struggles with high rate of crime against SCs, STs and women. The State had earlier partnered with a research organisation to identify which intervention would create maximum impact in boosting morale, improving citizen perspective and police efficiency (Banerjee, et al. 2021). The study also showed empirical evidence that improved efficiency among police could be an optimistic attestation

to the identification and implementation of empirically relevant interventions to maintain law and order in the State. Adoption of empirically significant interventions to improve the criminal justice system could be adopted by all States. Such practices would help to develop a criminal justice environment conducive to improved reporting and eventual abatement in the incidence of crimes.

Even the Large and Small States that recorded lowest proportion of undertrial population, Kerala and Arunachal Pradesh respectively, have more than 50% detainees who are under trial. Various Supreme Court judgements have invoked the right to speedy trial as a fundamental right citing Article 21 (Hussainara Khatoon v. Home Secretary, State of Bihar) (Abdul Rehman Antuley v. R S Nayak, 1992) (Ramachandra Rao v. State of Karnataka). These judgements, however, do not indicate a specific timeline before which a trial is considered delayed. The Mulla Committee, headed by Justice A.N. Mulla was set up in 1980 by the Government of India also recommended speedy trials and liberalisation of bail provisions to reduce the stress on the state infrastructure due to high proportion of undertrial population. Overuse of undertrial detention, non-availability of undertrial safeguards, poor/insufficient legal aids have been identified as some of the causes of high undertrial population (Amnesty International India, 2017).

It is also alarming that there are no standards prescribed by the Indian Government or State Governments for Police-Population Ratios. While few newspaper articles invoke a UN prescribed standard for police-population ratio (Devulapalli



and Padmanabhan, 2019) (Times of India, 2010), in response to a question posed in the Rajya Sabha, a representative from the Ministry of Home Affairs responds, “There are no universal standards or United Nations recommendations to assess the optimal level of police force in a country” (Reddy, 2021).

‘Police’ is inherently under the administrative control of the respective State Governments. Barring the North-Eastern States, the Police-Population Ratio is an area of concern for most State Governments. While international comparison of Police-Population Ratio paints India in poor light; it is alarming to note that most States are unable to even meet the police strength sanctioned by the respective States. The resulting vacancies would exacerbate the already burdened police personnel. Analysis provided earlier in this chapter indicate an interdependence between crimes rates and vacancies among police personnel. This observation holds true for Haryana, Bihar and West Bengal; further accentuating the need to introduce standards to boost institutional capacities.

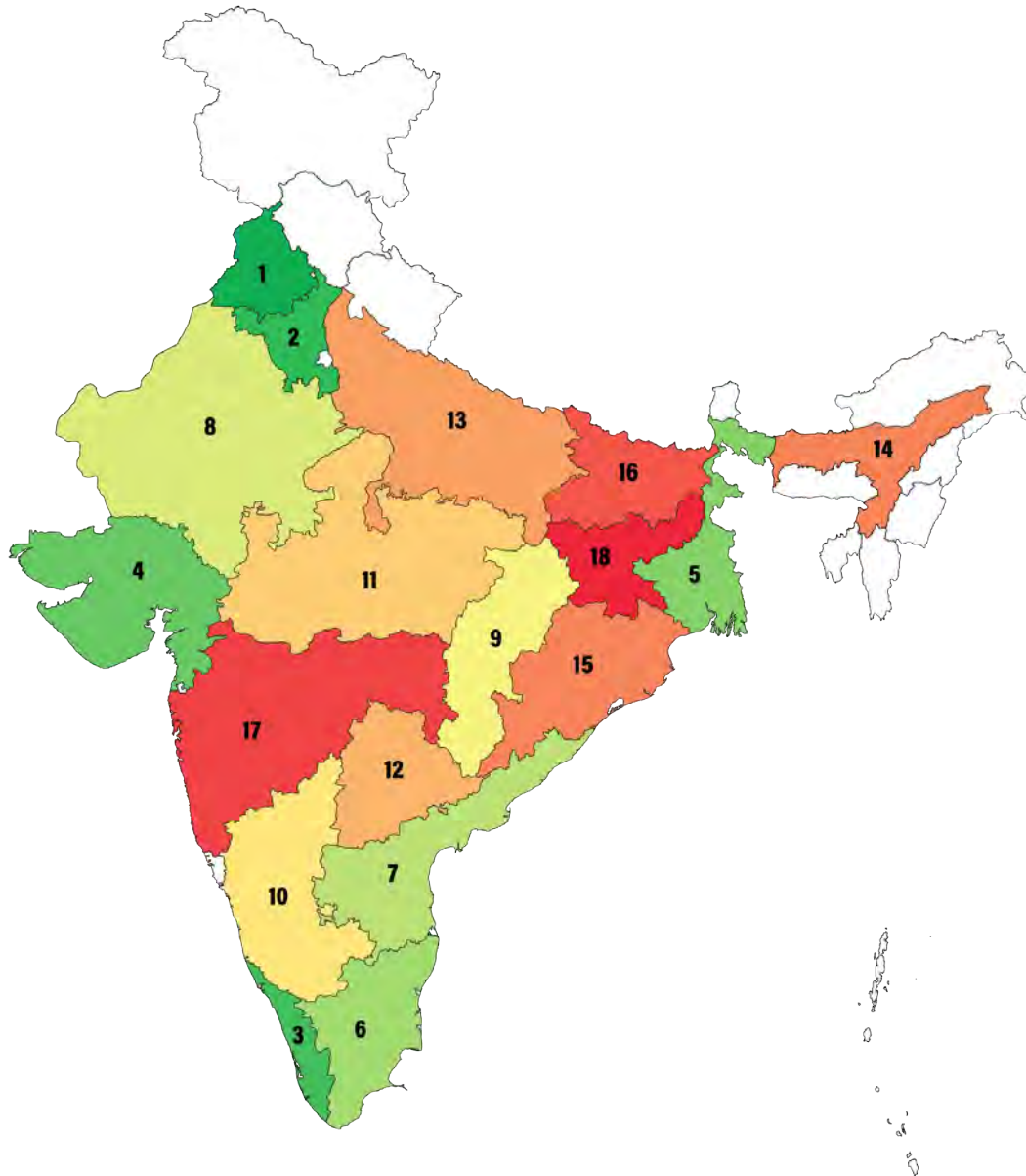
Addressing the lack of normative standards based on evidence and research in several aspects of institutional capacities relating to the criminal justice system could be considered as a starting point in driving efforts to reduce crime and improve public safety. While the nature of crimes, number of victims, amongst other reasons could make this tricky, establishing standards in procedural and methodical tasks – like addressing vacancies, improving trained staff, updating technologies, etc. – would help address the slow paced criminal justice system.



SOCIAL JUSTICE : ENDOWMENTS AND ENTITLEMENTS



Endowments and Entitlements



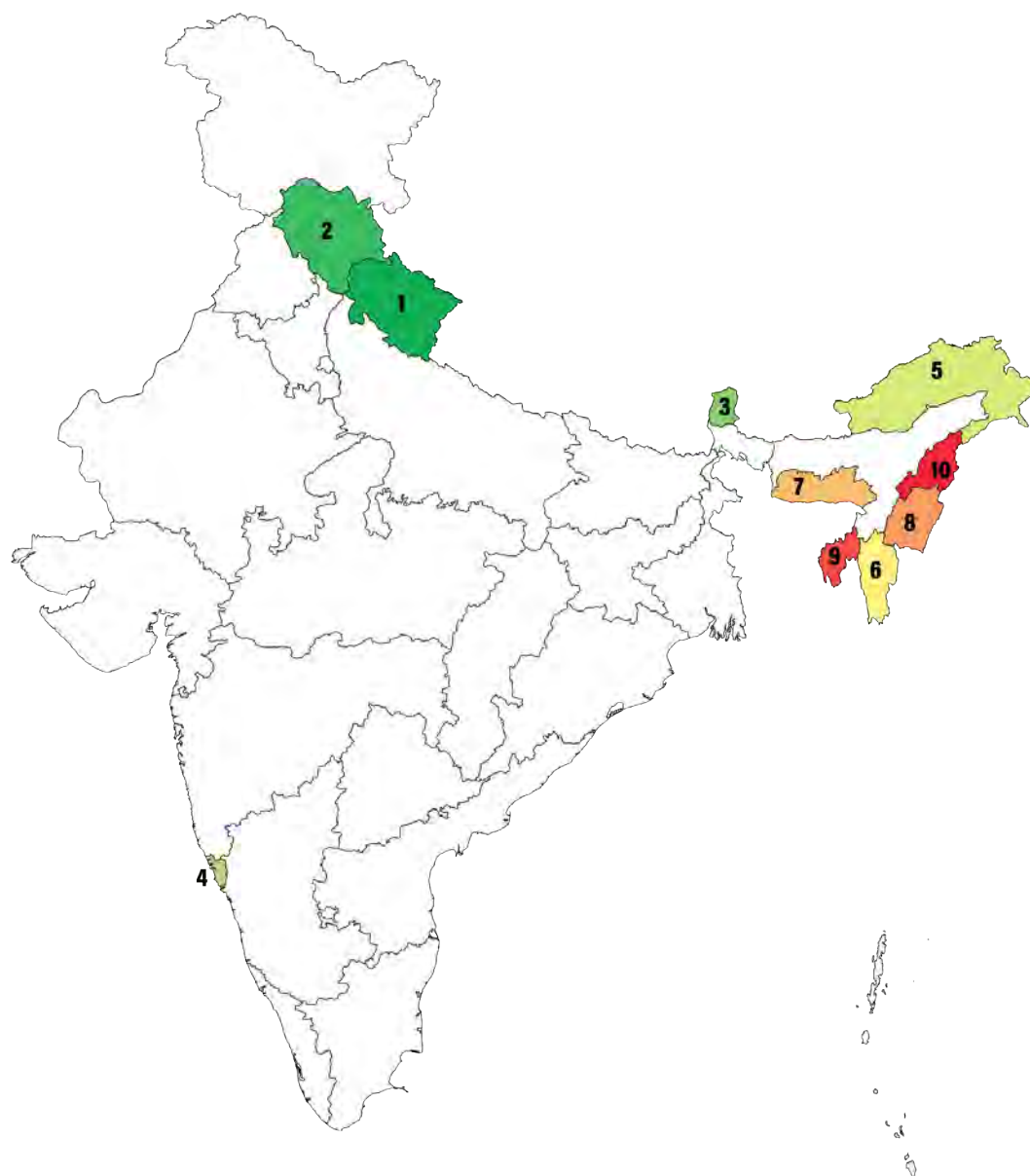
Rank	Large States	Index
1	Punjab	0.916
2	Haryana	0.764
3	Kerala	0.708
4	Gujarat	0.586
5	West Bengal	0.569
6	Tamil Nadu	0.543
7	Andhra Pradesh	0.535
8	Rajasthan	0.490
9	Chhattisgarh	0.452
10	Karnataka	0.436
11	Madhya Pradesh	0.423
12	Telangana	0.390
13	Uttar Pradesh	0.381
14	Assam	0.372
15	Odisha	0.362
16	Bihar	0.339
17	Maharashtra	0.325
18	Jharkhand	0.093

Highest Index Value

Lowest Index Value



Social Justice



Rank	Small States	Index
1	Uttarakhand	0.778
2	Himachal Pradesh	0.650
3	Sikkim	0.555
4	Goa	0.549
5	Arunachal Pradesh	0.431
6	Mizoram	0.421
7	Meghalaya	0.369
8	Manipur	0.319
9	Tripura	0.147
10	Nagaland	0.105



Social Justice



“The service of India means the service of the millions who suffer. It means the ending of poverty and ignorance and disease and inequality of opportunity. The ambition of the greatest man of our generation has been to, wipe every tear from every eye. That may be beyond us but as long as there is tears and suffering, so long our work will not be over.”

Jawaharlal Nehru

(Constituent Assembly Debates, Vol. V, 4, Aug. 14, 1947)

The primacy of social protection is unalienable in the discussion on Justice. The 42nd Constitutional Amendment Act further solidified the country’s commitment to ensuring a ‘socialist’ democracy. In India, the States have historically assumed the role of policy formulation and implementation hubs for social welfare schemes. This adoption of regionally suited social policies also developed a sense of regional autonomy in the social policy arena (Tillin, 2022). The Theme of Social Justice relies heavily on two conceptual ambits – the idea of common resources and human development.

Economic growth contributes towards improving basic human capabilities; provided that the revenue generated is primarily invested to improve health, education and nutritional landscape of the citizens (Dreze and Sen, 2012). Years of research on the conceptual postulation of Human Development has led to three fundamental ideas – Health, Education and Standard of Living – as the foundational stone to improve human capabilities.

As touched upon in the chapter ‘Equities and Inequities’, Social and Economic Justice are often studied together. While PAI 2022 explored the micro and macroeconomic facets of the Sub-national units in India through Economic Justice, the conceptualisation of Social Justice assesses the progress made in the States in India in pioneering other social aspects of development. The Social Justice Theme explores human development in terms of health and education through the Sub-theme Securing Social Order for Promotion of Welfare.

The second Sub-theme under Social Justice explores the idea of commons and shared material resources that are assumed fundamental for leading a life of dignity. In the context of PAI-2022, material resources include water & sanitation, clean cooking fuel, power supply and logistics measured under the Sub-theme Control of Material Resources (COMR). The Table below provides the list of indicators used to analyse Social Justice in PAI 2022.

Theme	Sub-Theme	Indicators
Social Justice 	Control of Material Resources 	Households with improved sanitation services
		Households with improved drinking water sources
		Access to Clean Cooking Fuel
		Uninterrupted Power Supply
	Securing Social Order for Promotion of Welfare 	Trade and Logistics Ecosystem
		Premature Mortality
		Early Childhood Development Outcomes
		Learning Achievements
		Land Degradation

Table 1: Indicators Measuring Social Justice in PAI 2022

Conundrum of Human Development

Conceptualisation of the Sub-theme – Securing Social Order for Promotion of Welfare (SSOPW) – is an acknowledgement of the Constitutional centrality of the State in ensuring the welfare of citizens. India has traditionally focused disproportionately on the social protection component of social welfare over provision of basic public goods (Kapur and Nangia, 2015). While the proportion of people covered under social protection features as an indicator under Economic Justice, SSOPW measures the Constitutionally covenant responsibility of the States in ensuring access to basic public

goods necessary for overall welfare. Adopting the principles of Amartya Sen's capability approach, *"social arrangements should be evaluated according to the extent of freedom people have to promote or achieve functionings they value"* (Alkire, 2005).

The discipline of thought that human lives are blighted in ways that go beyond the crude analysis of growth in Gross Domestic Product (GDP) (Anand and Sen, 1997), is at the core of the conceptualisation of SSOPW in PAI 2022. Indicators embodying this Sub-theme measures progress made by the States in India along the lines of education, early childhood development, health and nutrition. The analysis also features the extent of degradation of land as a proxy to measure the negative externality of development progress in the States.

The top performers in SSOPW among Large States are Kerala, Haryana and Punjab. Low instances of premature mortality and promising early childhood development distinguish Kerala's performance. Features distinguishing the performance of Haryana and Punjab include high learning outcomes, advancements in early childhood development and low rates of degradation of land. These States, however, experience a significant proportion of premature deaths.

Tamil Nadu shows patterns similar to Kerala with low instances of premature mortality and good performance under early childhood development. However, the State's notably poor learning outcomes – worst among Large States – pushing it down to the 6th position under SSOPW.

Notoriously poor performance is recorded by Chhattisgarh, Telangana and Jharkhand in promoting human capabilities. Telangana and Chhattisgarh record poor learning outcomes and high rates of premature mortality. Jharkhand, while maintaining average learning outcomes, struggles with high rates of premature deaths, highest rate of land degradation and alarmingly poor progress in early childhood development.

The Health of Nations

"Longevity is one of the most fundamental dimensions of human development" (Alkire 2002). The Large and Small States were subjected to an assessment of premature mortality rates as a measure of health outcome. The average life expectancy of 69 was used as the cut-off for measuring premature deaths. According to the Civil Registration System 2020 data, Kerala, Tamil Nadu and Assam recording the lowest percentage of premature deaths and Telangana, Chhattisgarh and Madhya Pradesh recorded the highest percentages. While only Telangana, in Large States, record more than 70% premature deaths, the situation among Small States is slightly more worrying. Arunachal Pradesh, Meghalaya and Mizoram record more than 70% premature deaths. The alarming rates of premature mortality recorded across States in India reveal the necessity to undertake an assessment of public healthcare systems.

Lack of awareness, poor access, Health Human Resource (HHR) crunch, affordability and lack of accountability have been identified as key challenges to universal healthcare in India (Kast-

huri, 2018). The onset of the COVID-19 pandemic, further exacerbated and brought to forefront, the insufficiencies of the healthcare system in the country; in terms of infrastructure, as well as, HHR.

In the analysis of cause of death in India from 2010 to 2013, cardiovascular diseases account for 23.3%; an increase from 19.9% in 2004-06. The proportion of non-communicable diseases related deaths increased to 49.2% for all deaths from 42.4% in 2001-03 (National Health Profile, 2021). The report also identifies prematurity and low birth weight as the reason for 48.1% of neonatal mortality rates. Maternal malnutrition and inadequate antenatal care during pregnancy have been identified as significant contributors to low birth weight (Mumbare et.al., 2012) thus highlighting the intricate linkages between premature mortality and nutrition.

Adequate access to food and nutrition is considered a basic human right (Ayala and Meier, 2017). The Indian Constitution, via Article 32, recognises Right to Food as a Fundamental Right. The widely accepted definition of food security highlights availability, access, utilisation and the sustained stability of the former (FAO, 2008). Lack of access to adequate food and nutrition, leads to malnourishment. Malnutrition can cause severe and permanent damage to a child's growth, development and well-being (Keeley et.al, 2019). The Global Nutrition Report 2020 stated that even prior to the pandemic, most countries were not on track to achieve the Sustainable Development Goal – 2 (Zero Hunger) target for 2030.



Endowments and Entitlements

Paediatric malnutrition has remained a national pain-point for a long period of time in India. Despite promising economic growth and continued focus through one of the largest and long running Integrated Child Development Services Scheme, India continues to remain at battle with malnutrition, especially among children under the age of five. The recently released Global Hunger Index 2021 places India at the 101st position, better than merely 15 other countries. While India's prevalence of wasting increased from 15.1 in GHI 2012 to 17.3 in GHI 2021, its neighbours including Bangladesh, Nepal, Pakistan and Sri Lanka showed relatively lower prevalence of malnutrition among children.

Early Childhood Development Experiences

The indicator measuring early childhood development captures aspects of malnutrition, early childhood education, maternal health and wealth. These indicators have been identified as major contributors to improving early childhood development by the World Health Organisation (2020). Kerala, Tamil Nadu, Punjab, Haryana and Andhra Pradesh exhibit exemplary performance in this indicator; while Uttar Pradesh, Gujarat, Assam, Jharkhand and Bihar languish. In order to understand the direction of India's progress in nutritional outcomes, a comparative analysis of National Family and Health Survey 4 (NFHS-4) (2015) and National Family and Health Survey 5 (NFHS-5) (2021) was undertaken.

Among Large States, Kerala, Telangana, West Bengal and Maharashtra exhibit a distressing trend; a comparison of NFHS-4 and NFHS-5 indicate an increase in the incidence of stunting, wasting and underweight among children. Kerala and Punjab are the only two States that recorded a higher incidence of women with Body Mass Index below normal values when compared to NFHS-4. Haryana, Rajasthan and Madhya Pradesh record the best improvement from 2015-16 to 2019-21 among Large States in incidence of stunting, wasting and underweight.

Large States	Stunting (%)			Wasting (%)			Underweight (%)		
	NHFS 4 (2015-16)	NHFS 5 (2019-21)	Growth Rate	NHFS 4 (2015-16)	NHFS 5 (2019-21)	Growth Rate	NHFS 4 (2015-16)	NHFS 5 (2019-21)	Growth Rate
Kerala	19.7	23.4	●	15.7	15.8	●	16.1	19.7	●
Telangana	28	33.1	●	18.1	21.7	●	28.4	31.8	●
West Bengal	32.5	33.8	●	20.3	20.3	●	31.6	32.2	●
Maharashtra	34.4	35.2	●	25.6	25.6	●	36	36.1	●
Assam	36.4	35.3	●	17	21.7	●	29.8	32.8	●
Gujarat	38.5	39	●	26.4	25.1	●	39.3	39.7	●
Bihar	48.3	42.9	●	20.8	22.9	●	43.9	41	●
Andhra Pradesh	31.4	31.2	●	17.2	16.1	●	31.9	29.6	●
Karnataka	36.2	35.4	●	26.1	19.5	●	35.2	32.9	●
Punjab	25.7	24.5	●	15.6	10.6	●	21.6	16.9	●
Tamil Nadu	27.1	25	●	19.7	14.6	●	23.8	22	●
Chhattisgarh	37.6	34.6	●	23.1	18.9	●	37.7	31.3	●
Orissa	34.1	31	●	20.4	18.1	●	34.4	29.7	●
Jharkhand	45.3	39.6	●	29	22.4	●	47.8	39.4	●
Uttar Pradesh	46.3	39.7	●	17.9	17.3	●	39.5	32.1	●
Madhya Pradesh	42	35.7	●	25.8	19	●	42.8	33	●
Rajasthan	39.1	31.8	●	23	16.8	●	36.7	27.6	●
Haryana	34	27.5	●	21.2	11.5	●	29.4	21.5	●

Table 2 : Malnutrition Trend among Large States

Small States	Stunting (%)			Wasting (%)			Underweight (%)		
	NHFS 4 (2015-16)	NHFS 5 (2019-21)	Growth Rate	NHFS 4 (2015-16)	NHFS 5 (2019-21)	Growth Rate	NHFS 4 (2015-16)	NHFS 5 (2019-21)	Growth Rate
Tripura	24.3	32.3	●	16.8	18.2	●	24.1	25.6	●
Himachal Pradesh	26.3	30.8	●	13.7	17.4	●	21.2	25.5	●
Nagaland	28.6	32.7	●	11.3	19.1	●	16.7	26.9	●
Mizoram	28.1	28.9	●	6.1	9.8	●	12	12.7	●
Goa	20.1	25.8	●	21.9	19.1	●	23.8	24	●
Manipur	28.9	23.4	●	6.8	9.9	●	13.8	13.3	●
Meghalaya	43.8	46.5	●	15.3	12.1	●	28.9	26.6	●
Arunachal Pradesh	29.4	28	●	17.3	13.1	●	19.4	15.4	●
Uttarakhand	33.5	27	●	19.5	13.2	●	26.6	21	●
Sikkim	29.6	22.3	●	14.2	13.7	●	14.2	13.1	●

Table 3 : Malnutrition Trend among Small States

* ● indicates decline and ● indicates improvement

In comparison to the Large States, Small States are worse off with four out of ten Small States exhibiting decline in progress made in arresting instances of stunting, wasting and underweight among children. Among Small States, Tripura, Himachal Pradesh, Nagaland and Mizoram record declining performance from NFHS-4 to NFHS-5 under stunting, wasting and underweight. Arunachal Pradesh, Uttarakhand and Sikkim show improvements on the same. Refer to **Table 2** and **Table 3**.

The failure of policy measures adopted so far in addressing persistent malnutrition is evident in the noticeable decline in progress made between NFHS-4 and NFHS-5. Recognition of food and nutritional security as a human right, should act as additional pressure on the Governments in identifying the unsustainable aspects of policies adopted thus far.

Learning Outcomes

Through the Eighty-sixth Constitutional Amendment Act, Article 21A of the Indian Constitution guarantees the Fundamental Right to free and compulsory education – Right to Education (RTE) – of all children in the age group six to fourteen years. Notwithstanding the 13 odd years since the introduction of RTE, India's struggle with poor learning outcomes, teacher attendance, poor enrolment rates persist.

As per UDISE+ 2019-20, across all Small and Large States, the Gross Enrolment Ratio (GER) decline with increase in levels of education. On an average, GER reduced from 99.2 in elementary to 53.9 in higher secondary among Large States. Following trend, GER decreased from 108.4 in elementary to 54 in higher

secondary among Small States. Alarming, several States record more than 50% reduction GER between elementary and higher secondary. GER reduced from 107.4 in elementary to 30.9 in higher secondary in Assam; and from 88.1 to 30.8 in Bihar. **Figure 1** represents a decline in GER with increase in levels of education.

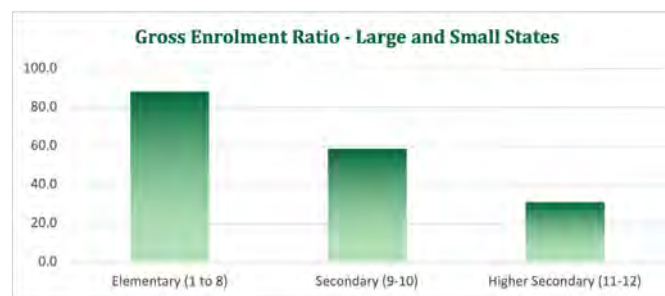


Figure 1: Gross Enrolment Ratio of Large and Small States

Education is one of the three prongs of human development and features as a key performance indicator in PAI 2022. It is measured through learning outcomes among children enrolled in schools in elementary levels of education. Punjab, Rajasthan, Haryana, Madhya Pradesh and West Bengal show comparatively better performance and Andhra Pradesh, Chhattisgarh, Uttar Pradesh, Telangana and Tamil Nadu record poor performance.

The performance of Punjab and Haryana deserve special mention. These States showed comparatively high learning outcomes among the Large States while also marking precipitous improvement in scores from 2017 to 2021. This is a laudable feat as only three Large States recorded an improvement in scores over the years. West Bengal is the other State that recorded an improvement in scores; albeit in small measures.

Dramatically enough, Punjab rose from worst recorded learning outcomes in 2017 to the best performer in 2021. Haryana and West Bengal also show significant improvement in learning outcomes; in comparison to other Large States. Along with improved learning outcomes, Punjab also records the highest GER among Large States, 2nd only to Kerala.

With 99.1% GER at elementary and 83% GER in higher secondary, Kerala records the least reduction in enrolment with increased levels of learning. With reduction in absolute scores of learning outcomes, the State also dropped in comparative performance among Large States. Despite high pupil-teacher ratio and early prioritisation of human development through the famed 'Kerala Model of Development', learning outcomes remain sub-par in the State. This is a matter requiring immediate policy attention and intervention.

While improvement in scores from 2017 to 2021 was few and far between in the case of Large States; improved scores were pervasive among Small States. Out of the four Small States that recorded decline in scores, only Meghalaya and Uttarakhand marked a decline of more than 4 percentage points.

Sustainable Use of Land

Among Large States, Jharkhand, Rajasthan and Gujarat experienced highest rates of degradation of land; while Punjab, Uttar Pradesh and Bihar recorded minimal levels. Water erosion



is the cause for degradation in Jharkhand and Gujarat - 49.1% and 19.5% respectively. In Rajasthan, due to its geographical location, topography and extreme weather conditions, controlling degradation can be a daunting task. 43.4% of the degradation in the State is due to wind erosion. Among Small States, Goa and Nagaland record more than 50% land degradation and desertification. Vegetation degradation caused 49.45% degradation in Nagaland in 2018-19; an increase from 38.5% recorded in 2003-05. The State may need to consider adopting sustainable farming practices to combat land desertification and degradation in the long run.

Governance of Commons

Public goods play the role of social equalisers. Kallhoff argues that *"range of public goods should be provided, because they serve social justice and other values of the constitutional state"* (2021). Public goods could also assume the role of commons. The incremental contribution to what constitutes 'commons' has come to include cultural, infrastructure, knowledge, medical and health, neighbourhood, markets and global commons (Hess, 2008).

In this backdrop, PAI 2022 analyses, in terms of outcome indicators, the contribution made by the States in governing commons that impact and influence the ability of individuals to reach their full potential. The indicators include water and sanitation, access to clean cooking fuel, reliable power supply and logistics ease in the States in India.

Protection against environmental resource degradation becomes more pronouncedly a primary duty of the States due to the apparent link it has to poverty. Scarcity and poverty furthers over-exploitation leading to greater extent of scarcity and poverty; a vicious cycle (Jodha, 1998).

Providing merit to the apparent link, Haryana, Kerala, Gujarat and Punjab – best performers under 'Control of Material Resources' – correspond to high labour productivity and better than average performance in income inequality. However, it is also important to note that top performers under the Sub-theme – Haryana, Punjab and Kerala – record the highest rates of unemployment among Large States, a worrying trend.

Unreliable access to water has several social, political and economic implications. Some of the most crucial ones being risk to food security, water shortages in urban areas, reduced industrial activities, energy shortages, biodiversity destruction and desertification. 'Water' is the 17th item under List II – State List; placing the primary onus of management and its conservation the primary responsibility of the States. Variations in inter-state and intra-state geographical topography make water management a difficult task. To assist States in this difficult endeavour, the Central Government has introduced the Jal Jeevan Mission that is implemented in a 'Mission Mode'.

In improving access to clean drinking water, most Large States, with the exception of Madhya Pradesh, Jharkhand and Assam have improved drinking water sources in more than 90% of individual households; a laudable feat. The analysis of progress made in water management shows that nearly 80% of States record improvement from 2015-16 to 2018-18; indicating an improved commitment to water governance (NITI Aayog, 2018).

Madhya Pradesh, despite comparatively lower scores in providing clean drinking water access to households, records improvement in augmentation of water sources. This is closely followed by Telangana and Tamil Nadu. Tamil Nadu and Madhya Pradesh also showed best performance in ground water source augmentation; along with Andhra Pradesh. While Madhya Pradesh continues to improve household access to drinking water, it is promising to note that the State is making an important policy focus towards replenishing water sources.

While access to water is an essential feature, ensuring maintenance of ground water table and replenishing water sources holds primary importance. Few States have modified their model building bye-laws to include water harvesting systems and the like.

Closely linked to availability and access to water is sanitation. The World Health Organisation (WHO) defines sanitation as, *"Access to and use of facilities and services for the safe disposal of human urine and faeces"* (2018). Recognised as a basic human right in the UN General Assembly, 2015, *"Sanitation is vital to health, child development and social and economic progress"* (WHO, 2020).

A UNICEF study concludes that households that invested INR 16,000 to construct toilets under Swachh Bharat Mission (Gramin) would be repaid in two years or less due to reduced medical costs (Hutton et.al., 2018). This would also reduce the burden on the public health systems in the long run.

Unlike what was observed in the case of access to clean drinking water; access to improved sanitation facilities varied greatly between the Large States. Kerala, Punjab and Haryana had more than 85% households with improved sanitation facilities; however, Jharkhand and Bihar languished with less than 57% coverage. Among Small States, the poorest coverage was in Manipur - 64.9% - much better than the worst performer among Large States, indicating better sanitation among Small States.

Empirical evidence suggests that sanitation and water play the role of significant contributors to maternal and reproductive health (Campbell et.al., 2015; Padhi et.al., 2015) and child nutrition (Cumming and Cairncross, 2016). A similar trend was observed among Large States where States with more than 75% households with improved sanitation services also showed good performance in Early Childhood Development Index (ECDI) in the Sub-theme 'Securing Social Order for Promotion of Welfare'. Chhattisgarh was the only exception to this trend where despite 77% households with improved sanitation services and more than 96% households with access to clean drinking water, the State showed poor outcomes in early childhood development – a matter warranting immediate policy attention. This could also be a function of wealth as ECDI captures it as an aspect. ECDI and access to improved sanitation show a strong positive correlation with a positive correlation coefficient of 0.80. This, however, is not observed among the Small States. **Table 4** illustrates comparable trends between progress made under access to sanitation facilities and early childhood development among Large States.

Large States	Early Childhood Development (Index Value)	Access to Improved Sanitation Facilities (%)
Kerala	0.93	98.7
Tamil Nadu	0.86	72.6
Punjab	0.72	86.6
Haryana	0.65	85
Andhra Pradesh	0.55	77.3
Telangana	0.51	76.2
Karnataka	0.51	74.8
Maharashtra	0.51	72
West Bengal	0.45	68
Odisha	0.44	60.5
Rajasthan	0.42	71.1
Madhya Pradesh	0.34	65.1
Chhattisgarh	0.33	76.8
Gujarat	0.29	74
Uttar Pradesh	0.29	68.8
Assam	0.23	68.6
Jharkhand	0.14	56.7
Bihar	0.07	49.4

Table 4 - Trends in Early Childhood Development and Access to Improved Sanitation Facilities

UNDP defines 'Energy Poverty' as the "inability to cook with modern cooking fuels and the lack of a bare minimum of electric lighting to read or for other household and productive activities at sunset" (Gaye, 2007). The Large and Small States in PAI 2022 were analysed on the basis of availability of clean cooking fuel and electricity supply.

Among the Large States, Telangana, Andhra Pradesh and Tamil Nadu recorded more than 80% households using clean cooking fuel while less than 35% households in Odisha, Chhattisgarh and Jharkhand had access to the same.

Recognising the implications of use of clean cooking fuel on human development, the centrally sponsored scheme, Pradhan Mantri Ujjwala Yojana, was launched by the Government of India in 2016. While the Scheme managed to improve number of household connection with LPG cylinders; the rate of refill remained low (CAG, 2019; Dabadge et.al., 2018). Therefore, a policy track change is warranted to realise better uptake of cleaner cooking fuel.

Reliable supply of electricity assumes a sense of centrality in the 21st century, so much so that, consumption of electricity shows positive correlation with human development index (Kanagwa and Nataka, 2008). In India, supply of electricity varied between 23.8 and 16.2 hours among Large and Small States. A stark rural-urban contrast was also visible across States. While urban power supply ranged between 24 and 20 hours; rural India experienced uninterrupted power supply between 24 and 14 hours. Goa was the only State recording 24 hours of uninterrupted rural power supply among Large and Small States, combined.

Large States that recorded less than 19 hours of uninterrupted power supply in rural areas – Uttar Pradesh, Jharkhand and Assam – also correspond to higher rates of multi-dimensional poverty. States that exhibited good overall performance in PAI 2022 – like Haryana and Karnataka – record dispro-



portionate power supply. Unreliable access to electricity also impacts the rate of economic development in these areas; discouraging sectoral growth. The widening inequality in supply of power could, thereby, exacerbate the regional disparities in development.

Out of the 28 States analysed in PAI 2022, only seven Large States and one Small State – Goa – experienced uninterrupted power supply for more than 23 hours a day. North-Eastern and Himalayan States – in particular, Mizoram, Arunachal Pradesh, Himachal Pradesh, and Meghalaya – experienced a rural-urban difference of 5-8 hours in uninterrupted power supply. While the terrain of such States make it difficult to provide uninterrupted supply of electricity, leveraging renewable sources to generate electricity may be tapped into.

The COVID-19 pandemic increased reliance on electricity through online modes of income generation and education. With wide rural-urban and regional disparities in access to uninterrupted power supply, the shift to a 'Digital India' appears a distant dream in most Indian States.

The extent of logistical ease in the Large and Small States were analysed using the Logistics Ease Across Different States (LEADS) Index 2021. It was observed that Gujarat, Haryana and Punjab were top performers while Assam, Bihar and Madhya Pradesh showed poor performance under Large States. Among Small States, Uttarakhand, Goa and Himachal Pradesh performed better while Manipur, Mizoram and Nagaland fared poorly. The States must attend to the specific areas of concern identified by the Ministry of Commerce and Industry in the report and implement provided recommendations.

A Siren for Policy Reorientation

Assessments of comparative performance reveal unevenness in growth and development. Initial endowments of human and physical wealth, macroeconomic policies, etc. may weigh favourably in the current achievements of States (Datt and Ravallion, 1998). Poverty appears to be clustered in States like Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Odisha and Assam, coupled with slow urban-industrial transition (Chandra et.al., 2022). These States also record high rates of Multidimensional Poverty Index according to the NITI Aayog Baseline Report (2021). The spatial concentration, or the lack thereof, of wealth in particular pockets; subsequently reflects in poor health, nutritional and educational outcomes.

Despite the pandemic-induced economic shock and resultant widening in inequalities, the pandemic budgets fail to provide adequate attention to human development (Kumar and Mohanty, 2022). The analysis undertaken in the report indicate that the allocation for nutrition, education and health in Union Budgets from 2019-20 and 2022-23 consistently remain shy of 1% of the Gross Domestic Product (GDP).

Despite perennial efforts to combat nutritional deficiencies, particularly among women and children, high rates of stunting, wasting and underweight continue to remain a policy woe. COVID-19 induced stress could also be an indication of the poor sustainability of the nutrition programme. The Global Hunger Index 2022

ranks India 101 out of the 116 countries. This is an indication of the obstinate presence of malnutrition, warranting immediate policy focus in India. With a score of 27.5, the country records a serious level of hunger. India also records the highest incidence of child wasting of 17.3%. While this rate does not capture the impact of COVID-19, the widening economic inequality is suspected to have aggravated malnutrition in the country.

The declining trend measured in indicators of human development across the theme of Social Justice is a call for action in advancing human development. The empirically evident declining trends of development could also be an indication of the unsustainable nature of social welfare policies of States. The lockdowns initiated in most States as a COVID-19 containment measure, hampered implementation of schemes like mid-day meal scheme, integrated child development services scheme, fair price shops, etc.; possibly creating a dent in government efforts to improve the state of malnutrition in the country.

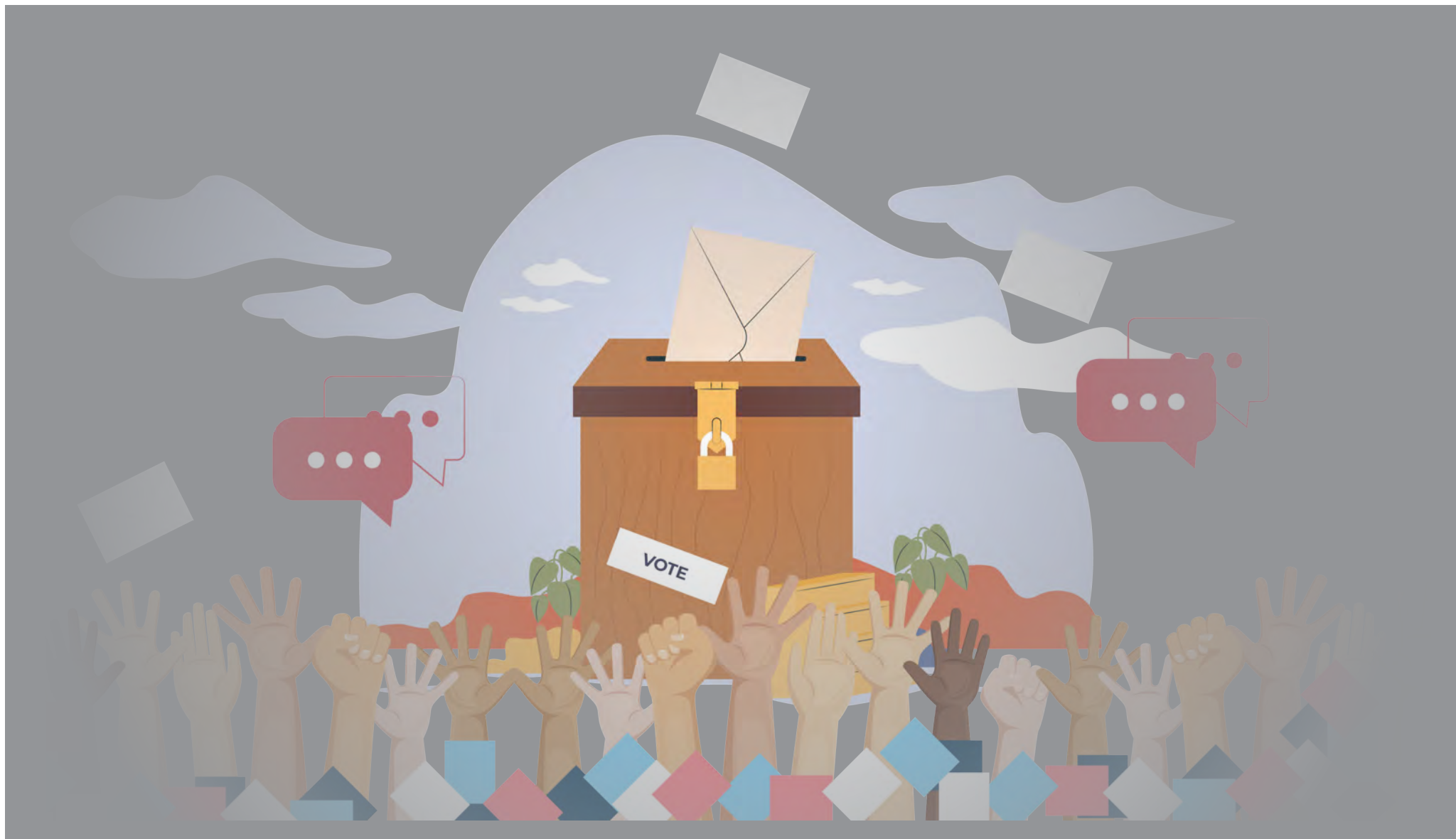
Kerala, with its early commitment to human development through the 'Kerala Model of Development', managed a head-start maintaining consecutive better performance in comparative evaluations of governance in the States of India. The State, with 1st rank under SSOPW and 4th rank under COMR secured 3rd rank under the theme of Social Justice. However, in recent times, Kerala also shows slight decline, especially in learning and nutritional outcomes.

Despite minor hiccups, the State, aligning with expectations, emerged top performer in limiting instances of premature deaths, ensuring commitment to early childhood development and access to improved sanitation and drinking water.

Punjab and Haryana, with 1st and 2nd ranks respectively under Social Justice, seem to have leaped huge strides in the ambits of health and education, suggesting policy reorientation and befitting governance measures. Punjab and Haryana show similar trends of good performance through low rates of land degradation, high learning outcomes, good early childhood development, high rates of access to sanitation and improved drinking water source and high levels of logistics ease in comparison to other Large States.

While all three top performers under the Social Justice Theme showed promising performance under education, early childhood development and health. All three States record the poorest unemployment rates among other Large States. Unless addressed immediately, lack of steady source of income could further the burden on governments in providing social security. The low proportion of budgetary allocation to the development sector does not offer much solace. Identifying, prioritising and advancing human development should take the front seat in the realm of public policy in Indian States to ensure sustainable solutions to ensuring equitable and sustainable development.





NARRATIVES OF JUSTICE : CITIZENS' PERSPECTIVES

"We have prepared a democratic Constitution. But successful working of democratic institutions requires in those who have to work them willingness to respect the view points of others, capacity for compromise and accommodation."

Rajendra Prasad

(Constituent Assembly Debates, Vol. XI, 10,
Nov. 26, 1949)

In principle, in a democracy, citizen preferences and public policies are reconciled by the force of repeated cycles of electoral competition and legislative bargaining (Huber & Powell, 1994). However, more than six degrees of separation divide policymakers from citizens. Although, the electorate votes freely and fairly for the most palatable candidate, laws and policies fail ubiquitously.

Policies are marred by unpredictability of outcomes and nonlinearity of adaptation as a consequence of their embeddedness in complex local contexts (Hudson et al., 2019). These pathologies trace the contours of social construction wherein each individual assigns highly subjective meanings to policy objects (Mueller, 2020; Shanahan et al., 2018). Social construction and meaning-making of policy realities occurs synchronically within the bounded relativity of belief systems, norms and ideologies. Finally, these undercurrents shape a narrative terrain.

Narratives are the '*lifeblood of politics*'. They convey a plot, with the intersection of characters in time and space. Most importantly, akin to plots in fictional literature, policy narratives too convey a '*moral of the story*'. Read closely, these are the constructive equivalents of policy solutions (Shanahan et al., 2018).

In the last decade, Narrative Policy Framework (NPF) has emerged as a novel theoretical framework premised on the power of narrative in policy process. It has found empirical applications in shaping the elevations and chasms of policy decisions. While legislatures surface as formal sites for narrative-building, informal venues such as Twitter and other forms of social media have become fertile grounds for rich policy debate.

NPF has been applied empirically in PAI 2022's schema to locate the pulse of public policy meaning-making across the 28 Large and Small States. The exercise is based on the same theoretical principles as PAI 2022. As a first step, drawing from the Constitution of India and the powers it adjudicates to State Governments through the State List of the Seventh Schedule, relevant topics were identified. Topics were identified to supplement and complement PAI 2022's quantitative rankings of States with a qualitative appraisal of prevailing public sentiment. **Table 1** maps NPF topics to PAI 2022's Themes and Sub-themes. The Annexure on '*Narratives of Justice- Additional Insights*' presents a detailed account of the boundary of indicators and caveats.

With respect to the methodological orientation of the NPF exercise, keywords that were thought to elicit polarising opinions were subjectively identified. Twitter was identified as a viable venue for policy debates and narratives. Tweets were mined and subsequently subjected to Natural Language Processing (NLP) algorithms to engender the prevailing public opinion across States as positive or negative. The Annexure detailing the 'Technical Note on Sentiment Analysis' comprehensively discusses the methodological approach.

The following section expands on the insights abstracted from a survey of narratives facilitated by NLP-based Sentiment Analysis algorithms. Notable pain points, achievements and innovations of States have been highlighted.

Theme	Sub-theme	Indicator
Economic Justice 	Revenues of State	Budgets
		Fuel
	Social Security and Social Insurance	Employment
		Agriculture
Political Justice 	Rule of Law	Elections
		Law and Order
Social Justice 	Control of Material Resources	Electricity
		Roads
	Securing Social Order for promotion of Welfare	Education
		Vaccination Drive

Table 1: Narrative Analysis within PAI 2022's Framework

The choice of States used as props for analysis was informed by the extent of their Valence Aware Dictionary and sEntiment Reasoner (VADER) and Recurrent Neural Network (RNN) algorithms-based negative or positive polarisation. Dominant opinions were isolated using arithmetic mode and the size of opinion clusters derived

from Hierarchical Density-Based Spatial Clustering of Applications with Noise (HDBSCAN). Although the approach has been carefully curated upon multiple systematic iterations to maximise validity, the methodological design has potential limitations which have been outlined in the Annexure to this chapter.

Economic Justice

Economic Justice is enshrined in the Preamble to the Constitution of India. As the wellspring of the democratic essence of India, the Preamble sets Economic Justice as one of the purposes that drive the adoption of the Constitution (Dansana, 2016). For an analysis of narratives surrounding the 'Economic Justice' Theme of PAI 2022, tweets debating budgets, fuel, employment and agriculture were mined. The Constitutionally-inspired rationale for the selection of the indicator is listed in Table 2.

Sub-Theme	Topic	Constitutional Mandate
Revenues of State	Budgets	State List, Item 43- Public debt of the State State List, Item 44 - Treasure trove
	Fuel	State List, Item 44- Taxes on the sale of petroleum crude, high speed diesel, motor spirit (commonly known as petrol), natural gas, aviation turbine fuel and alcoholic liquor for human consumption, but not including sale in the course of inter-State trade or commerce or sale in the course of international trade or commerce of such goods
Social Security and Social Insurance	Employment	State List, Item 23- Social security and social insurance; employment and unemployment
	Agriculture	State List, Item 14- Agriculture, including agricultural education and research, protection against pests and prevention of plant diseases

Table 2: Rationalisation of Topics identified for Narrative Analysis of 'Economic Justice'

The following sub-sections scrutinise the prevailing public sentiment on the identified topics.

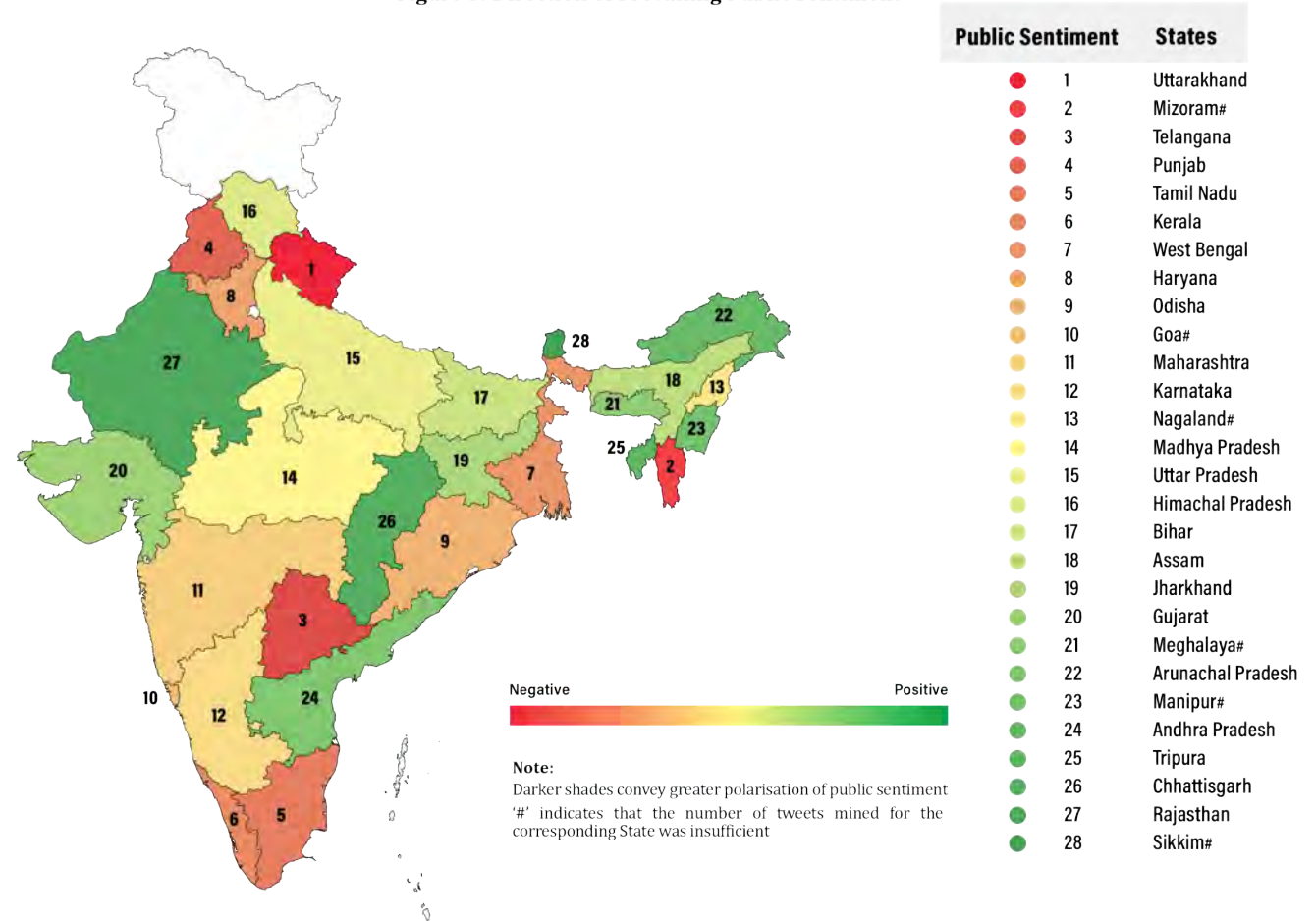
Budget at a Glance

Budgets and budgetary institutions are a particularity of democratic governments. Budgets are an exercise in accountability to taxpayers and the electorate. In its substantive content, the Budget is a record of revenues and expenditures. It is a dissection of the Government's behaviour in money-spending and money-earning. Ex ante, they signal the Government's intent for the national economy in the approaching financial year, ex post, they are a measure of the degree of actualisation of this intent. A sound Budget is consistent with available financial resources and echoes the aspirations of its society (Shah, 2007).

The Constitution of India exclusively mentions the 'Annual Financial Statement' in Article 112, mandating the Government of India to produce the same before the Parliament with respect to every financial year. Concurrently, Article 202 outlines States to do the same before their respective Legislatures. The Seventh Schedule divides responsibilities accordingly.

Given the importance of 'budgets' in public management, tweets spanning the temporal breadth of February, 2022 and April, 2022 were extracted to map with the announcement of Union and State Budgets for the current Financial Year. They were consequently subjected to NLP-based algorithms. **Figure 3** presents a barometric visualisation of the direction of public sentiment on the indicator of 'Budgets'. On a relative scale of positivity, Rajasthan emerges as a front-runner-bearing the lowest burden of negativity; Uttarakhand

Figure 3: Direction of Prevailing Public Sentiment



on the other hand appears to bear the weight of negative public opinion. Although tweets in Sikkim and Mizoram were notably polarised in their opinion, the corpus of tweets geo-tagged to these States against the theme were too few for significant analysis. This could be a feature

of the keywords used for extraction; alternatively, it could be attributable to limited adoption of Twitter as a medium of communication about the theme.

Fiscal Burdens

Uttarakhand appeared to have logged negative public opinion against its budgeting exercise. On closer inspection, however, most of the discourses surrounding the Budget was dominated by the **Union Budget 2022-23** as opposed to the State Budget. In this scheme, a refrain was that there was *“nothing for common people”* in the current Financial Year’s Union Budget. It was termed *“anti-people, anti-farmers, anti-youth and pro-corporate”*.

Opinions in Telangana too were negatively polarised. To the exclusion of tweets directed against the Centre, there were many criticising the **State Government’s budget**. A recurrently expressed cause of discontentment was the seeming **underutilisation of funds** allocated to the Minority Welfare Department of the State and the **dormancy and relevance** of schemes. Users held that funds were *“unutilised”* for the past few years and that the State Government had *“not given emphasis on livelihood schemes”* for Minorities. *Telangana’s budgetary allocations for 2022-23 were additionally criticised for not having “things that the public actually expects from the government like roads, metro, water, health care...”*. Allocations to the **Police Department** were conjectured to be high with one user opining that the budget was for the legislating leader’s *“family’s welfare”*.

A few tweets also shed light on **Opposition-ruled Telangana’s relation with the Centre**. Some users disapproved the incumbent Chief Minister’s (CM’s) reported critique of the Union Budget finding it *“unbecoming”*. Commentators also lambasted the **suspension of the Ruling Party’s Members of**

Legislative Assembly (MLAs) from the Telangana Assembly during the Budget session. One user called it a *“blatant disregard for constitutional provisions”*.

Value for Money?

Rajasthan’s budgeting exercise received plaudits from Twitter users for standing for *“all-round development...of employees, farmers, students, youth, women and elderly”*. Specifically, in Budget 2022-23, the Rajasthan Government approved allocations for the extension and sustainability of the **Technical Education Quality Improvement Programme (TEQIP)**, *“raising the level of education to new horizons”*; TEQIP aims to improve the quality of technical education. Users appreciated this *“remarkable step”* under the *“progressive vision of the Honourable CM”*. For the same Financial Year, the State presented its first-ever exclusive **Krishi (Farm) Budget** before the Rajasthan Assembly. This was lauded as an *“agricultural revolution”* which attested that the State *“cares about annadatas”*.

In **Tripura**, tweets called the State Budget 2022-23 *“pro-people and pro-poor”*. There were indications of **locals participating in thanksgiving rallies** in appreciation of the Budget. Some also acknowledged the **increase in the size of the Budget** vis-à-vis previous years. A significant proportion of tweets -all favourable in nature- were directed at the Centre and the Union Budget 2022-23.

Chhattisgarh’s Budget for the current Financial Year too appeared to have garnered positive responses. It was thought of as a *“well-conceived”* Budget and its provision for augmentation in the Government’s

pension contribution. However, some of these tweets appeared to be expressed by officials and not common people, shaping the overall narrative differently.

Reflections and Recapitulations

Disparate, dissimilar opinions emerged from the States. Underrepresentation of certain sections in the State Budgets, underutilisation of funds or underfitting of proposed schemes were certain common themes amidst the medley. One other common thread was the Union Budget, the announcements of which were popularly dissected on Twitter.

The Union Budget drew flak on multiple grounds for being *“anti-middle class”*. Many appeared to have expected respite in taxation system though revision of income slabs; however, the Budget *“watered down the hopes of working class”*. Another discernible complaint was that of regional inequities, especially in allocations for Opposition-ruled States. Some users in Telangana and Tamil Nadu lamented the *“step-motherly treatment”* doled out to South Indian States, in the context of the Railway Budget, and disproved of what some called a *“North Indian Budget”*. Some in West Bengal too alleged *“deprivation”* in the Central Government’s Railway Budget. **Table 4** summarises the broad themes (or ‘nodes’) that emanated from the dissection of tweets as common across all States, alongside sub-themes (or ‘sub-nodes’) that populate it.

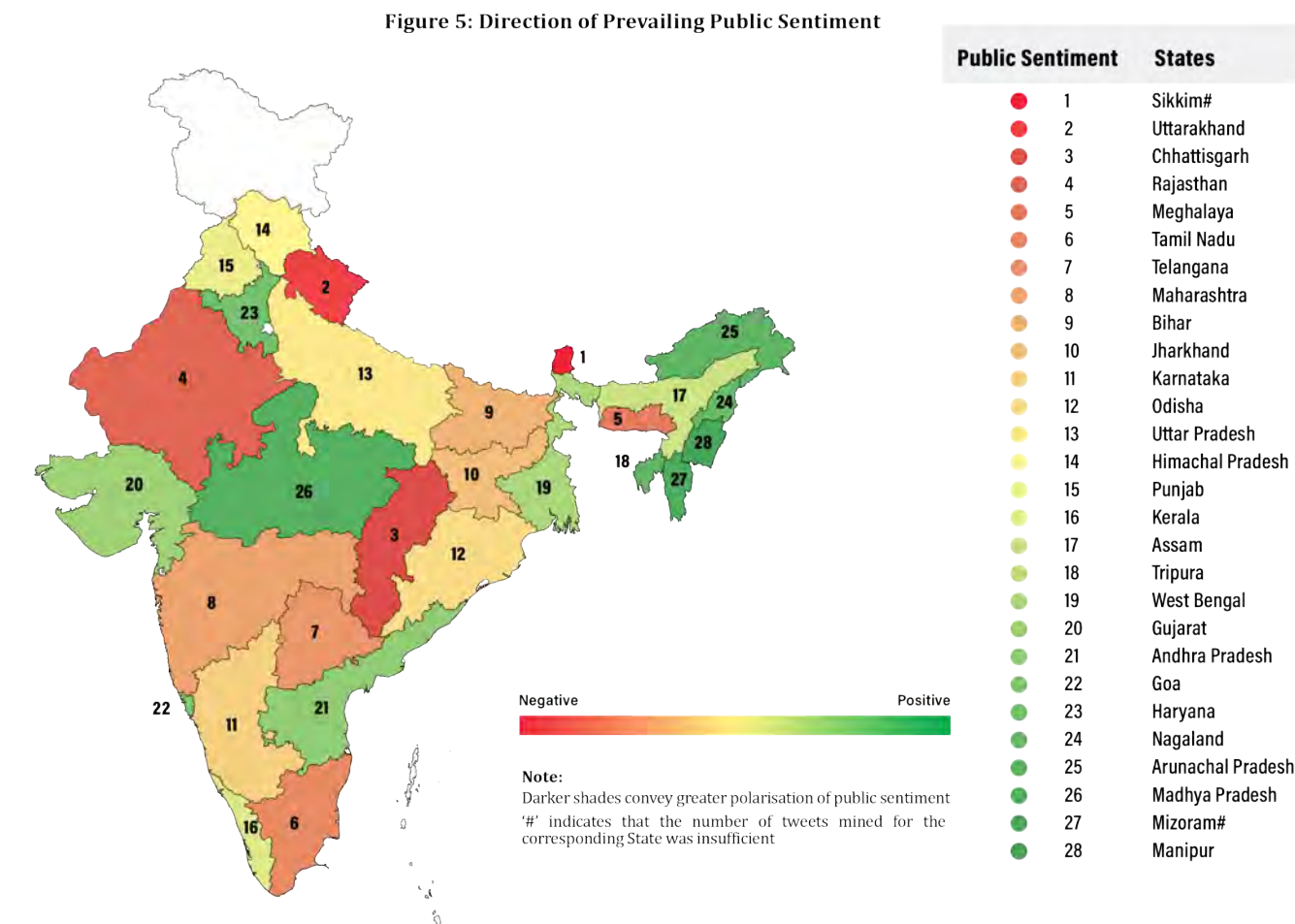
Node	Sub-Node
Central Government	Income Tax slabs, respite for middle class, regional inequities
State Government	Pro-poor, pro-people, pro-farmer, fund utilisation, well-conceived/ill-conceived

Table 4: Emergent Themes surrounding 'Law and Order'

Narratives surrounding 'Budgets' are conceptually reconcilable with PAI 2022's 'Revenues of State' Sub-theme under 'Economic Justice' Theme, given the centrality of the 'Budget' as both a culmination of and a directive for economic growth. While the insights between the narrative analysis and quantitative analysis are not readily comparable, they yield to interesting contrasts. Within the Large States category, Rajasthan and Telangana stood out in the narrative analysis, albeit as polar opposites. However, they were mid-performers in PAI 2022 separated by only one rank at 8th and 9th. The prevailing opinion in Uttarakhand regarding 'Budgets' was largely negative and was matched by a poor rank of 8th out of 10 Small States in PAI 2022's Sub-theme on 'Revenues of State'.

Fuelling a Row

Fuel is the primary driver of the Transportation, Tourism, Oil Marketing, Cement, Paint, Tyre, and Oil Exploration industries. Since logistics govern the supply chain of industries, fuel is closely tied to the economy of a nation. India fulfils almost 70% of its energy needs through fossil fuels (Pandey et al., 2014). In 2019-20, 89.2% of the crude oil processed was imported, thus making geopolitics a key determinant of fuel prices



(MoPNG, 2021). India also has one of the highest taxes on fuel globally, making taxation another key determinant of fuel prices (OPEC, 2021).

India's consumption of fossil fuels has been steadily growing over the last few decades, despite the Central Government's commitment to cut down the country's reliance on non-renewable energy sources

by 2030 (MoP, 2021). The years 2020 and 2021 were marred by intermittent COVID-19 related lockdowns, causing an irregularity in the demand for fossil fuels. While the RBI has tried to check inflation through monetary policy, fuel prices have seen an unprecedented rise, forming one of the backdrops for vehement discussions on social media (RBI, 1934 ; Srivastava, 2021).

This section aims to view India's fuel story from the frame of reference of views made by Twitter users in Indian locations, from January 2018 to February 2022. Negative opinions exceeded positive opinions by a huge margin. **Figure 5** presents a barometric visualisation of the direction of public sentiment on the indicator of 'fuel'. While Uttarakhand, Chhattisgarh and Rajasthan had the highest proportion of negative tweets, Karnataka and Maharashtra, appeared to have comparable proportions contributing substantially by volume. Manipur and Madhya Pradesh had relatively positive leanings. Although tweets in Sikkim and Mizoram were notably polarised in their opinion, the corpus of tweets geo-tagged to these States against the theme were too few for significant analysis.

Travails of Fuel Prices

In **Uttarakhand**, in 2018, netizens lambasted the unprecedented hikes in fuel prices, citing their cascading effects. One user lashed out at the Central Government saying that *"the unsympathetic government refuses to provide any relief"*. Another user, citing disparity in fuel prices between cities, advocated for a **nationalised price for petrol**. This dissent persisted through 2020, during the first wave of the **COVID-19 pandemic**. One user thought that the Central Government was leveraging the *"distraction"* caused by the pandemic and cross-border tensions, to manipulate fuel prices. Another user alleged that consumers did not benefit from the **fall in crude oil prices** by virtue of the Government's decision. One lamented- *"Be it GST or fuel prices, we middle class can't bear it. Expenses are increasing but income is stagnant."*

Similar coherent dissent was apparent in **Karnataka** – which had a high proportion of negatively-inclined tweets- when the State Government reportedly hiked petrol and diesel prices in the State Budget by more than ₹1 to **accommodate a farm loan waiver**. Several users expressed caution and dissatisfaction with one user quipping *"At the end of the day, the common man is the biggest goobe (fool)"**. This discourse intertwined with several tweets around the inclusion of petrol and diesel under **GST**, with one user alleging, *"States like Karnataka, ruled by the opposition have hiked fuel prices to pay farmer loans. How can one expect them to come on board with GST?"*, throwing light on the relationship between the then State Government and the Central Government as users perceived it.

Some users from **Chhattisgarh** compared the **excise duties** under the incumbent Central Government and those under the previous Government regimes, indicating that the duties had risen steeply, also urging people to *"voice against the loot"*. Some other users opined that *"right after cuts on excise duties, global fuel prices fell by roughly 10% and the government did not do anything about it"*.

In November 2021, the Central Government announced a steep cut in excise duty amounting to ₹5 on petrol and ₹10 on diesel in response to the surge in **global fuel prices** (MoF, 2021). This appeared to be a hot topic among Twitter users in Maharashtra, and brought forth interesting discussions about the decision and its fitment in regulating fuel prices. Several users opined that the State Government should **cut the excise duties on fuel** as directed by the Central Government. A faction of users called for protests citing the then State Government's inability to decrease

the fuel prices; this was supposedly in response to the **price rise of commodities** in Mumbai.

Some users were dissatisfied with the reported disparity in fuel prices in Maharashtra, asserting that the then State Government did not cut down on the **Value Added Tax (VAT)** as directed by the Central Government. Incidentally, not all tweets favoured the Central Government's position; one user sarcastically quipped *"The cuts in fuel prices have been compensated by an increase in the **Goods and Services Tax (GST)**. Waah..."**. Along similar lines, another user expressed the anguish of the common man over petrol and diesel not being considered under the GST, questioning, *"Ek hi chij ke do bar tax kyun de aam aadmi? (Why should the common man be taxed twice for the same item?)"*. A large group of tweets discussed **poor road infrastructure** and how they exacerbated vehicle running costs when coupled with steep fuel prices. One user alleged that *"people are forced to drive on miserable roads, burning expensive fuel in horrendous traffic jams"*. Another user in Maharashtra alluding to **congestion caused by hawkers**, maintained that *"hawkers sit to sell vegetables blocking half the road for the whole day, thus leading to traffic jams, wasting time and fuel"*.

Enclaves of Respite

Madhya Pradesh, having the highest proportion of positive tweets, gave the situation a more optimistic twist. Users celebrated *"breaks"* in the increasing trend of fuel prices. Capitalising on the moment, some users urged others to drive slowly to **conserve fuel**. Some users insisted that

electric vehicles would sidestep the woes of fuel price hikes. Incidentally in **Manipur** too, electric vehicles were topics for discussion.

Amid a prevailing environment of pessimism, discontent and exasperation with fluctuating fuel prices, there were enclaves of respite. In September 2018, when the then **Karnataka Government** decided to **reduce the cess on petrol and diesel**, one user exclaimed with appreciation that it was interesting to see that the Karnataka Government was the only non-election-bound State Government that cut fuel cess. Similarly, in **Uttarakhand**, an apparent negative sentiment that prevailed in tweets from 2018 through 2020 seemed to abate in 2021, when the Central Government announced a steep cut in excise duty; Twitter users welcomed this, with many calling it a “*Diwali gift*”.

Discourses on Fuel and its Future

Topics such as the disparity between Indian and global fuel prices, movement towards sustainable energy sources, phasing out of Internal Combustion Engines, among others, were geared towards the nation’s outlook as a whole, and the discussions surrounding them permeated across the States. These discourses viewed India’s initiatives from the standpoint of the world, as opposed to the previous discourses that were heavy on the local outlook. **Table 6** presents these in the form of themes (nodes) that outline the main topics and sub-themes (sub-nodes) that entail the pertinent sub-topics.

Node	Sub-Node
Disparity between Indian and global fuel prices	High fuel prices in India, benchmarks other than crude oil affecting market pricing, shift in global oil demand, cascading effects of conflicts between countries, increasing India’s foreign reserves
Moving closer to sustainable energy sources and reducing global warming	Push towards fuel efficient vehicles, increasing use of sustainable fuel in aviation, reduction in crude oil imports, researching on plant-based energy systems, incentives for production of green fuel, alleged favouritism towards industries producing green energy, access to renewable energy technology, sustainable capture of Carbon dioxide, shift to Compressed Natural Gas (CNG)
India’s push towards Electric Vehicle (EV)s	Making India a 100% EV nation by 2030, subsidizing EVs, effect of petrol prices on the EV market, building charging station networks, alleged pointlessness in sourcing electricity from thermal power plants

Table 6: Emergent Themes surrounding ‘Fuel’

In comparison with the PAI 2022 ranking of States, within the Large States categorisation of PAI 2022, the Sub-theme of ‘Revenues of State’ maps loosely to fuel given its centrality in public finance and macroeconomic discourse. Comparing ranks from that Sub-theme with the prevailing public sentiment, there seemed to be little parity between insights. While Chhattisgarh ranks 2nd in PAI 2022’s ‘Revenues of State’ Sub-theme, it appears to have garnered negative attention in the sampled tweets. Within the Small States categorisation of PAI 2022, on the same Sub-theme, insights for Goa and Sikkim aligned loosely with the findings in the narrative analysis framework; while the former had largely positive opinions and ranked 2nd among Small States in ‘Revenues of State’, the latter fared poorly across qualitative and quantitative methodologies.

Employment-Unemployment

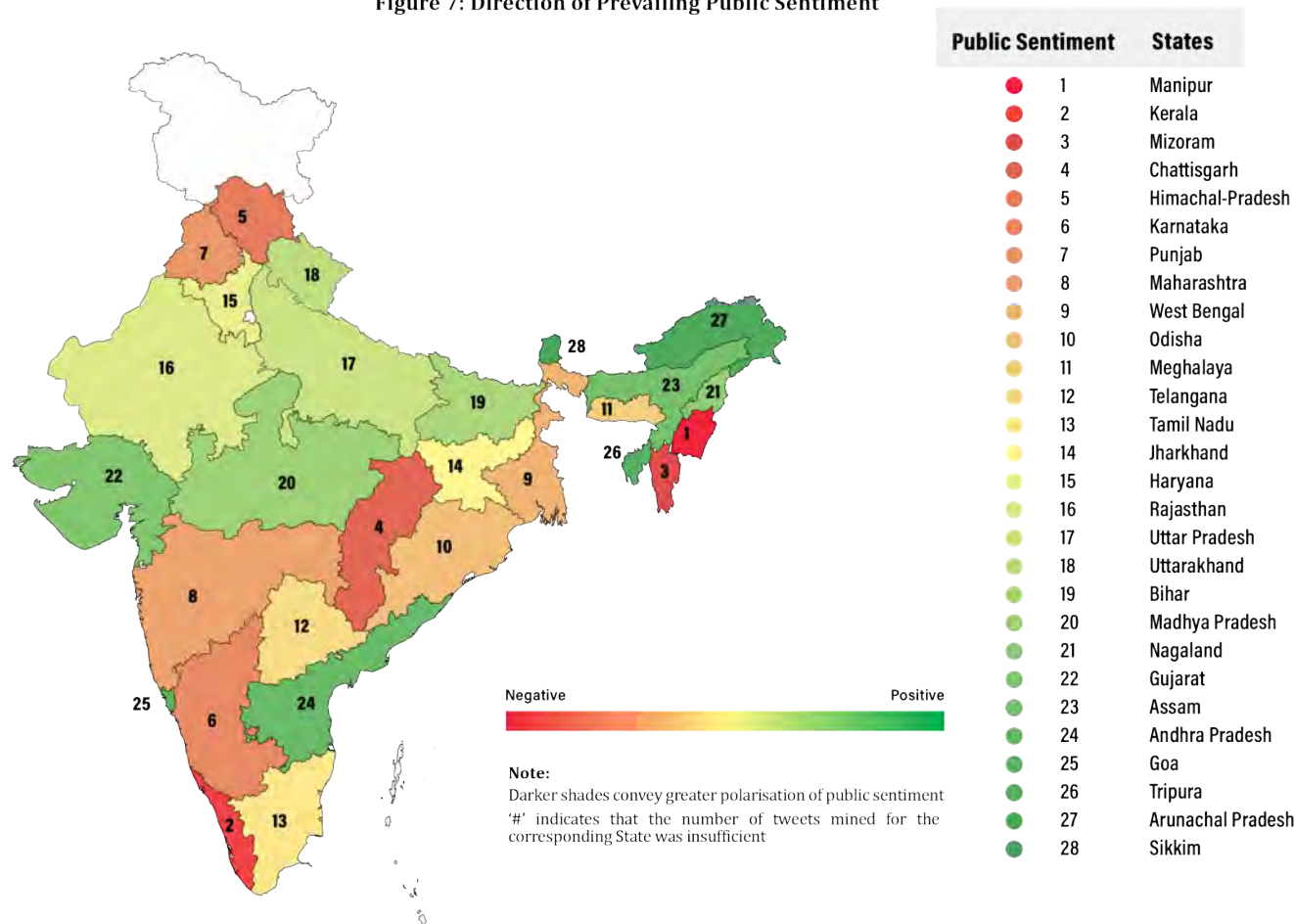
Jobs provide a fail-safe escape from poverty. Jobs are a mainstay of the economy and a cornerstone for development (World Bank, 2012). Through employment, a virtuous cycle is institutionalised wherein incomes are generated, demand for goods and services is revived and overall growth is stimulated (USIP, 2022). Good jobs lend to the social welfare of the society, affording citizens a minimum standard of living.

The role of governments in ensuring ‘Decent Work’ has been emphasised by the United Nations Sustainable Development Goals through Goal 8 (United Nations, 2015). Governments play a vital role in engineering business environments that generate a demand for labour; this principle forms a canonical base for a policy discourse that has gained currency in recent times- the ‘ease of doing business’ (MoLE, 2022).

Powers relating to ‘employment and unemployment’ are shared between the Centre and the State according to the Constitution of India. By virtue of shared responsibility, the two levels of government are concurrently accountable to the electorate for creation of ‘decent work’.

COVID-19 disrupted ‘business-as-usual’, birthing policies that restricted movement and physical interaction to contain the contagion. To apprise the effect of the same, a corpus of tweets was extracted from March 2020 to February 2022. **Figure 7** presents a barometric visualisation of the direction of public sentiment on the indicator of ‘employment’.

Figure 7: Direction of Prevailing Public Sentiment



On a relative scale of positivity, Sikkim and Arunachal Pradesh emerge as front-runners; Manipur on the other hand, bears the highest burden of negative sentiment. While tweets in Sikkim and Mizoram were notably polarised in their opinion, the corpus of tweets geo-tagged to these States against the theme were too few for significant analysis.

Jobs and the Crisis

In **Manipur**, the weight of negative opinions outweighed those of positive ones. The complaints largely revolved around a **demand for jobs from the Centre and State Governments** to tide over the “*tsunami of unemployment*”. While some recommended avenues of employment generation -such as taxis and permits for unemployed youth- others were “*losing hope*”.

In **Kerala** as well, efforts-or the purported lack thereof-of both the Centre and State Government were castigated. A chorus of tweets brought the Centre under fire with respect to policy changes in **recruitment to the Indian Railways**. One tweet summarised the refrain uttered by many *"while the country reels from record levels of unemployment, the Government halted recruitment to one of the largest Public Sector Undertakings employers in the world". Some called it a "dereliction of duty".*

As in some other States, in Kerala too, the **Centre's decision to institute a lockdown** in March, 2020 was perceived as *"ill-conceived", "unplanned"* and a trigger for *"joblessness"* and *"untold miseries"*. The **exodus of migrants** as the lockdown unfolded was debated. Some tweets lamented *"distress deaths"*, recounting the *"lack of assistance in terms of cash or food to people"* and deferment in extending a *"helping hand"*.

Users in Kerala also questioned the **State Government's economic relief and rehabilitation** measures in light of COVID-19. **Persistent, structural problems** were identified in the State's *"inability to provide sufficient work"*. One commented that *"rehabilitation of the unemployed will be a great problem as the State is not industrialised...our industries are all shut down"*. Others reinforced the need for industrialisation, citing the *"staggering"* figures of unemployment within the State seemingly higher than the national figures. Some maintained that these were the reasons why natives of Kerala were seeking work abroad.

The **intention of politicians** in the State was also placed under public scrutiny. Some maintained that

it was only the *"wife and children of local leaders"* who were securing jobs. One user called for an introspection on the role of politicians in failing to create employment opportunities in Kerala, sarcastically remarking that this *"enabled our people to give great contributions for development in the Gulf region"*.

In Chhattisgarh, vilification was largely directed at the Central Government. Commentary was directed at the state of the economy, on parameters like inflation, Gross Domestic Product (GDP). The Central Government's policies were termed *"anti-people"* and the decision-making, *"unilateral"*. Users cited mass layoffs as a pain point. Akin to Kerala, in Chhattisgarh too, users lambasted revisions in recruitment to the Indian Railways, saying that it would give *"impetus to unemployment"*.

From Crisis to Opportunity

In **Arunachal Pradesh**, tweets were **recommendatory** in nature and were mildly-worded. Users explored avenues for employment generation in the State, ranging from developments in road communications, health sector, sports and tourism. Some spoke about developing paper mills utilising the bamboo grown in the State.

Such a nature of tweets also found resonance in **Goa**. Users **optimistically conceptualised befitting employment avenues**, ranging from mining to eco-tourism. Mining especially emerged as a sector on which many pinned their hopes, especially in consideration of employing the indigenous communities.

Although **Tripura** emerged as a positive-leaning State in the analysis, a closer inspection suggests that it could be a false positive owing to the mild wording of tweets.

In **Andhra Pradesh**, some tweets lauded efforts by the civil society in training unemployed youth and congratulated local investments. In **Assam** too, local investments, especially in refineries were identified as avenues for mass generation of jobs. Similar was the case in Gujarat, where efforts for job creation for artisans were lauded. Users in **Gujarat** also appreciated the Atmanirbhar Bharat Abhiyan- a Central mission that seeks to promote self-reliance.

Recapitulations and Reflections

On the question of employment, while some States appeared to be relatively optimistic and tried to identify avenues for employment opportunities, other States were critical of Governmental efforts. The COVID-19-induced lockdown piqued wide debates on employment security in the country. The *"unplanned"* lockdown perceivably brought the economy to a *"standstill"*. The exodus of migrants sparked controversies along the lines of human rights while simultaneously feeding into the discourse on layoffs and job losses. Revisions to recruitment in the Indian Railways invited flak. Issues predating the COVID-19 pandemic were rehashed- persistent joblessness, poor job creation and false promises were notable refrains. Some users meditated on the State Government's inefficacy in ensuring employment and local investments. A sense of disillusionment with elected leaders also permeated the narrative; distraught users remarked how *"Netas in wolves' garb amass wealth and profiteer unethically at the cost of the hapless, jobless youth"* *.

In the same light, unemployment allowances and doles were also widely discussed.

Table 8 summarises the broad themes (or ‘nodes’) that emanated from the dissection of tweets as common across all States, alongside sub-themes (or ‘sub-nodes’) that populate it.

Nodes	Sub-Nodes
COVID-19-induced Lockdown	Exodus of migrants, layoffs, job losses, insecurity
Central Policies	Unplanned lockdown, Revision/stopping of railway recruitments, Appreciation of Atma Nirbhar Bharat and Vocal for Local
Local Problems	Corruption in recruitment to public jobs, inaction by leaders and politicians
Local Investments	Skilling by civil society, local investments that create jobs
Unemployment Relief	Doles, unemployment allowance

Table 8: Emergent Themes surrounding ‘Employment’

Employment closely correlates to the ‘Social Security and Social Insurance’ Sub-theme on PAI-2022. To this effect, some of the rankings resonate with the insights on ‘employment’ as garnered from an extraction of tweets. Mapping to the Large States category of PAI 2022, Kerala performs poorly across the PAI 2022’s Sub-theme and the narrative analysis. Andhra Pradesh, on the other hand, performs well both objectively on the Index and subjectively, in terms of prevailing public sentiment. Within the Small States categorisation of PAI 2022, on the same Sub-theme, insights for Sikkim and Tripura aligned with the largely positive sentiment across these States.

Culture and Agriculture

India has earned the moniker of being a ‘*global agricultural powerhouse*’ as the largest producer of spices, pulses and milk (World Bank, 2012). 55% of the population of India lends credence to this feat by engaging in agriculture and allied activities (Census, 2011). As the lifeblood of the society, especially in rural India, agriculture is centre place in policy and politics of the country.

‘*Agriculture*’ as a Constitutional subject maps exclusively to the domain of the States. The States are the guardians of agricultural education and research, protection against pests and prevention of plant diseases, agricultural land, agricultural income, loans and indebtedness. The Centre supplements this by exercising its policy-making role. Assessing State Governments on the inclination of narratives surrounding agriculture emerges, hence, as a prudent exercise. Tweets were extracted between January 2018 and February 2022 to capture pre-COVID and peri/post-COVID accounts.

Between 2018 and 2022, the agricultural sector in India weathered COVID-19; some battled the reforms suggested in the Farm Bills 2020, a move that was later repealed. Long-standing quandaries – of Minimum Support Price (MSP), droughts, distress, debts, farmer suicides- flowed parallelly.

Figure 9 presents a barometric visualisation of the direction of public sentiment on the indicator of ‘*agriculture*’. Gujarat appears to have a relatively positive climate of opinion on the subject, Chhattisgarh on the other hand appears to bear the weight of negative opinion. Although public sentiment on

‘*agriculture*’ appeared to have a negative intonation in Sikkim, Mizoram, Meghalaya and Arunachal Pradesh, the corpus of tweets geo-tagged to these States against the theme were too few for significant analysis.

Agrarian Distress

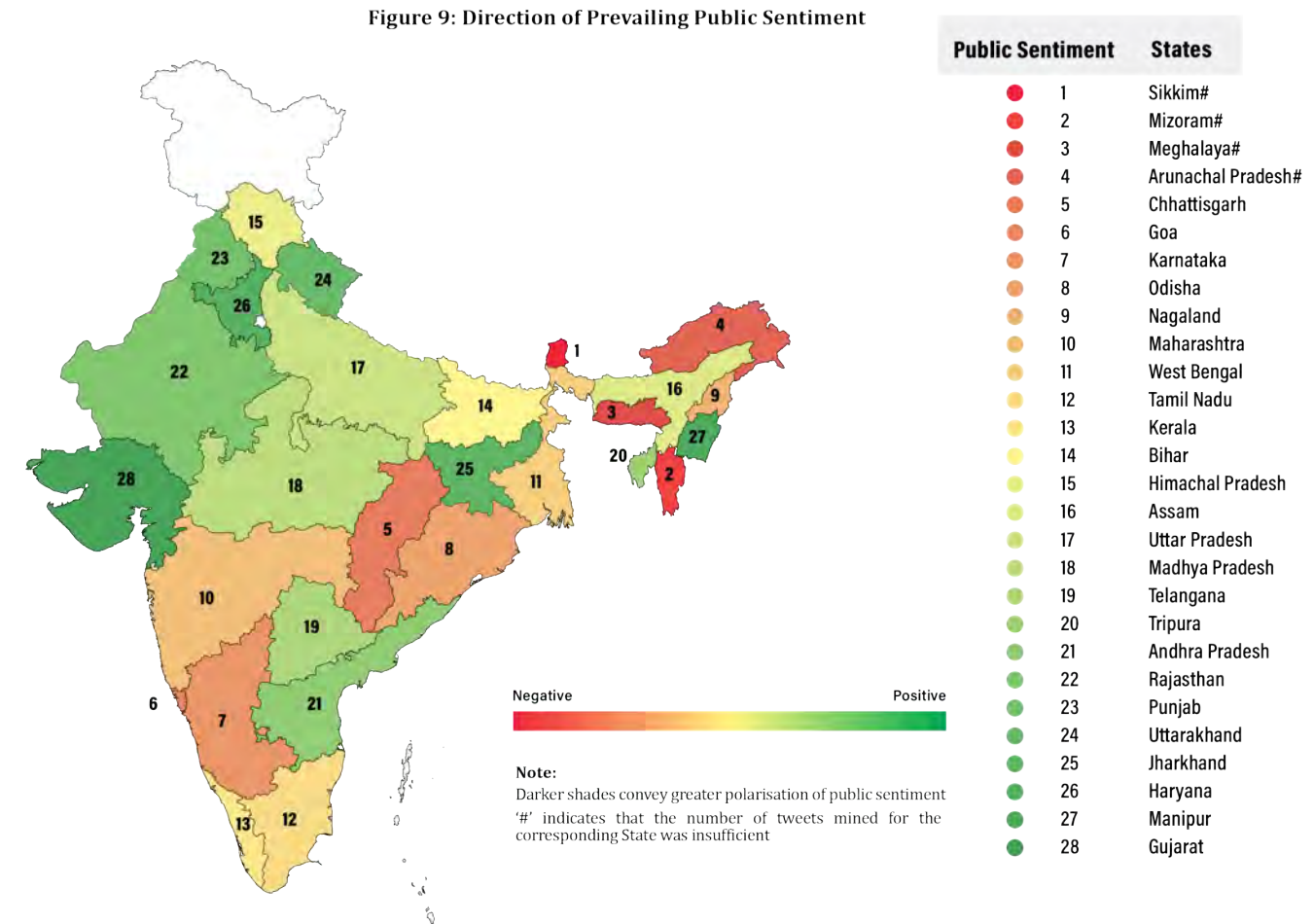
Sikkim, Mizoram, Meghalaya and Arunachal Pradesh had negative-leaning opinions on the topic of ‘*agriculture*’. However, the tweets extracted were too few for a coherent analysis. Nonetheless, cumulatively the discourse was dominated by the **Farm Bills of 2020**. While some cautioned State Governments against “*blindly implementing all Centre schemes without local opinion*” and expressed concerns over the bills being “*Anti-Farm*”, some urged Chief Ministers in the North-East States to hold consultations to weigh the pros and cons of it.

In **Chhattisgarh**, select tweets predating 2020 alluded to the incidence of **farmer suicides** and linked it to **non-adherence to the Minimum Support Price (MSP)**. The incumbent Central Government was accused of “*apathy*” for reportedly buying agricultural produce for a lesser amount than the threshold set by previous Governments. In mid-2020 when the Farm Bills were introduced, the narrative shifted with some offering their own interpretations of the move. A chorus of tweets called it “*favouritism towards corporates at the cost of farmers*”.

In Goa, although “*Farmers Appeal Total Repeal*” remained a recurrent verse, a significant proportion of the negatively connotated tweets were **directed at protestors** and their supporters. Some users

detected a “foreign funding” ploy in the farmers’ protest. Others maintained that the opprobrium was localised to certain States; they corroborated their claims by propping the legislating party’s “clear as day-light” victory in by-elections in pockets of the country. Disapproval was also registered over the “hooliganism” that purportedly stemmed from the farmers’ protest on the ramparts of the Red Fort on the 72nd Republic Day in 2021. The ultimate **repeal of the Farm Bills** was celebrated and at once mocked with some commentators perceiving the move as a result of the realisation of “impending defeat” in the next round of elections.

Public discourse in **Karnataka** circled around the problem of **farmer suicides**. Like Goa, the overall outlook on the theme in the State appeared acrimonious and **suspicious of the protestors**. The mention of the protests was prefixed by the word “fake”. Users ascribed an **instigative role** to “anti-social elements” and “Opposition parties, Naxalites, separatists and militants”*. Some even postulated that the crowds at the protests were “agents of the Opposition” and “middlemen in the garb of farmers” who were causing “anarchy” to “de-throne” the Government. A sense of sympathy was expressed for the locals who were purportedly being subjected to the “mayhem”. A faction of users appeared wary of **foreign commentators** on the issue, lambasting their “half knowledge”. Another pertinent issue that was raised in Karnataka was the arrest of an environmental activist from Bengaluru who had apparently shared a “toolkit” in relation to the farmers protest; many in the State felt that she was a “scapegoat”. Simultaneously, there



were crosscurrents critiquing the “indifference” of the **Central Government** even as farmers protested in the “bone chilling winter”.

In **Odisha**, commentators stressed on the need for **raising the MSP**, directing this critique at **both the Centre and the State Governments**. One user urged the State Government to “stop taking taxes

and royalties on Kendu leaves”; one user maintained that the State had “failed to procure produce from forest-dependent communities at the MSP”. Some accused the State of violently curbing farmers protests in the State. There were impassioned discussions surrounding “clear policy bias that discriminates against farmers”*. Users drew parallels between “Maximum Retail Price for manufacturers” and

“Minimum Support Price for farmers” and loan waivers for industries but not for agriculture. Opinion on the Farm Bills of 2020 were divided. A faction of users saw the Bills’ *“long-term positive effect on the farming community”* and **thought that the protests were not representative of the interests of the entire farming community**. Others however zealously called for a withdrawal of the *“draconian laws”*.

Good Harvest

A significant proportion of positively-worded tweets emerged in **Gujarat**. The **Farm Bills were hailed** as *“historic” “game-changing”* and *“a new era of prosperity for Indian farmers”*. Some users urged the Government to “disallow political opportunism” from *“overshadowing”* the Bill. Notably, some of these tweets appeared to be headlines by news outlets or media houses and politicians, possibly biasing results.

In **Manipur**, the Farm Bills dominated public discourse on agriculture. However, even in their positivity, the subjects of tweets were **discordant**. Users emerged in support of Farm Bills as move for the *“welfare of farmers”*. On the other hand, there appeared to be well-voiced support for the Opposition on the matter. Predating the Farm Bills, occasional announcements in increase in the MSP were welcomed by netizens in the State.

Haryana’s case emerges as a peculiar one. Haryana, alongside Punjab, was at the forefront of the protest against the Farm Bills. The State was **optimistically-worded in its support for farmers**. The efforts of farmers and others protesting were

lauded for their *“immense struggle, unconditional strength and fearlessness”*. Content supporting the protesting farmers was shared too. Therefore, despite furore over the Bills, tweets in their wording were supportive of farmers, explaining the positive leanings in prevailing sentiment in the State. Such was the case in **Punjab** too.

Recapitulations and Reflections

Expositions surrounding ‘agriculture’ appear to have been monopolised by the Farm Bills in the recent times. Farmer suicides and debates circling MSPs have nonetheless formed a subcurrent. The former assumed “tragic dimensions”, especially in Karnataka and Maharashtra which have high incidences of farmer suicides, as recorded in NCRB, 2021. The tragedy has been linked to multiple triggers – droughts, indebtedness, absence of loan waivers, low MSP- as abstracted from a dissection of the corpus of tweets. Some users additionally echoed the need for a Maximum Support Price as opposed to a Minimum Support Price to address the woes.

The 2020 Farm Bills were embroiled in controversy since its announcement. Right from the passage of the Bills through a *“dubious voice vote”* to it being *“pushed through the Rajya Sabha”* without giving Members of Parliament *“opportunity to deliberate”*, the Bills were thought to have put a *“dent on democracy”*. The Bills were dubbed “Anti-Farm Bills” and were scrutinised along lines of favouring corporate interests. There were mass mobilisations and protests which had become highly politicised events with some detecting provocations. At the same time there were consultations

regarding differential implications of the Bills. The repeal of the Bills was also met with censure- while some detected electoral ploys, others criticised the Central Government for *“bowing to street power”*.

Several nuances to the patterns of prevailing sentiment may be unpacked relative to Centre-State relations. Although Agriculture is Constitutionally prescribed to States through the State List, the Central Government’s policy-setting decisively shaped public discourse. Further, the subtleties of power dynamics in the Ruling Party-Opposition Party-ruled States were interesting to note. Some Ruling Party-ruled States appeared more receptive of the Farm Bills, others however, were more critical of the Central Government’s efforts.

Table 10 summarises the broad themes (or ‘nodes’) that emanated from the dissection of tweets as common across all States, alongside sub-themes (or ‘sub-nodes’) that populate it.

Nodes	Sub-Nodes
Farmer Suicides	Drought, distress sale, indebtedness, absence of loan waivers, procurement below MSP, low MSP
Minimum Support Price	Violation/non-adherence to MSP, demands for raising MSP, implementation of recommendations of MSP formulation from the Swaminathan Report
Policy Bias	MSP for agriculture versus MRP for retail, loan waivers for industries not agriculture
Farm Bills of 2020	Corporate interests, privatisation, anti-farmer, indifference by Central Government, protests, draconian laws
Repeal of Farm Bills of 2020	Historic, election ploy

Table 10: Emergent Themes surrounding ‘Agriculture’

In the schematic framework of PAI 2022, while the Sub-theme of ‘Social Security and Social Insurance’ maps conceptually to agriculture, it does not find an economic sector-level equivalent rendering comparison inapplicable.

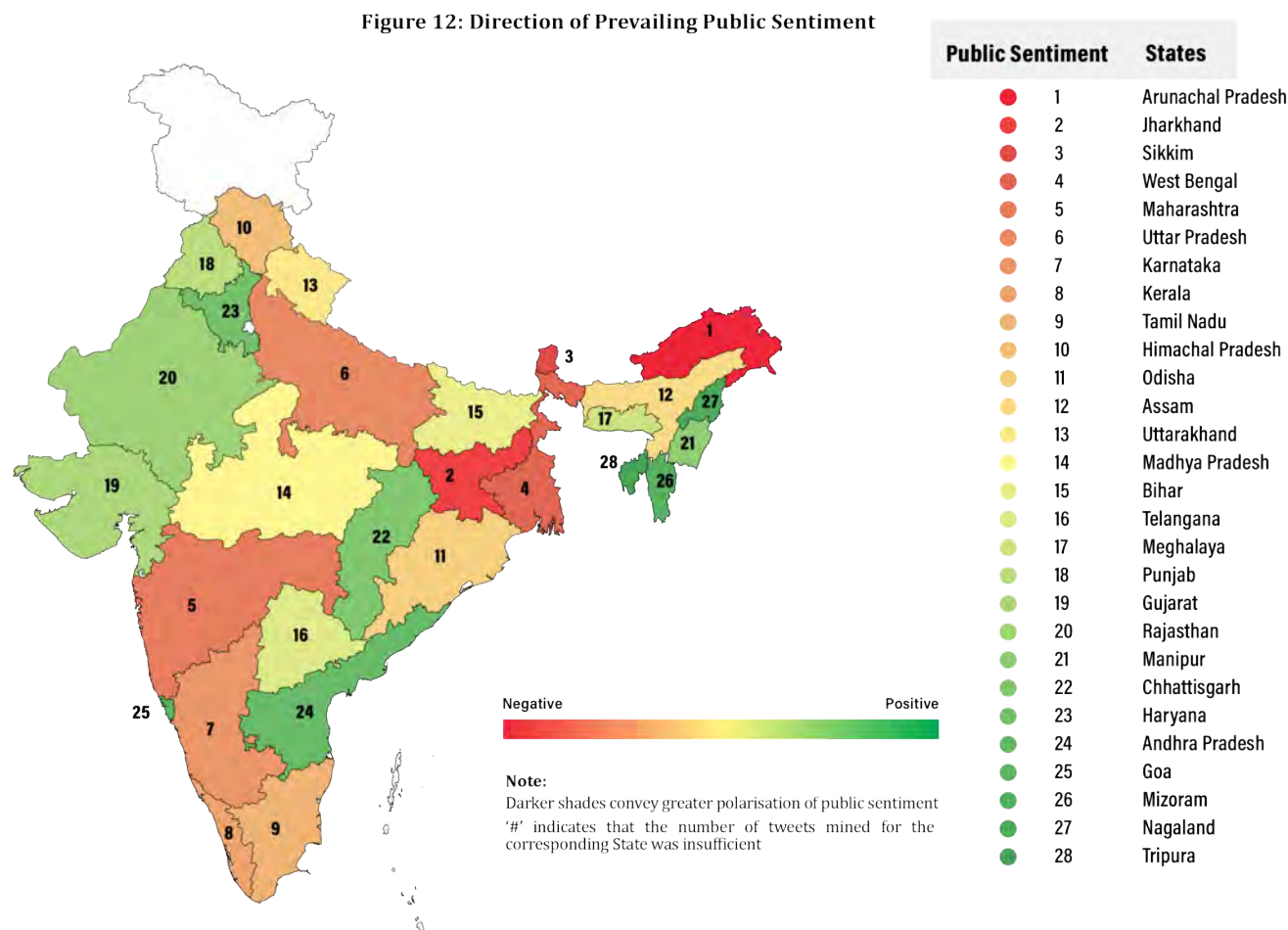
Political Justice

Political Justice is asserted in the Preamble to the Constitution of India. Hinting at the centrality of adult suffrage and elections, every citizen in the Preamble spirit uncompromisingly deserves Political Justice (Dansana, 2016). Provided that free and fair elections is the bedrock of a democracy, tweets pertaining to the same have been extracted for analysis. The same is crystallised only in the absence of a state of violence and persistence of law and order. For an analysis of narratives surrounding the 'Political Justice' Theme of PAI 2022, tweets discussing elections as well as law and order maintained by the police were scrutinised. The Constitutionally-inspired rationale for the selection of the indicator is listed in Table 11.

Sub-Theme	Topic	Constitutional Mandate
Rule of Law	Elections	State List, Item 37 - Elections to the Legislature of the State subject to the provisions of any law made by Parliament. State List, Item 1- Public Order State List, Item 2- Police
	Law and Order	State List, Item 1- Public Order State List, Item 2- Police

Table 11: Rationalisation of Topics identified for Narrative Analysis of 'Political Justice'

The sections that follow provide an account of dominant narratives on the same.



Policing Elections

Democracy in its most fundamental conceptualisation is 'rule by the people'. Regular elections – fairly conducted, graciously contested and honestly counted- are the central premise on which definitions of democracy are based (Schmitter & Karl, 1991). While elections allow

for political competition and peaceful change of power, violent renditions of the same undercut the core foundations of a democracy. Violence in the context of elections may be deployed to manipulate electoral outcomes and may range from tactics such as intimidating, harming, blackmailing a political stakeholder (Omotola, 2010). The faith in a social contract drafted by a Government formed

therein would stand on dubious grounds. Maintenance of law and order to mitigate violence, therefore, supplements the realisation of the democratic ideal.

In India, the administration of and superintendence over free and fair elections resides with an autonomous Constitutional authority - the Election Commission. In the election-bound States, this Commission deploys Central Paramilitary Forces for confidence building in the polling catchment areas. However, the police from the State remains responsible for the general law and order of the area (ECI, 2007). The role of the police with respect to the electoral process, as a State subject under List II of the Seventh Schedule, emerges as a complex phenomenon. The complexity is summarised in the fear that *“police often act not as an agent of law but of the government”*.

To assess opinions relating to general law and order with respect to change of power, tweets between January 2017 and January 2022 were extracted. **Figure 12** presents a barometric visualisation of the direction of public sentiment on the indicator of ‘elections’. Tweets in Tripura appear positive-leaning while those in Arunachal Pradesh and Jharkhand, negative-leaning.

Securing Peaceful Transitions

In **Arunachal Pradesh**, a flurry of discussion surrounded the 2019 Assembly Elections that happened alongside the Lok Sabha Elections. Isolated reports of **post-poll violence** in certain pockets, a purported murder of a politician and electoral candidate and **polling discrepancies** emerged.

Tweets in **Jharkhand** relayed a miscellany of opinions.

Many tweets in the State were decisively critical of the **double standard of conducting Elections, organising rallies and holding the massive Kumbh Mela while cancelling exams in 2021**. Concerns also related these developments to the pathogenicity and transmissibility of COVID-19, claiming that *“Elections and Kumbh turned out to be disastrous super spreaders”*. Many users reminded the then CM of **unfulfilled promises**- of teacher recruitment, guaranteed jobs and unemployment subsidies- maintaining that *“Jharkhand’s youth is angry and feeling cheated by the State Government”*.

Although **Sikkim** appeared to be characterised by negative cadence, upon appraisal, the opinions were not concerted directed at the State Government or Central Government. Most of these tweets were **critical of politics and disparate political parties**, calling some of them *“nuisance values”*.

Elections in West Bengal drew spectators from across the country. *“Bogus votes”, “proxy voting”* and *“spine-chilling violence”* was reported from the State. Violence seemed to have been reported following the Local Body elections (2018), Lok Sabha elections (2019), as well as the Assembly Elections (2021) in what was called a *“death of democracy”*.

Public opinion in **Maharashtra** was not restricted to local topics and had a relatively cosmopolitan palette of discussion. In the context of Maharashtra’s 2019 Assembly Elections, **power sharing arrangements** were discussed widely. **The violence in Bhima Koregaon in 2018**, its aftermath, management and the then State Government’s response was invoked for the electorate to consider in casting their vote;

some touted the violence as a *“total failure”* of the State Government. The 2019 Lok Sabha Elections were embedded contextually in developments on the external affairs and diplomatic relations front. **Pulwama Attack** and subsequently **Balakot Airstrike in 2019** were widely cited in electoral discourse preceding the Lok Sabha Elections; some users alleged that these developments were *“manufactured”* for electioneering by *“harvesting nationalism”*. **The role of news houses** in shaping narratives was widely debated; some tagged certain news houses and anchors as *“paid agents”* or *“chamchas”* (sycophants) that reportedly pledged allegiance to certain politicians. In 2021, Maharashtra’s **local body elections** remained a popular topic; however, it was discussed mostly in light of the results and victorious political parties. Some users additionally condemned the **culture of “freebies”** and questioned the **Election Commission of India’s (ECI) non-partisanship**. A sizeable proportion of negatively-worded tweets quoted the alleged post-poll violence in other election-bound States.

Elections as Festivals

Tripura appeared to have a positive climate of discourse on the topic. A lot of the tweets were seemingly from **party leaders** and members or affiliates. In their substantive content, these tweets congratulated candidates, their *“ground-level strategies”* and thanked *“massive public turnouts”* and *“show of support”* at road shows and rallies. Leaders and locals also lauded the **voter turnout**.

Similar insights could be observed in **Nagaland** and **Chhattisgarh** as well, where **candidature was congratulated** and so were **party wins**.

Electorate morale appeared optimistic in **Goa**. Voter turnouts were reportedly *"impressive"*. District Election Offices (DEOs) in Goa crafted ingenious innovations to mobilise voter turnouts and make for *"accessible elections"*; flash mobs, icon rallies, sensitisation trainings for poll-booth staff and walkathons were reportedly organised by DEOs in the State.

Recapitulations and Reflections

The five-year lapse between 2017 and 2022 for which tweets were extracted was bookmarked by **General Elections to the 17th Lok Sabha in 2019** and **numerous Assembly and Local Body Elections**. Pre-COVID electoral dynamics were shaped by **fuel prices, defence against foreign aggression à la Pulwama and Balakot, rhetoric or "chunaavi jumla"** amongst human development concerns. Health dominated such dynamics in **peri and post-COVID elections**. Governments' **efficacy in COVID control, coverage of vaccination and health management assumed centre stage**. The Centre's lenient position on allowing **Kumbh Mela** during a "raging pandemic" was highly contested; the event was monikered a *"super spreader"*. For some the combined effects of Assembly Elections and the Kumbh Mela was India becoming *"the biggest exporter of the Delta variant"*.

The **conduct of elections** amid COVID-19 emerged as grounds for contention. The elections were preceded by **rallies** by *"unmasked"* candidates *"campaigning while the pandemic raged"*. One remarked that *"lakhs of people have been exposed, deliberately, to the horror of the pandemic"*. Citizens also showed disapproval of **cancelling exams** at the reported endangerment of the future of the country's youth while allowing rallies and elections. Against a backdrop of general frustration and resentment, Assembly Elections were held in Assam, Kerala, Puducherry, Tamil Nadu and West Bengal.

General and Assembly Elections were interspersed with exigent issues, such as **fluctuations in fuel prices, Citizenship (Amendment) Act, 2019 (CAA) and Farm Bills (2020)**. One remarked- *"Great Indian Election Sale, curtail in fuel prices and now Farm Bill"*. For a section of the population, the Farm Bills were a way for *"the government to hand over the livelihood of farmers to private players"* *. Many termed it an "election debacle" ultimately culminating in its revocation.

The integrity and non-partisanship of the ECI were called to question repeatedly. Complaints ranged from the ECI's reported non-acknowledgement of Code of Conduct violations by the Ruling Party to reports of **Electronic Voting Machine (EVM) tampering** and insensitive timing of elections. While some called for a boycott of EVMs and reinstitution of ballot papers for voting, others held that these allegations were levelled by losing political parties occasionally as a *"face saving"* measure.

Across the board, the electoral culture of **"freebies"** – from parties promising concessional Metro fares in Delhi to free vaccine in Bihar-received vilification citing its use as *"ploy to win elections at the cost of taxpayers' money"* *. Long-standing debates on Kashmir, unemployment and the state of the economy also formed prominent undercurrents.

Table 13 summarises the broad themes (or 'nodes') that emanated from the dissection of tweets as common across all States, alongside sub-themes (or 'sub-nodes') that populate it.

Nodes	Sub-Nodes
Defence and External Affairs	Foreign aggressions, Pulwama Attack, Balakot Air Strike
Home Affairs	Kashmir conflict, unemployment, state of the economy, CAA, Farm Bills
COVID-19	Conduct of political campaigns and rallies, conduct of elections, fear of super spreader events, Kumbh Mela, cancellation of exams, violation of COVID-appropriate behaviour at elections and rallies
Electoral Politics	Post-poll violence, polling discrepancies, unfulfilled promises, freebies, rhetoric, role of news houses, non-partisanship of ECI, candidature, electoral wins

Table 13: Emergent Themes surrounding 'Elections'

While the conduct of elections does not have an equivalent indicator in PAI 2022, it maps to the mandate of *'Political Justice'*. To this effect, while Kerala ranks 2nd in *'Political Justice'* in the Large States categorisation, it appears to have a widely negative climate of opinion as per the analysis of selected tweets. In the same Theme, for Small States, insights for Nagaland -positive- and for Arunachal Pradesh-negative- emerge congruent across the qualitative and quantitative methods.

Policies and Politics of Law and Order

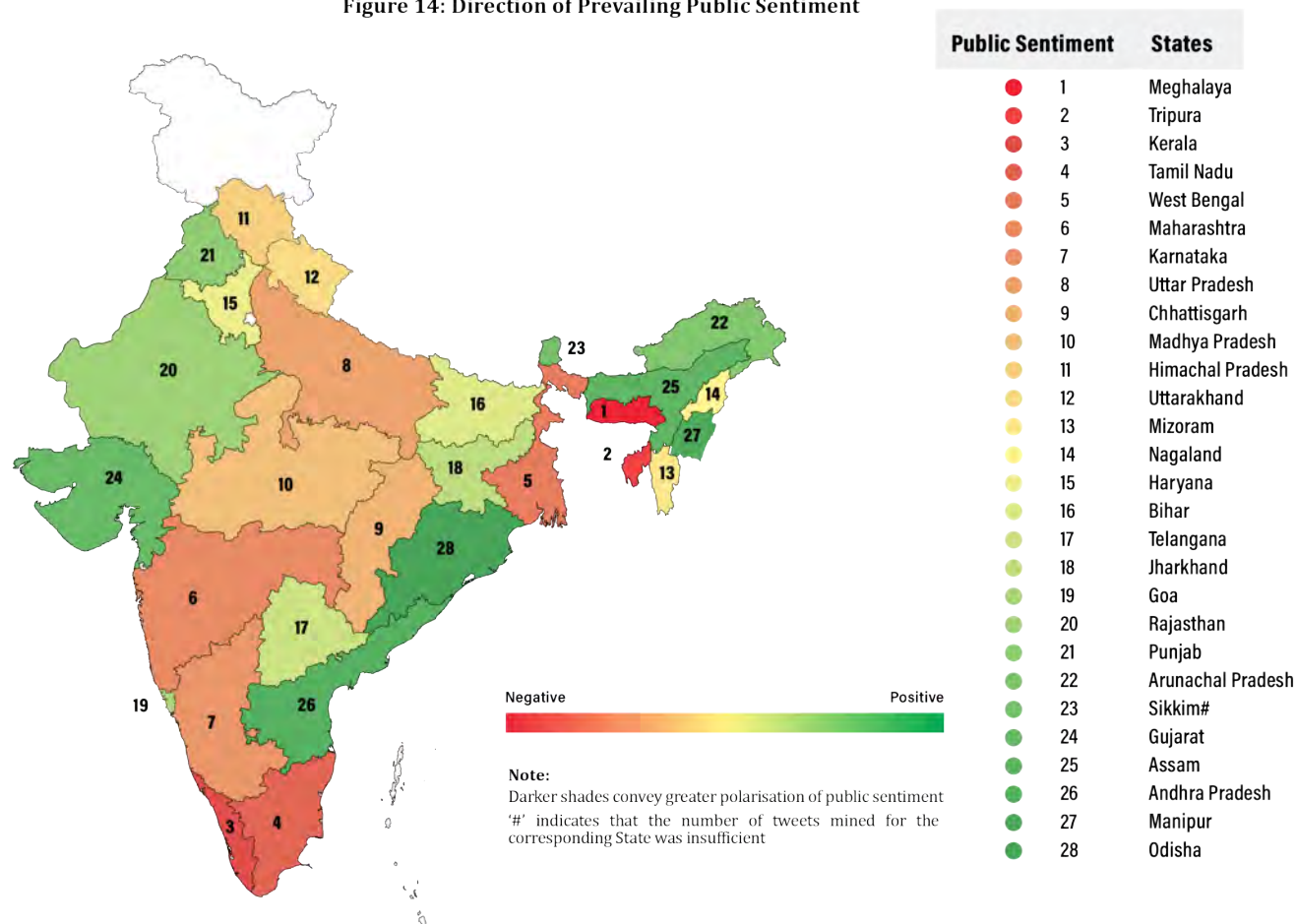
The 'state of nature' in Hobbesian imagination is one characterised by 'continual fear and danger of violent death'; man's life in this state is 'solitary, poor, nasty, brutish and short'. The antidote to this fate, in Hobbes' conceptualisation, is submission to a mutually agreeable authority or an arbiter. This forms the rationale of modern-day governments (Lloyd & Sreedhar, 2020).

The quest for peace and non-violence is an incontestable hallmark of modern civilisations. Since the attainment of peace and removal of violence from the social fabric might not be amenable to exclusively pacific means, specially deputised officials are endowed with the monopoly of legitimate force; this is embodied in the police. As the vanguard of peace, the police are foundational to modern executive Governments (Bittner, 1970).

Professionalised police bureaucracy in India traces its origins to a British-era instrument- The Police Act, 1861. The Constitution vests 'police' and 'public order' with the State Governments through provisions under the Seventh Schedule. Allied institutions such as prison, reformatories and borstal institutions are also enjoined to the State. The Union Government, however, is duty-bound by Article 355 of the Constitution to defend against external aggressions and internal disturbances alike (Jain & Gupta, n.d.).

Given the pertinence of 'police' and 'public order' in Sub-national governance, tweets between January, 2018 and February, 2022 were extracted and analysed. **Figure 14** presents a barometric visualis-

Figure 14: Direction of Prevailing Public Sentiment



ation of the direction of public sentiment on the indicator of 'law and order'. On a relative scale of positivity, Odisha emerges as a front-runner while Meghalaya languishes.

Monopoly of Force

Public sentiment against the state of law and order in **Meghalaya** was largely negative. The most

coherent train of ire was directed against **poor traffic management**. However, other tweets were a miscellany of responses to events and news across the country. **Tripura's** case was similar; despite largely polarised negative sentimentality, little of it was directed against various events in the State. In early-2020, there were calls for **participation in protests against the**

Centre's stance on the Citizenship (Amendment) Act, 2019 (CAA) and alleged brutality against protesting University students.

Police action in **Kerala** drew public ire on diverse fronts. The police in the State was accused of being **unduly swayed** by “*money and contacts*” and having “*tie-ups with regional political party leaders*”. Kerala police allegedly “*confronted*” and launched “*brutal attacks*” on protesting students’ unions; at various points in 2019 and 2020, these unions were protesting against a marks tampering scandal, against a rape-murder case and an alleged case of an institutional murder of a student. Sparse reports of “custodial torture” were also reported from the State.

Netizens also implicated Kerala police for not only being “*politicised*” but “*communalised*”. This intellection was either popularly characterised by “inaction” or “brutality”. Some accused the police of “supporting” the perpetrators in a 2018 honour killing case. Users also found fault with how the State police dealt with allegations against a Bishop. Police response was also found to be lacking in the Kattachira Church feud between two opposing factions. Concerns were additionally sounded on the **lack of police enquiry into locals joining extremist outfits**.

On the opposite end of the spectrum, users levelled that the police had unleashed “*atrocities*” on devotees at the Sabarimala Temple in the State. Some alleged that the police were “*made to deploy massive force in Sabarimala*” to “*destroy traditions*” *. Many believed that the police had “*persecuted and ill-treated*” “*peacefully-praying devotees*” *. Citing “*blood-*

shed” and “*breakdown of law and order*”, many users called for Central intervention.

Custodial torture and police brutality emerged cogent in discourse surrounding police in **Tamil Nadu** as well. The deaths of a father-son duo from Thoothukudi- Jeyaraj and Beniks- triggered an uproar on social media. The duo was arrested for violating COVID-19 lockdown protocol and subsequently succumbed to police brutality. Terming this a “*hopeless, shameful act*”, commentators lamented the state of “*innocent people*” in the country. Other localised reports of police torture were also reported in the State.

Productive Citizen-Police Interactions

Odisha police’s actions and efforts were largely well-received. The “*Odisha model*” to **address reverse migration and migrant labour’s woes** were lauded and were upheld as examples for “*every State Government to follow*”. The Odisha police invited praise when it “*arranged for buses to pick up migrant workers walking through the State to their homes*” in an unprecedented wave of reverse migration following a nation-wide lockdown to control the spread of the COVID-19 pandemic. The police reportedly also distributed water bottles and tiffin boxes through “*tough times*”.

The Odisha police seemingly stepped up as **volunteers** time and again. During the course of the COVID-19 pandemic when health sys-

tems were pressed, “*COVID warriors*” in a “*humanitarian gesture*” donated plasma. Pre-dating the pandemic, the Odisha police helped residents in certain tahsils overcome the heatwave by distributing cold beverages such as “*sherbet, lassi, cold water*”.

Users appreciated the State’s effort in controlling “*Maoist influence*” in “*Naxal-infested*” pockets. The State’s police additionally appeared to repeatedly be in the news for seizing ammunition and narcotics.

Manipur’s police were congratulated along similar lines, in their success in a campaign against drugs. Other tweets of optimistic sentiment included those directed at inauguration of new infrastructure.

Reflections and Recapitulations

Pan-India, in early-2020, CAA-related protests and consequent police action emerged as a matter of heated debate. When the Centre came down heavily on protesters – a lot of whom were University students- it drew widespread condemnation. Around the same timeline, riots in Delhi flustered the nation- amongst theories of the riots being “engineered” by those in the Centre, the incident was touted as an “*utter failure of Delhi police*”. Police response to protest against The Farm Acts, 2020 and the “use of water cannons and tear gas on farmers protesting mass privatisation of the agricultural sector” were also criticised.

While the Centre was the subject of ire against police action in CAA, Farmers’ Protests and Delhi Riots, State Governments also emerged as recipients of re-crimination for localised controversies. Kerala po-

lice's- and by extension the State's- role in ensuring law and order was clouded by aspersions over the entry of women in the sanctum sanctorum of the Sabarimala Temple. The police of the State were labelled "*partisan*" and "*anti-devotee*". Maharashtra's police were alleged to have "failed to do their job" in the lynching of two seers (sadhus) in the town Palghar. West Bengal police's "*political terrorism*" was also widely criticised. Older public upheavals- Godhra Riots, Azad Maidan Riots- were invoked time and again.

Table 15 summarises the broad themes (or '*nodes*') that emanated from the dissection of tweets as common across all States, alongside sub-themes (or '*sub-nodes*') that populate it.

Narratives surrounding '*law and order*' loosely corroborate with PAI 2022's '*Political Justice*' Theme which assesses '*Rule of Law*', subsuming police efficiency in dis-

posing cases and incidence of crime amongst others. A comparison between the narrative analysis and quantitative analysis suggests incongruence in insights. Within the Large States category, Kerala and Tamil Nadu, both of which topped '*Political Justice*' rankings in PAI 2022, garnered negative public opinion. Within the Small States category, the poor rank of Meghalaya conformed with highly negative opinions, while those for Manipur did not.

Node	Sub-Node
Police Inaction	Support to/defence of perpetrators, delayed responses
Partisanship	Alignment with political parties/leaders, amenability to money and contacts
Police Brutality	Use of water cannons, lathi charge, beating, custodial deaths, custodial torture
Efficiency	Traffic management, drug control, seizure of arms and ammunition
Volunteering	Volunteering during COVID-19 to help civil society

Table 15: Emergent Themes surrounding 'Law and Order'

Social Justice

The Preamble secures to the 'people of India', Social Justice. As the backbone of Constitutional morality, the Preamble recognises the same as possessing one of the highest human values (Dansana, 2016). For an analysis of narratives surrounding the 'Social Justice' Theme in PAI 2022, tweets surrounding opinion on electricity, roads, education and vaccinations were mined. The Constitutionally-inspired rationale for the selection of the indicator is listed in Table 16.

Sub-Theme	Topic	Constitutional Mandate
Control of Material Resources	Electricity	State List, Item 53 - Taxes on the consumption or sale of electricity Concurrent List, Item 38 - Electricity
	Roads	State List, Item 13 - Communications, that is to say, roads, bridges, ferries, and other means of communication not specified in the Union List
Securing Social Order for promotion of Welfare	Education	Concurrent List, Item 25 - Education, including technical education, medical education and universities
	Vaccinations	State List, Item 6 - Public health and sanitation; hospitals and dispensaries

Table 16: Rationalisation of Topics identified for Narrative Analysis of 'Social Justice'

The following sub-sections scrutinise the prevailing public sentiment on the identified topics.

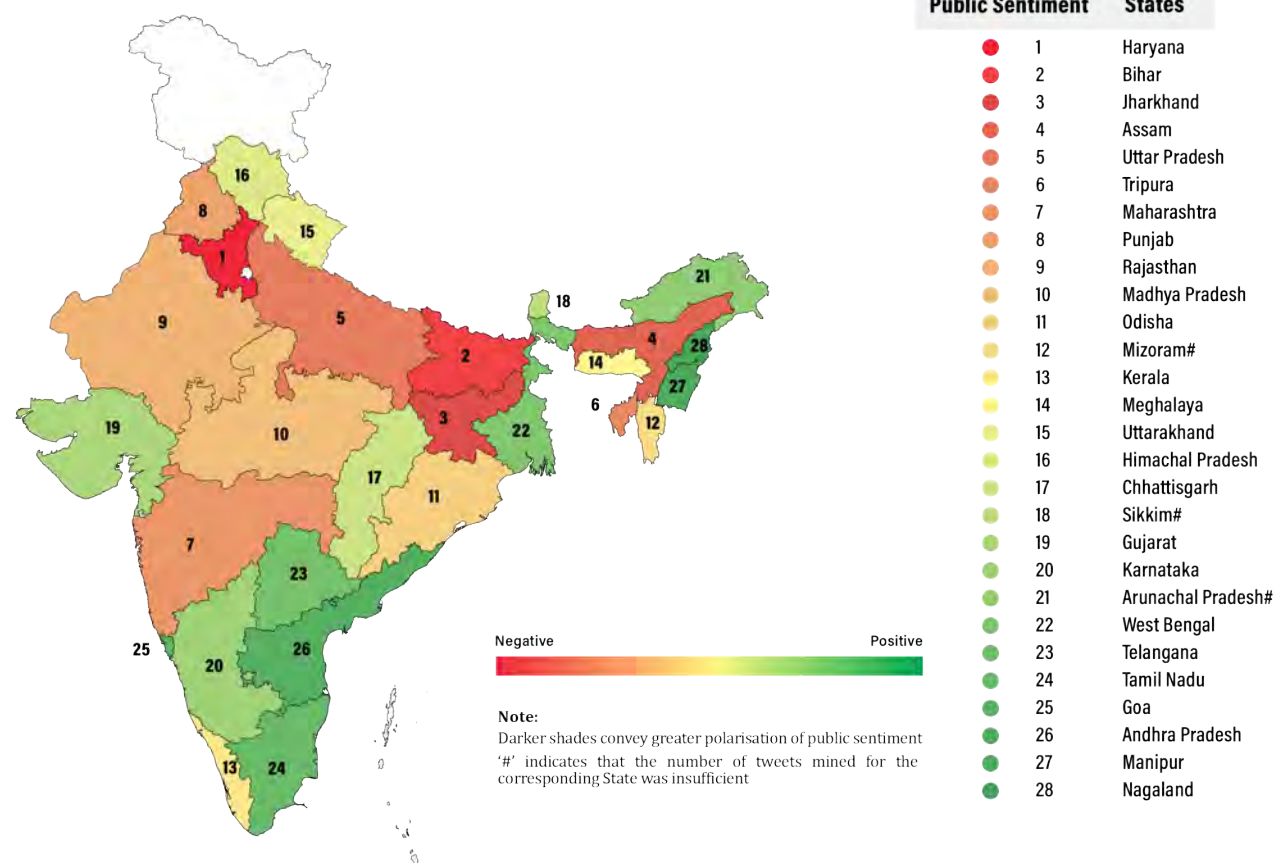
Power, for All

Electricity has come to be viewed as a basic human need, earning pride of place alongside the likes of water, sanitation and energy. It forms a sine qua non for socio-economic development. As a carrier of energy that powers sundry appliances and heavy machinery alike, electricity is the lifeblood of human society and

the modern industry. Globally, the twin thrusts of digitalisation and environmental consciousness push electricity centre stage, both as a propeller of a growing array of services and as a clean energy carrier (UN, 2005). Consumption of electricity has been found to have statistical relationship with development; conversely, lack of access to electricity correlates with most measures of poverty (UN, 2005).

The Constitution of India earmarks electricity as a conjoint responsibility of the Centre and State Governments by virtue of its location in the Concurrent List of the Seventh Schedule. Policy-setting is entrusted to the Central Government as is the inter-state power market structure. The Electricity Act, 2003 – an Act of the Parliament – traces the contours of generation, transmission, distribution and overall regulation of electricity in the country (MoP, 2005).

Figure 17: Direction of Prevailing Public Sentiment



States are the helmsmen of electricity distribution efforts (CEEW, 2019). Distribution is perhaps the crucial segment of the electricity business chain, engendering service delivery to the ultimate consumer- the citizen. According to NFHS-5 (2019-21), 96.8% of India's population lives in households with electricity, albeit with sharp inter-state and rural-urban contrasts in coverage. In terms of reliability of power supply, inter-state variations could be as low as 15 hours on average of power supply in rural Arunachal Pradesh or Mizoram and close to 24/7 power supply in West Bengal, Gujarat, Goa among others (MoP, 2021).

A dissection of tweets extracted between January, 2018 and 2022 indicated that Haryana, Bihar and Jharkhand had some of the highest proportions of tweets of negative intonation (refer to Figure 17). Nagaland, Manipur and Andhra Pradesh on the other hand, had some of the highest proportions of positive-leaning tweets.

Vexations around Electricity Supply and Consumption

In **Haryana**, several users tweeted against various **issues concerning a state-owned power distribution company (DISCOM)**. Users appeared frustrated with **power outages, irregularity in billing, poor service, corruption and bias**. Users complained about **long spells of low voltage** lamenting how it had become a *"usual practice these days"* *. In conjunction to this, **inaction** from the concerned authorities appeared to be a popular topic as well,

echoing the chorus - *"still no action"* *. Citing a purported surge in the incidence of power cuts during the COVID-19 pandemic, users questioned the feasibility of working from home. Tweets referring to the DISCOM's **e-payment** system complained about the delay in the upload of updated bills, failure of payment transactions despite the amount being debited and reported crash of the online payment system. Referring to reports on the sparking of transformers and the movement of electric poles, users alleged **corruption** and **negligence** by the then State Government.

In **Bihar**, tweets coherently opposed the reported **conduct of online exams during COVID-19** citing the **reported unavailability of electricity and internet connectivity**. Some opined, *"this is not an exam of your knowledge, this is an exam of your internet and electricity connection"* *. Some highlighted the *"clear discrimination against students having poor network and electricity"* * invoking disparity in consequences for students from different economic classes. One instance of a **flood-triggered power outage that was reported to have lasted a fortnight and overlapped with exams** appeared to be a popular point of concern among users. Users also expressed reservations about the timing of the exams, stating, *"frequent electricity cuts in our village due to rainy season, but heartless administration does not acknowledge student's difficulties"* *.

In **Assam**, tweets frequently opined on the various facets surrounding **electricity bill payments**. Reporting rampant **inaccuracy in billing amounts**, several tweets appeared to take a stance of contention; a resident who had not visited his house in months questioned how *"consumption rates showed up without using electricity even*

for a second" *. Claiming to be a small business owner with limited financial means, one user, alleging an unexpectedly high electricity bill, complained, *"I was harassed physically and mentally by the local electricity office"* *. While tweeting about low voltage, a user lashed out at the electricity board maintaining - *"There is load shedding every day even after paying all the bills. There is no electricity from dawn to dusk."* *.

Rays of Hope and Promise

In **Nagaland**, users were celebrating the electrification of villages and lauding efforts to increase the coverage of electrification. **Manipur**, which although appeared positive-leaning, on closer inspection had mildly-worded or sarcastic tweets implicitly criticising power outages.

In **Andhra Pradesh**, users lauded the State Government's in driving **innovative solutions** in the Power sector- from Auto Grid Systems, IoT-enabled demand-side management and underground power grid with smart meters.

In **Goa**, electoral promises by contesting political parties of *"availability of electricity 24/7, for everyone"* *, *"scrapping of old electricity bills"* *, and *"free electricity to farmers"* *- were cited and celebrated.

Frequently occurring tweets in Goa expressed **gratitude to the electricity department and its workers**. *"Timely assistance in trimming obstructing branches"* *, *"Continued work during*

COVID, rains, and cyclones”*, “Efficiency and responsiveness”*, and “Timely restoration of power during months with high temperatures”* were some aspects the users were thankful for; one user expressed that the workers were “toiling to bring light into their lives”*.

Tweets of gratitude were also prevalent in **Tamil Nadu**; a much-liked tweet referred to linemen as “life-saving souls”*, expressing that they were “real heroes doing their duty risking their lives to bring back light”*. Surrounding Cyclone Nivar, users appreciated the reported quick action taken by the electricity department regarding reports of sparking and smoking of wires due to heavy winds.

Tamil Nadu also frequently favoured reported measures taken towards **supplying electricity for agriculture**. A reported announcement from a local leader about an uninterrupted three-phase power supply for agriculture garnered attention, with tweets labelling it as a “landmark move”.

Recapitulations and Reflections

Several overlapping aspects concerning the production and distribution of electricity occurred sporadically across the States. **Table 18** covers these aspects along with the aspects emerging from the non-predominant portions of the sentiment spectrum, presenting them in the form of themes (nodes) and sub-themes (sub-nodes) to provide levels of abstraction.

Node	Sub-Node
Electricity Generation	Monopoly of enterprises, privatisation of electricity, generation of electricity from sustainable sources
Electricity Distribution	Electricity theft, reported non-payment of dues by government officials, issues around user privacy with regards to bill payment apps
Coverage	Electrification of rural areas
Tariffs	Pleas for subsidies, the need for smart prepaid meters, bill payment on mobile applications
Regularity	Power cut, protests around the restoration of electricity

Table 18: Emergent Themes surrounding ‘Electricity’

While the insights generated are not comprehensively representative of State-wise public opinion, they yield to interesting comparisons with the PAI 2022 ranking of States. Within the Large States categorisation of PAI 2022, the Sub-theme of ‘Control of Material Resources’ maps loosely to infrastructural facilities like electricity. Comparing PAI 2022 ranks with the prevailing public sentiment in Assam, Jharkhand and Bihar, insights emerged congruent. In PAI 2022’s ranking on the Sub-Theme, these States occupied the last rungs of the Index and concurrently appeared to be negatively polarised in opinion as well. Within the Small States categorisation of PAI 2022, on the same Sub-Theme, insights for Manipur were contrary to the largely positive findings for the State in the narrative analysis framework

Relative Ease of Mobility

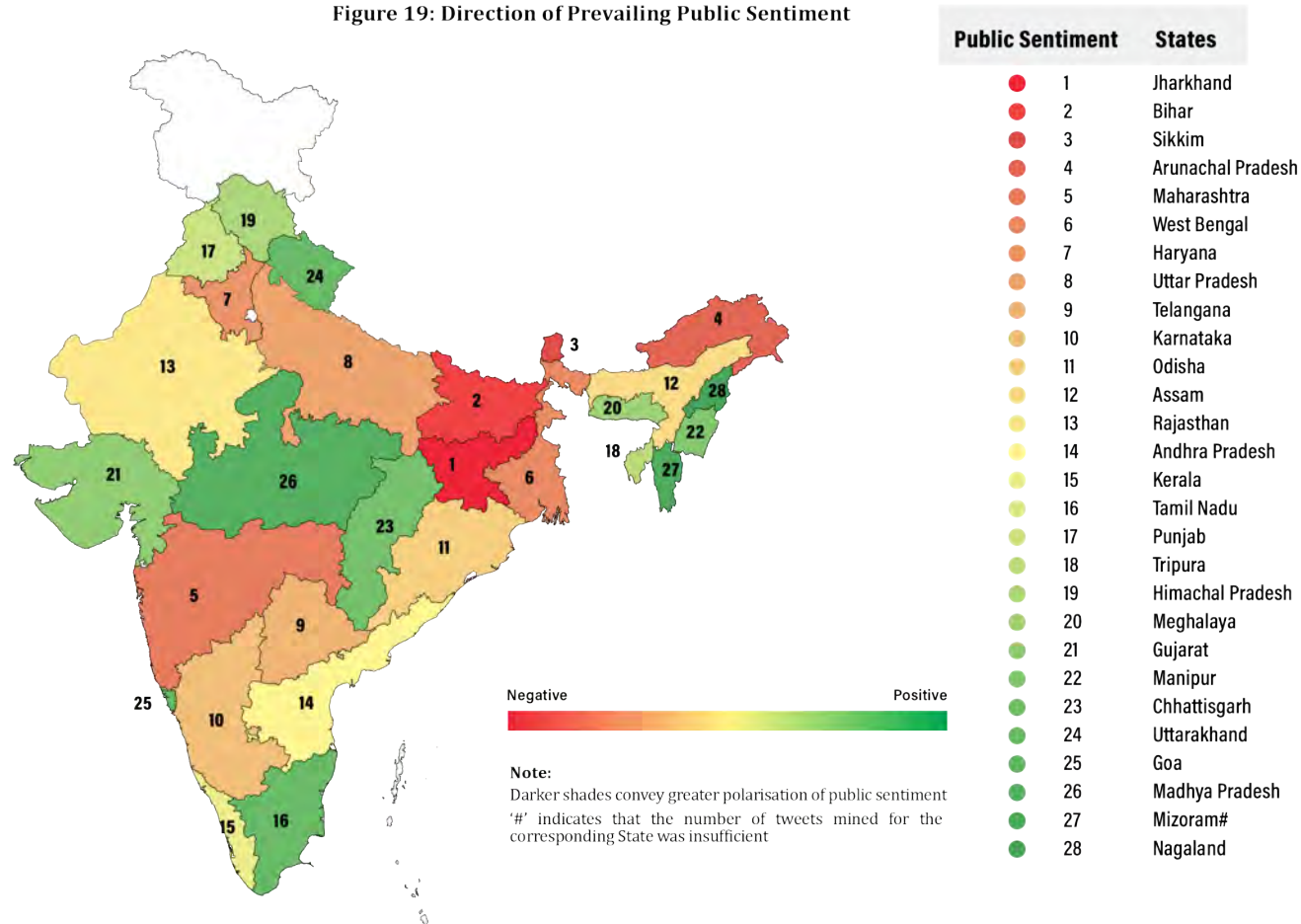
Good infrastructure is the backbone of effective development. Well-built and well-maintained roads spur dramatic effects from their access to hospitals, schools, markets and jobs. Econometric analyses also indicate causality between road investments, production growth and poverty reduction (Fan & Chan-Kang, 2005). The collinearity between roads and economic and social benefits evinces its centrality in public investments.

Roads are a cost-effective mode of transport given the level of penetration in India – 5.23 km per 1000 population as of 2019 (MoRTH, 2022). Institutionally, the Ministry of Road Transport and Highways (MoRTH) discharges and oversees functions relating to roads. Constitutionally, the onus of ‘communications’ that is ‘roads, bridges, ferries’ resides with the States via the State List under the Seventh Schedule. As an extension of the same, States are also authorised to mobilise taxes on the movement of ‘goods and passengers carried by road’. The Centre, however, dictates the ‘rule of the road’ and is the primary guardian of ‘national highways’ under the aegis of the Union List of the Seventh Schedule.

Given the permanence of road development and maintenance in development discourse, public sentiment revolving around the theme were assessed. Tweets between January, 2017 and January, 2022 were extracted to yield prevailing opinions on the topic at the State-level.

Figure 19 presents a barometric visualisation of the direction of public sentiment on the indicator of

Figure 19: Direction of Prevailing Public Sentiment



‘roads’. On a relative scale of positivity, Nagaland fares well while Jharkhand languishes. Tweets mined for Mizoram, although polarised, were far too few for analysis.

Discomforts: Slow-moving traffic, potholes and bribes

There emerged a prevailing negative bend of public

opinion on roads in **Jharkhand**. The public appeared exasperated by **poor traffic management** exclaiming- “Morning to evening, just traffic”*. This was a pertinent refrain in the State capital, Ranchi. A segment of users blamed this on poor road conditions; other accounts held traffic control personnel accountable for apathy claiming that they were “mere observers”. There were insinuations of

bribe-seeking with one user jeering that the traffic police were *“bribe-seekers who just worry about money and never about jams”*. Many contended that *“challans”* (receipts) were not issued on the site of violation and bribes were sought instead.

Potholes emerged as an incessant cause of discomfort to travellers and potential sources of accidents, with one user in the State questioning if they were a *“must for New India”* *. Reports of **road accidents** were pertinent in the narrative. The State indeed had the 4th highest severity of road accidents in the country with 69 road accident deaths per 100 accidents (MoRTH, 2020).

Bihar shared Jharkhand's **pothole** woes. A chorus echoes how *“dangerous potholes”* and *“torn-up roads”* underlaid traffic congestion. Some wondered aloud how the local budget was being utilised if roads were still getting *“washed away”* during rains. One hinted at the hypocrisy of the State's traffic police checking for helmets but not ensuring road repairs, complaining that it was *“unfair to check compliance from one side while the other side remains non-compliant”*.

Traffic management was recurrently critiqued. Lambasting the **behaviour of traffic control personnel**, one user in Bihar interjected that they should *“act as saviours not goons”*. Local reports indicated that traffic management on roads leading up to the Patna airport were

particularly poor. Some reportedly missed flights on account of the same. Examinees, Board-students and National Eligibility Entrance Test (NEET) aspirants appeared to live in a constant fear of missing their exams.

Abstracting from the tweets, **Gandhi Setu** – one of the longest river bridges in India connecting North Bihar with South Bihar- seemed to be a **congestion hotspot**. Since the bridge was the *“lifeline”* of frequent travellers and locals, reconstruction activity along the bridge had apparently disrupted their lives and livelihoods; one maintained that *“traffic at Gandhi Setu bridge has caused total failure for industrial output in Hajipur Industrial Area and caused millions to lose their job”*, others suggested that the authorities – the Central Government and National Highways Authority of India in this case- reconsider demolition of other flanks of the bridge till a parallel route was underway.

Tweets in **Sikkim** too gave the impression of being monopolised by negative public opinion. On investigation, however, most tweets pertaining to the theme in the State were **localised reports of accidents**. These were reports of vehicles falling into gorges or tourists and locals meeting with accidents. Supposedly however, it was not for want of following traffic rules or quality of roads as much as it was an innate function of the topography of the State. One user summarised it- *“tough terrains...every turning seeks special attention to prevent accidents”*.

Highway to Success

State initiatives in **Nagaland** and **Goa** received applause along related veins of thought. In Nagaland, netizens seemed appreciative of traffic personnel's **self-motivated effort** to fill potholes. In Goa, the traffic personnel were **creative**, in customising posters and in donning costumes for road safety; a cop reportedly dressed as *‘Yamraj’* (Hindu God of Death and Justice). Some tweets drew parallels with metropolitan cities in nearby States, judging Goa's traffic favourably.

Madhya Pradesh too was adjudged positively. The State and its personnel appeared to encourage **volunteers**. In the pre-COVID period, volunteers were engaged for road safety awareness; during COVID volunteers helped impose COVID-appropriate behaviour on roads. The State's **traffic management efforts** were also lauded- *“really impressed by Indore's clean wide roads, well-regulated traffic and superfast airport access”* *- with users calling on other States to follow suit.

Recapitulations and Reflections

Narratives surrounding roads leaned towards the negative side. Roads inherently take on a negative connotation by virtue of their close association with accidents and deaths. However, there were optimistic accounts too- of efficacious traffic management, efficient personnel and local innovation. Opinions about some roadworks – like Gandhi Setu- were directed at the Centre, and most others were directed at the State Governments. **Table 20** summarises the broad themes (or ‘nodes’) that emanated from the dissection of tweets as common across all States, alongside sub-themes (or ‘sub-nodes’) that populate it.

Nodes	Sub-Nodes
Road Safety	Accidents, traffic violations
Road Conditions	Potholes, torn-up roads, road repairs, wide roads
Traffic Management	Traffic congestion/jam, hawkers/ <i>thelawalas</i>
Traffic Personnel	Bribes, apathy, inaction, efficient management, creative solutions

Table 20: Emergent Themes surrounding 'Roads'

While the insights generated are not comprehensively representative of State-wise public opinion, they yield to interesting comparisons with the PAI 2022 ranking of States. Within the Large States categorisation of PAI 2022, the Sub-theme of 'Control of Material Resources' maps loosely to infrastructural facilities like roads. The second and third to last ranks of Jharkhand and Bihar respectively on the Sub-theme were consonant with the largely negative public sentiment. Within the Small States categorisation of PAI 2022, on the same Sub-theme, insights for Goa aligned loosely with the largely positive findings for the State in the narrative analysis framework. However, insights between PAI 2022 Small States' rankings and narrative analysis appeared incongruent for Sikkim and Nagaland – the former of which fared relatively well in the rankings but not in public sentiment and conversely for the latter.

COVID-19: Prevention and Cure

The COVID-19 pandemic caught health systems the world over off-guard with its sudden emergence in early 2020. A crisis like no other, COVID-19's unexampled nature and lack of parallel in recent history left even the most advanced nations -let alone emerging nations- scrambling for appropriate policy responses. Amidst a dense haze of uncertainty, until such time as the subtleties of the contagion were deciphered, '*lockdowns*' became the order of the day. The negative externalities of these '*lockdowns*' through restrictions on human mobility bore heavily on the state, market and economy. Embroiled in such controversies, '*lockdowns*' eventually came to be seen as a non-pharmaceutical deferment measure to bide time. It was only through '*vaccines*' that prevention was adjudged possible (Fu et al., 2022; WHO, 2020).

India joined the lightning-fast quest to procure and develop vaccination solutions in the face of the pandemic. Two vaccine candidates - the indigenous '*Covaxin*' by Bharat Biotech and the Oxford-AstraZeneca formula-based '*Covishield*' - were approved for emergency use in early 2021, followed by Russian-made Sputnik V (Chand, 2021). India's vaccination drive started on 16th January, 2021 (PIB, 2021). The preferential order of roll-out saw frontline workers receiving the earliest rounds of vaccination, followed by those above 50 years of age and those below 50 years with co-morbidities and finally to the sub-50 years of age population (MoHFW, 2020). Vaccine availa-

bility, vaccination status and disease epidemiology were managed using locally innovated digital tools such as CoWIN and Aarogya Setu (MoHFW, 2022).

The discourse on public health management apropos the federal edifice of India may be considered a play in two acts with centralising and decentralising counter-currents. Constitutionally, the configuration of Centre-State relations in the Seventh Schedule places the mantle of '*public health*' on the States through List II of the Seventh Schedule. Concomitantly, 'prevention of the extension from one State to another of infectious or contagious diseases' is mapped synergistically to the Centre as well as States through the Concurrent function of List III.

The sequential waves of COVID-19 saw the pendulum of the State Governments' role oscillating between relative absence in the first wave to abrupt decentralisation and autonomy in the subsequent waves (Sahoo & Ghosh, 2021). During the first wave, the Centre exercised its federal initiative in vaccine development and procurement, knowledge production and standard-setting to mitigate inter-state externalities. These sensibilities, however, underwent a paradigm shift in the second wave; the onus of immunisation against the virus was transferred de facto to the States, making them the owners of their respective vaccination drives (Tillin, 2021).

The States were called to the fore. Tasked with the mammoth challenge of inoculating their population, States marshalled essential resources, life-saving medications and oxygen supply; they mobilised vaccination drives. In this campaign, some States had more success than the others. Even as the pandemic birthed a second wave of cataclysm, States tried to palliate its effect through vaccination. As States battled shortage of vaccines and strained to dispel vaccine hesitancy, their efforts spawned wide-ranging opinions. Public tweets between the inaugural roll-out in January, 2021 and the projected end-date of achieving full vaccination a year since in December, 2021 were scrutinised (The Indian Express, 2021).

Figure 21 presents a barometric visualisation of the direction of public sentiment on the indicator of 'vaccination drive'. On a relative scale of positivity, Manipur and Tripura emerge as front-runners; Sikkim and Maharashtra on the other hand, languish.

Vaccine Roll-out: Anti-bodies or Anti-States?

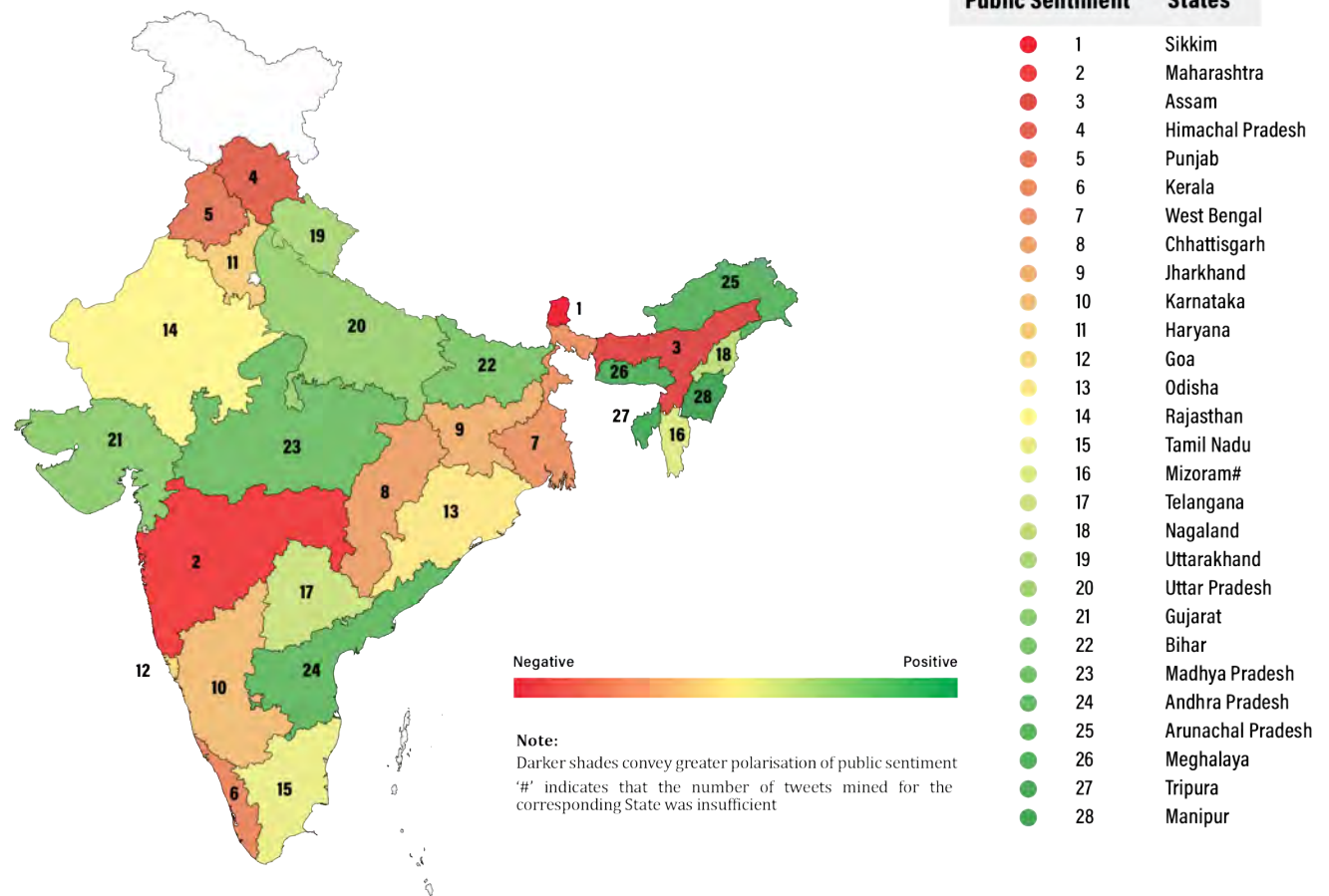
In Sikkim, users quizzed the **practicality of having lockdowns** with restrictions on transport while simultaneously holding vaccination drives, urging others to "imagine booking slots after much difficulty but not having transportation to travel to the centre". There were complaints of **inadequacy of the scale of vaccination** for the young cohort and an indication of **inter-regional inequities in vaccine distribution**. One user remarked,

"No slots available for our district whereas our fellow brother and sisters have been successfully booking their slots in the capital district. Why such disparity?"

Maharashtra appeared decidedly ill-disposed towards the vaccination efforts underway in the State. Users in the State berated **preferential**

treatment for "blue ticks" or big names at vaccination camps. One user was confused at the non-availability of vaccines despite booking slots, speculating that the camps were "entertaining walk-ins". Users chastised office-holders who wrongfully managed to get kith and kin vaccinated despite their ineligibility. There were localised complaints of the State's **inability to ensure social distancing at vaccine drives**. Issues of

Figure 21: Direction of Prevailing Public Sentiment



misappropriation of vaccines by party members to arrange their own campaigns were brought to light. Users also betrayed **exasperation with continuous lockdowns**, citing heavy blows to livelihoods. Quoting vaccination figures, one user remarked that any further restrictions on mobility and transportation facilities “*would not be in public interest*”.

In **Assam**, there appeared a diverse medley of complaints. Some users appeared desperate over **vaccine shortages** while others appeared frustrated with the **management at vaccination centres**. Instances where slots had been booked but were unavailable on reaching the site were reported; one user called this “*unacceptable harassment*” especially for older people. Other contestations included the **conduct of elections and violation of COVID-appropriate behaviour by politicians at rallies and in public**.

In **Himachal Pradesh**, much was expressed on **management at inoculation sites**. Some noted the **unavailability of staff** that caused delays and queues. Others marked **poor crowd management** and flouting of social distancing norms at public places such as schools, testing and vaccination centres, maintaining that “*being able to get oneself tested without the fear of contracting the virus is a basic expectation*” *. Users lambasted a supposed **delay in vaccinating the younger cohorts** or the “*workforce*” despite their eligibility; this in their opinion, would “*severely disrupt efforts to control second wave*”. Locals in Himachal Pradesh also expressed their *censure of tourists* who “*walk around,*

without wearing masks/ adhering to social distancing protocols” *.

Punjab seemed to be embroiled in a ‘**vaccine scam**’. An anguished citizen remarked- “*while the common man is running from pillar to post to avail vaccines, State Government is busy minting money*” *. By way of explanation, a user offered that it was the “*decision of the Chief Minister’s Office to sell vaccine to private hospitals to earn profits that smelled of a scam*” *. Users exclaimed that the scam would “*risk lives as well as livelihoods*”. There were impassioned cries for the resignation of the then State Health Minister and strongly-worded condemnation of the “*black marketeers*”.

Success Stories from the Vaccine Roll-Out

In **Manipur**, local tweets accorded praise to the State Government. Tweets hinted at **local innovations**. Apparent usage of drones for vaccination delivery efforts were lauded. Indeed, indigenously developed drones were used to deliver vaccines to compromised and remote areas on an island on Loktak Lake (WHO, 2021).

Local tiers of governance pioneered solutions to ensure efficient vaccination campaigns. Sepahijala district in **Tripura** operationalised 24/7 call centres to answer COVID-related queries, from home testing to isolation.

Some tweets in **Manipur** also sought to **dispel vaccine hesitancy**, dissuading locals from giving

into “*false rumours*” regarding the safety of vaccines. This was, in fact, a pervasive theme across States. In **Tripura** as well, the vaccinated urged all to not be “*afraid to take the COVID vaccine*”, citing absence of side-effects. Many took pride in “*the indigenously produced vaccine*”. In **Andhra Pradesh** too, users congratulated the “*patriotic services*” of the institutions who developed the vaccine in India. **Gujarat** applauded **the efforts of the scientific community** in developing the vaccines, congratulating the “*great efforts by vaccine warriors*”.

In **Meghalaya** and **Arunachal Pradesh**, tweets congratulated the State and Central Governments on reaching vaccination coverage milestones.

Recapitulations and Reflections

Narratives surrounding vaccination were noticeably critical of the efforts and efficiency of both Centre and State Governments, more so towards the former. Centre-State relations walked a tightrope as the pandemic progressively reached a climax. The role of the Centre emerged as a recurrent subject of ridicule, especially post the deregulation of vaccine procurement. When in April, 2021, the Centre announced a “*liberalised*” strategy for universal vaccination, “*all stakeholders were given flexibility to customise to local needs*” and were henceforth allowed to directly procure vaccines from manufacturers (MoHFW, 2021). This action was read by some as “*disappearance of the political leadership*” *. By way of explanation, the Centre offered- “*Health is a state subject & the liberalised vaccine policy was a result of the incessant requests being made by the states to give states more power*”

Algorithmically, fewer number of tweets were identified as strongly or weakly positive while a sizeable majority was identified strongly or weakly negative and neutral. Neutrally-identified tweets were usually in the form of queries- on vaccination centres, slot or in the form of self-declarations of successful inoculation. Negatively-identified tweets spanned a range of concerns, the nature of which changed in tandem with the policy climate of the nation. Subsequently, 2021 emerged as a study in Centre-State relations. **Table 22** outlines the generic themes (nodes) and sub-themes (sub-nodes) abstracted from an analysis of tweets on India's vaccination drive.

Nodes	Sub-Nodes
Vaccine Development	Premature roll-out of vaccines without established clinical efficacy, conduct of clinical trials, non-approval/import of foreign-manufactured vaccines, pride in indigenous vaccine development
Vaccine Hesitancy	Purported lack of established clinical efficacy, being 'guinea pigs', adverse/side-effects, Government conspiracy, Opposition's purported role in propagating vaccine hesitancy
Vaccine Exports	Appropriateness of exports without vaccinating own population
Vaccine Distribution by the Centre	Purported inequities in vaccine distribution between States, preferential distribution to States governed by ruling party, shortage of vaccines in Opposition-ruled States, fake shortages in Opposition-ruled States
Vaccine Procurement	Differential pricing (lower cost for vaccine procurement by Centre vis-à-vis States)
Vaccine Politics	Promises of free vaccines during elections, vaccination drives by parties/politicians, preference to ruling party-governed States, conduct of elections
Vaccine Procurement and Distribution by States	Diversion of funds to private hospitals, preferential treatment in vaccinating celebrities/politicians, regional inequities and lack of access in remote areas
Management at Vaccination Centres	Lack of social distancing, unavailability of slots despite prior booking, entertainment of walk-ins, long queues, preferential treatment to celebrities and their acquaintances
Application Failures	Inability to book slots, glitches
Dispelling Vaccine Hesitancy	Experience-sharing, sharing of vaccination status, discussion on vaccine side-effects
Local Innovations and Successes	Innovations in expanding vaccine availability to remote areas, vaccination campaigns, efficient crowd management

Table 22: Emergent Themes surrounding 'Vaccination Drive'

As the Centre spearheaded **vaccine development efforts**, in the inaugural phase of the roll-out, it faced flak for the pointed absence of data on the clinical efficacy of indigenous vaccines. It piqued **vaccine hesitancy**. A unison of tweets lambasted the lack of proven efficacy of the vaccine claiming that they were "guinea pigs" in a "pan-India clinical test". In fact, it was only in early-March, 2021, shortly after the vaccination drive had been opened up to the older cohort of the country that the interim results of efficacy trials were disclosed to the public (Bharat Biotech, 2021; MoHFW, 2021).

On a related note, another much contended theme was that of **vaccine procurement**. India's decision to not import foreign-manufactured vaccines by Moderna, Pfizer and Sputnik earlier on in the pandemic troubled many users. **Export of vaccines** under the aegis of the Central initiative Vaccine Maitri emerged as a related sore point for netizens. A unified chorus echoed that India was not "doing enough yet to vaccinate its own vulnerable population"; it was helping the "neighbourhood" instead as an exercise in building "image globally".

These veins of sentiment - of not importing foreign-made vaccines and exporting indigenously-manufactured ones- tied in closely with cries of **vaccine shortage**.

Some pointed out how this shortage could "cascade" into another wave as due dates for subsequent vaccination doses approached closer, and in some cases, passed. Some smelled a whiff of ploys for political interest and alleged that Opposition-ruled States were "crying vaccine shortage just to pressurise the Centre".

The **prioritisation of vaccine administration** for the older cohort was not very well-received either. A proportion of users opined that taxpayers had the first right on immunisation against COVID-19; for them, the young had been left with "no jabs" and "no jobs".

Additionally, incidents of **application failures** were reported too. Some users found themselves unable to "take advantage of registration and appointment booking" through CoWIN.

Assembly Elections in election-bound States meant rallies and **mass gatherings** all of which were widely condemned in the State. Further, 2021 Assembly Elections in West Bengal, Kerala, Assam and Tamil Nadu saw promises of **free vaccines in the election-bound States**, prompting not only the citizens to criticise "jumlabaa-zi" (rhetoric) but adding to the legal

discourse on *'freebies'* and their macroeconomic burden (Rajagopal, 2021).

Across States, **differential pricing of vaccines** was a bone of contention. Twitter users in some States- especially Opposition-ruled States- complained that while the Centre procured vaccines from the manufacturers at a lower cost, the same was priced progressively high for the State Governments. Some users termed the vaccine pricing *"anti-people"* and *"anti-states"*. Some users exclaimed how the *"discriminatory pricing"* was *"extorting from the States"* even as *"endless pyres burnt"*. By way of explanation, however, an affidavit maintained that the Central Government *"places large purchase orders as opposed to the State Governments and/or Private Hospitals and therefore, this reality has some reflection in the prices negotiated"* (MoHFW, 2021).

"Exorbitant" pricing, "money making" and "scams" by private hospitals were other themes of contestation. One user in Goa maintained- *"Goa is facing unavailability of vaccines; and now this business of pandemic"* while another wondered how private hospitals could deviate from prices fixed by the Government. In **Haryana** too tweets flagged *"scams"* featuring private hospitals, reporting scams where slots were made available for ineligible cohorts and long queues persisted despite the Central prior slot-based appointments.

Users also reported experiences of felt **"injustice" in vaccine distribution**, claiming that States not governed by the Ruling Party were at the short end of the stick. For a handful, this amounted to *"politicking with life"*. Despite the gloom, however, local efforts to innovate and increase vaccination coverage received appreciation.

While the insights generated are not comprehensively representative of State-wise public opinion, they yield to interesting comparisons with the PAI 2022 ranking of States. Within the Large States categorisation of PAI 2022, the Sub-theme of *'Securing Social Order for Promotion of Welfare'* maps loosely to health, of which *'vaccination drive'* may be considered an extension. Kerala topped rankings on the Sub-theme; however, in the analysis of narratives, emerged non-polarised with a neutral disposition. Within the Small States categorisation of PAI 2022, on the same sub-theme, Uttarakhand ranked first, aligning loosely with the largely positive findings for the state in the narrative analysis framework.

The Conundrum of Learning in Peri-COVID Times

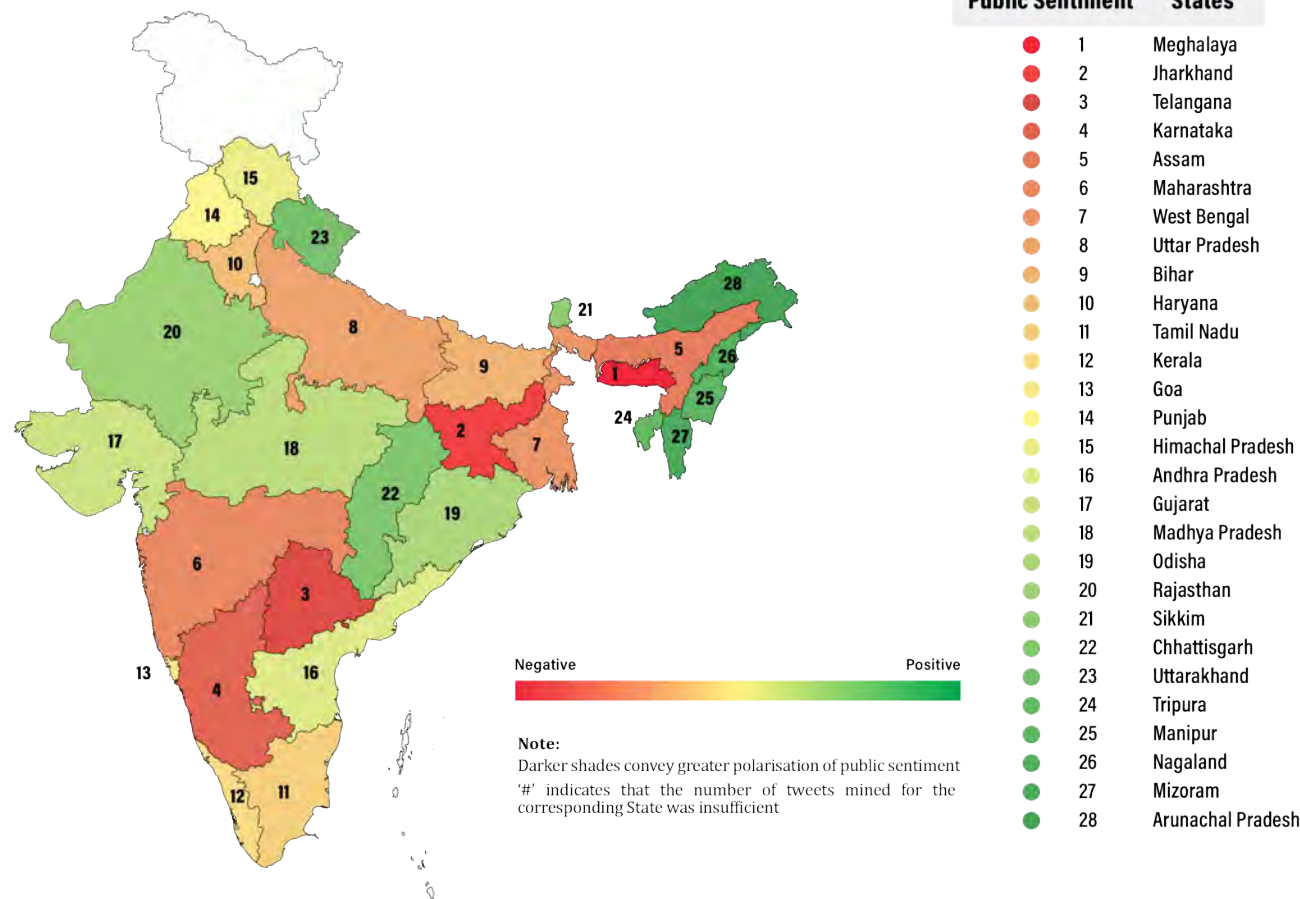
The COVID-19 pandemic was a litmus test for Governments the world-over. India's federal architecture calls for shared responsibility between the States and the Centre on matters pertaining to education, as indicated by its inclusion in List III of the Seventh Schedule of the Constitution of India. When the pandemic forced school closures and triggered learning losses, States were coaxed to innovate interventions that helped their polity and demography to tide over the disruption (APF, 2021). As the trough and crest of the pandemic allayed to form a persisting dip, schools across the country reopened.

Policy decisions charted between the original unfolding of the COVID-19 crisis and its subsequent decline were met with polarising opinions. On March 18, 2020, the Departments of Higher Education/School Education & Literacy issued a notification to reschedule approaching examinations to a later date upon reconsideration of the situation (MHRD, 2020). The notification read-

"While maintenance of academic calendars and exam schedule is important, equally important is the safety and security of the students who are appearing in various examinations, as also that of their teachers and parents".

While States followed suit, they also shouldered the onus of making policy inventions that would mitigate the adverse effects of school closures. Digital and e-learning initiatives became the order of the day with States at the helm of such sea changes. Digital education emerged as a mammoth challenge in the Indian context with widely

Figure 23: Direction of Prevailing Public Sentiment



disparate implications at the State-level given the variations in digital penetration and usage. Nationally, 60 persons per 100 population were internet subscribers, with a stark rural-urban divide; as of December, 2021, the Telecom Regulatory Authority of India (TRAI) reported 37 rural and 104 urban internet subscribers per 100 population (TRAI, 2021). Use of digital services also

appear to be gendered, with only 33% women against 57% men nationally reporting having ever used the internet in the NFHS-5 (2019-21).

Amid debates on the trade-offs between keeping true to the academic calendar and curricula and managing the health of school-goers, schools re-opened decisively in the current academic year of 2022-23. A dis-

section of geo-tagged opinions shared on Twitter since the initial onset and public uproar on COVID-19 in March, 2020 up to March, 2022 revealed contrasting sentiments.

Figure 23 presents a barometric visualisation of the direction of public sentiment on the indicator of ‘education’. On a relative scale of positivity, Arunachal Pradesh emerges as a front-runner while Jharkhand languishes. On a relative scale of negativity, Meghalaya outranks other States.

School-goers’ Woes

Netizens in **Meghalaya** tweeted a litany of protestations against the move to **online education**. One user decried “*the very education called on-line is a problem for rural areas*”. Several opinions emerged in broad agreement with this school of thought, foregrounding the **lack of infra-structural preparedness** – working computers and internet connection-that online education mandates. Another user lamented the **poor learning outcomes** that such a mode entails, remarking “*honestly, I didn’t learn anything through online classes*”*.

These discourses populate a larger public debate on the circumstances and effects of digitising education. The **coverage of internet services** in Meghalaya reported by TRAI as of 2021 is one of the poorest in the country after Chhattisgarh, Jharkhand and Tripura, with 20 internet subscribers per 100 persons, a stark contrast against the national average of 60 per 100 persons. Further, UDISE+ 2020-21 reports indicate that only around

4.4% of the schools in Meghalaya have access to internet, a far cry from the national average of 24.5%, which is indicative of the proclivity to use digital aid in education.

Telangana appeared to feature prominently in the spectrum of dissenting voices. However, a substantial proportion of tweets were directed against the **National Education Policy 2020 (NEP 2020)** which is a Central policy calling for reforms in school and higher education systems across the country. A user criticised what s/he understood as a lack of “*clearly defined milestones*” in the NEP 2020, lambasting the document’s “*gloss and appearance*”, while others inveighed against what they called the “*saffronisation*” of education.

A much-liked tweet alleged a **diversion of funds from education and health to infrastructural projects** in Telangana. Another band of tweets pointed to undelivered promises by the State to provide financial assistance to teachers during the pandemic. A peculiarity emerged in the form of tweets pertaining to youth and student suicides.

A cluster of tweets called for the **cancellation of Board exams** - State as well as Centre- and the postponement of **National Eligibility cum Entrance Test (NEET) and Joint Entrance Examination (JEE)** amid COVID-19 concerns. Resonating with voices from other States, users in Telangana also expressed reservations with online education, citing digital divide and consequent inequitable access to education by margin-

alised sections. Telangana does in fact have one of the poorest internet subscriber bases of nearly 29%, with a wide rural-urban gap (TRAI, 2021).

In **Karnataka**, there seemed to be an uproar over the **conduct of exams** by a collegiate public state university amid COVID-19 concerns. A segment of the population called for the resignation or dismissal of the Minister in-charge. Many lamented the **erosion of learning outcomes** and the **discomfort of reading e-books** and Portable Document Formats (PDFs), while others expressed consternation with **rural connectivity**- or the lack thereof- to access education online. Rural digital access in the State indeed appeared to be languishing, as indicated in TRAI’s 2021 report with 48 internet subscribers per 100 persons in rural areas, against nearly 108 in urban areas, a departure of more than 50%.

Tweets from **Maharashtra** reflected a negative bend of opinion. A much-liked tweet called for an end to “*rhetorical speeches*” and “*bluff and bluster politics*”. Recurring opinions called attention to **location-specific infrastructural deficiencies**, beckoning authorities to fix roads and potholes to make schools accessible and to clear publicly disposed garbage.

Another cluster of Tweets called aggressively for the **cancellation of Board exams** and for reviews of decisions pertaining to reopening of schools. Accordant tunes echoed scepticism over who would “*be responsible if students get infected with COVID-19 while taking exams or while traveling for exams*”*; one user expressed anguish over the conduct of exams in April, 2021, proclaiming- “*ye chahte hai ki student’s ka year*

kharab na ho bhale hi life kharab ho jaye” [sic] (they want to ensure adherence to the academic year at the cost of life).

In **Jharkhand**, **teachers’ woes** were also widely discussed. There were localised reports of teachers not being remunerated for months during COVID; some were reportedly called to schools to register their attendance, even though schools remained closed to students. Users appearing to be concerned parents also registered dissatisfaction with **payment of fees** despite school closures; this was a recurrent theme in **Assam** as well.

Oases of Educational Innovations

Tweets against the state of education during the pandemic in **Arunachal Pradesh** appeared optimistic. Users lauded the efforts of the Government, district administrations and civil sector volunteers in ensuring the **continuity of education during the crisis**. Roadside public libraries were reported to have benefitted residents in the State; a horde of tweets appreciated those who donated books to free libraries. There were tweets congratulating local efforts of young volunteers in anchoring online teaching in Changlang under the District Administration’s ‘*Har Ghar mein Shiksha*’ initiative.

Users in **Mizoram**, **Nagaland** and **Manipur** too had a positive outlook as they celebrated **local wins**. In Mizoram, tweets congratulating Jacinta Lalengzami on being a recipient of National Awards to Teachers in 2021 garnered attention in the form of likes. In Nagaland, users rejoiced

in procuring Foreign Direct Investment (FDI) in digital education.

In Manipur, tweets appreciating **health and hygiene services volunteered by schools and universities** surfaced. Strides in **extra-curricular activities, sports and vocational training** were also lauded by some users. A proportion of tweets in the State also commended **NEP 2020's push for regional languages** as medium of instruction in schools.

A common pattern emerged across these States -Arunachal Pradesh, Mizoram, Nagaland and Manipur-wherein **inauguration of infrastructure, opening of new schools, procurement of school buses and others were celebrated with tweets**. There were also collective calls for inclusion of a chapter dedicated to North-East India in the National Council of Educational Research and Training (NCERT) curriculum, directed at the Central Governments.

Apart from North-East Indian States, **Chhattisgarh** in India's heartland too recorded positive sentiments. A much-liked tweet applauded the efforts of the State Government in providing **free-of-cost online co-curricular education** to students. Under the '*Padhai Tuhar Dwar*' scheme, the State had enlisted the services of a platform to engage students online in music, arts, dance and others and earned appreciation for it. In Uttarakhand, positively-inclined tweets were a diverse medley, congratulating local win-

ners of competitions and lauding those engaged in spiritual education.

Recapitulations and Reflections

Some of the most debated subjects across the nation in the wake of COVID-19 were the cancellation of Central and State Board exams, postponement of engineering and medical entrance tests (NEET and JEE), online learning and the NEP 2020. Constitutionally, 'education' is uniquely shared between the Centre and the States. Board exams, engineering and medical entrance tests and NEP 2020 map to the policy

prerogatives of the Centre. State Board exams, however, are largely up to the discretion of the State Governments; felt experiences of online learning too are subject to local innovations endorsed by the State Governments. **Table 24** summarises the broad themes (or '*nodes*') that emanated from the dissection of tweets as common across all States, alongside sub-themes (or '*sub-nodes*') that populate it.

On themes of cancellation and postponement of exams and online learning, opinions were more harmonised than polarised, albeit with local nuances. Calls for cancellation and postponement were unanimous even as the intonations and inflections of the tweets diverged. Mildly worded tweets "*requesting the Ministers of Education to please cancel exams as the situation is worsening by day*"* were supplemented by relatively harshly worded ones. Some pointedly highlighted the double standards of Government officials "*meeting online for their safety*" while calling for students to take exams offline.

The nature of problems relating to schooling and collegiate education underwent a sea change, in concert with the ebb and flow of COVID-19 waves. In 2020, anxieties of physical exams pertained to the spread of COVID-19. In the subsequent years, 2021 and 2022, these were rooted in the pitfalls of digital learning and the consequent ineptitude to appear for exams.

Node	Sub-Node
Inequities of online learning	Digital divide, gendered access to digital services and devices, impenetrability of digital services in remote locales, affordability of digital services and devices, power failure
Pitfalls of online learning	Discomfort of reading e-material, lack of classroom experience, poor learning outcomes
Reopening of schools/colleges	Spread of COVID-19, poor placement of mitigation/distancing measures
Cancellation/postponement of Board exams	Digital divide, poor learning outcomes, spread of the virus
Cancellation/postponement of entrance exams	Digital divide, poor learning outcomes, spread of the virus
National Education Policy, 2020	Purported attempt at 'saffronisation', lack of clearly defined milestones, push for regional languages
Strategies/recommendations to manoeuvre challenges presented by COVID-19 to education	Recalibration of academic year, unconditional promotion
Highly localised problems	Infrastructural deficits, academic coverage of North-East Indian states in syllabi
Local innovations	Volunteering initiatives and ingenuities by the state and civil society

Table 24: Emergent Themes surrounding 'Education'

Appeals were made to regional and socio-economic inequities of online education, the inability to cover syllabi and the compromised quality and outcomes of learning online. A miscellany of concerns was expressed by users directed at their governments, some remarking-

*"How can we take offline board exams after 2 years of continuous online classes?" **

*"Students have no study material to prepare for their exams. No access to online classes. Syllabus isn't covered. You want them to give exams!" **

*"We students have been home-bound without books or notes for the last 4 months. Studying from PDF, internet and PowerPoint presentations - creates a lot of pressure on eyes, so how do you propose we appear for final year exams?" **

Users opined their own suggestions to policy-makers. They called for recalibration of the academic calendar. Some remarked- *"Students need a carry over this academic year due to the failure in online education system" **. Some others asked for unconditional promotion to the next class- *"Any sort of online education module is bound to fail because of the inadequate and unequal distribution of technological resources throughout the country. Hence, educational institutes should design their academic calendar so as to #PromoteStudentsSaveFuture"*. State-run schools and universities grappled with these demands, as did the Centre.

Other themes discussed widely on Twitter were innovations by State Governments that evolved in response to the crisis and won acclaim.

While the insights generated are not comprehensively representative of State-wise public opinion, they yield to interesting comparisons with the PAI 2022 ranking of States. Within the Large States categorisation of PAI 2022, on the sub-theme of 'Securing Social Order for Promotion of Welfare' which maps partially to education, Chhattisgarh fared poorly; on the contrary, the State stood out with relatively positive sentiments in the narrative analysis. Telangana emerged second-to-last in PAI 2022's ranking on the sub-theme, faring correspondingly poor in public sentiment as well. Within the Small States categorisation of PAI 2022, on the same Sub-theme, Uttarakhand ranked first, aligning loosely with the largely positive findings for the state in the narrative analysis framework. Insights between PAI 2022 Small States' rankings and narrative analysis also appeared congruent for Arunachal Pradesh, Mizoram, Manipur – all of which fared relatively well– and for Meghalaya, a State that featured relatively poorly in the indicator.

**' indicates text edited for clarity or anonymity*





REFLECTIONS ON THE FUTURE

"If we wish to preserve the Constitution in which we have sought to enshrine the principle of Government of the people, for the people and by the people, let us resolve not to be tardy in the recognition of the evils that lie across our path and which induce people to prefer Government for the people to Government by the people, nor to be weak in our initiative to remove them. That is the only way to serve the country. I know of no better."

Dr.B.R.Ambedkar

(Constituent Assembly Debates, Vol. XI, 64, Nov. 25, 1949)

The Constitution of India has been an almanac in the 75-year-old history of India. As India steps into the 'Amrit Kaal', through the articulate recitation of the aspirations of its people, the Constitution doubles as a benchmark to gauge our accolades as a nation. At the same time, the Constitution is not carved in stone. It is a living document that pulsates with the force of the 105 amendments made to it. The Preamble provides the scaffolding for such amendments.

The Preamble in its spirit is a purpose-setting blueprint, drawing largely from the Objectives Resolution proposed by India's founding fathers in 1946. Amongst other touchstones, the Preamble resolves to "constitute India into a Sovereign Socialist Secular Democratic Republic with a view to secure to all its citizens, justice, social, economic and political..."

Justice is conceptualised to be the 'first virtue of social institutions' (Rawls, 1971). In Indian intellection, 'justice' has found synchronous invocation with 'niti' (organisational propriety and behavioural correctness) and 'nyay' (realised justice) (Sen, 2008). The astute statesman Kautilya in The Arthashastra opined 'justice' to be an indispensable tool for statecraft (Sihag, 2009). PAI 2022 held such postulates of justice, crystallised in the Preamble to the Constitution of India, as its starting point.

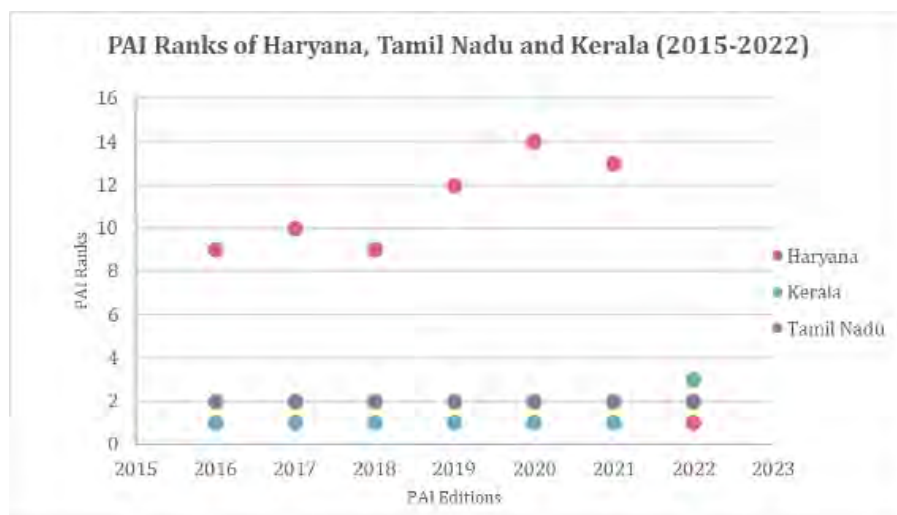
PAI 2022 Results Abridged

In this report, PAI attempted to reconcile the measurement of governance in States with their

adverbial practice of Constitutional mandates. At the top of this line was Haryana, with Tamil Nadu and Kerala finishing at a close 2nd and 3rd position among PAI 2022's 18 Large States. Among Small States, Sikkim appeared to be closer to realising Preambular expectations of 'justice' than nine of its peers. Jharkhand and Nagaland featuring in Large and Small States respectively emerged farthest from these expectations in the logic of PAI 2022's analysis.

States with unassuming ranks appeared to be quietly carving a space for themselves too. Among Large States, Chhattisgarh secured 1st position in the 'Economic Justice' Theme, Karnataka in the 'Social Security and Social Insurance' Sub-theme and Punjab in the 'Control of Material Resources' Sub-theme. Among Small States, Uttarakhand topped the 'Securing Social Order for Promotion of Welfare' Sub-theme, Goa aced 'Control of Material Resources' Sub-theme and Arunachal Pradesh maintained the most favourable 'Revenues of State'.

Some of these ranks require unpacking. Haryana's feat is notable- independently as well as relatively. The State has not only fore-fronted the Index this year, managing to secure 2nd place in 'Economic Justice' and 'Social Justice', languishing albeit in securing 'Political Justice'. The latter insight has found consonance in PAI 2021 where the State ranked last among Large States in 'Rule of Law'- a metric that alluded to the incidence of crime and its corollaries. The State has an unshakeable notoriety in this respect (The Tribune, 2019). Nonetheless, in its overall rank, Haryana never veered into the initial rungs of the six editions of PAI between 2016 and 2021. In 2016 and 2018, it ranked 9th, making it the State's best performance in PAI until this year.



At the same time, relatively, Haryana has dislodged the position of States that have historically topped PAI and numerous other developmental, governmental Indices with Kerala being a prime example. Kerala's 1st rank in PAI stood uncompromised up till last year. This year, however, the State ranks 3rd behind Tamil Nadu.

The first prong of explanation in unpacking these ranks is the paradigm shift in design and methodology. This shift was warranted in the light of exciting discoveries of underexploited analytical tools and the availability of unexplored data fields. While core government service delivery indicators - from sanitation to drinking water - remain untouched across editions of PAI, the remaining palette of indicators was quite mixed. The methodology in PAI 2022 deploys Multi Criteria Decision Making (MCDM) vis-à-vis Principal Component Analysis (PCA) and Factor Analysis in earlier renditions.

These turnabouts are likely to have affected ranks.

The second prong of explanation relies on the wisdom of other indices in the public domain that complement the ranks. In the Good Governance Index 2020-21, Haryana ranks 4th, ahead of Kerala and Tamil Nadu among 10 States (DARPG, 2021). In the SDG India Index, 2020-21, Haryana emerges a 'Front-Runner' although it lagged in

scores behind some other States (NITI Aayog, 2020-21). In subject-specific indices like the India Innovation Index 2021, Haryana emerges 3rd among 17 States, behind Karnataka and Telangana (NITI Aayog, 2022); in the Export Preparedness Index 2020, it ranks 7th across 36 States and Union Territories despite being landlocked (NITI Aayog, 2021). The latter of these indices corroborate with the highly favourable assessment of Haryana in 'Economic Justice' in PAI 2022. While these ranks do not necessarily rank the State first, they indicate sure-footed signs of the State's onward and upward march.

Delta: Convergences and Divergences

Kerala's 3rd rank is best explainable by a dissection of temporal trends of its performance. A Delta Analysis was undertaken to measure

changes in governance-related metrics for the 18 Large States and 10 Small States of PAI 2022. The 'delta' for available indicators between 2016 and 2021 was calculated using logarithmic differences; following this, an Index mimicking PAI 2022's State Governance ranking model was deployed. The methodological orientation, indicator selection and results of the same are detailed in the Annexure titled 'Delta Analysis'.

Among 18 Large States in the Delta Analysis, Kerala ranks last. This implies that Kerala has registered the lowest modicum of progressive change on selected indicators. While there might be worrying correlates of this trend, this rank may alternatively be read as a sign of success (Vollrath, 2020). Slow positive growth in selected indicators might be an indication of Kerala having amicably exploited its opportunities (Parker, 1955). It may also indicate a smoother head-start than its peers had. When the British left, merely 13% of India was literate; however, nearly 50% of Kerala's population could claim this achievement. This left languishing States with a wider berth for improvement and for catch-up growth (IMF, 2012).

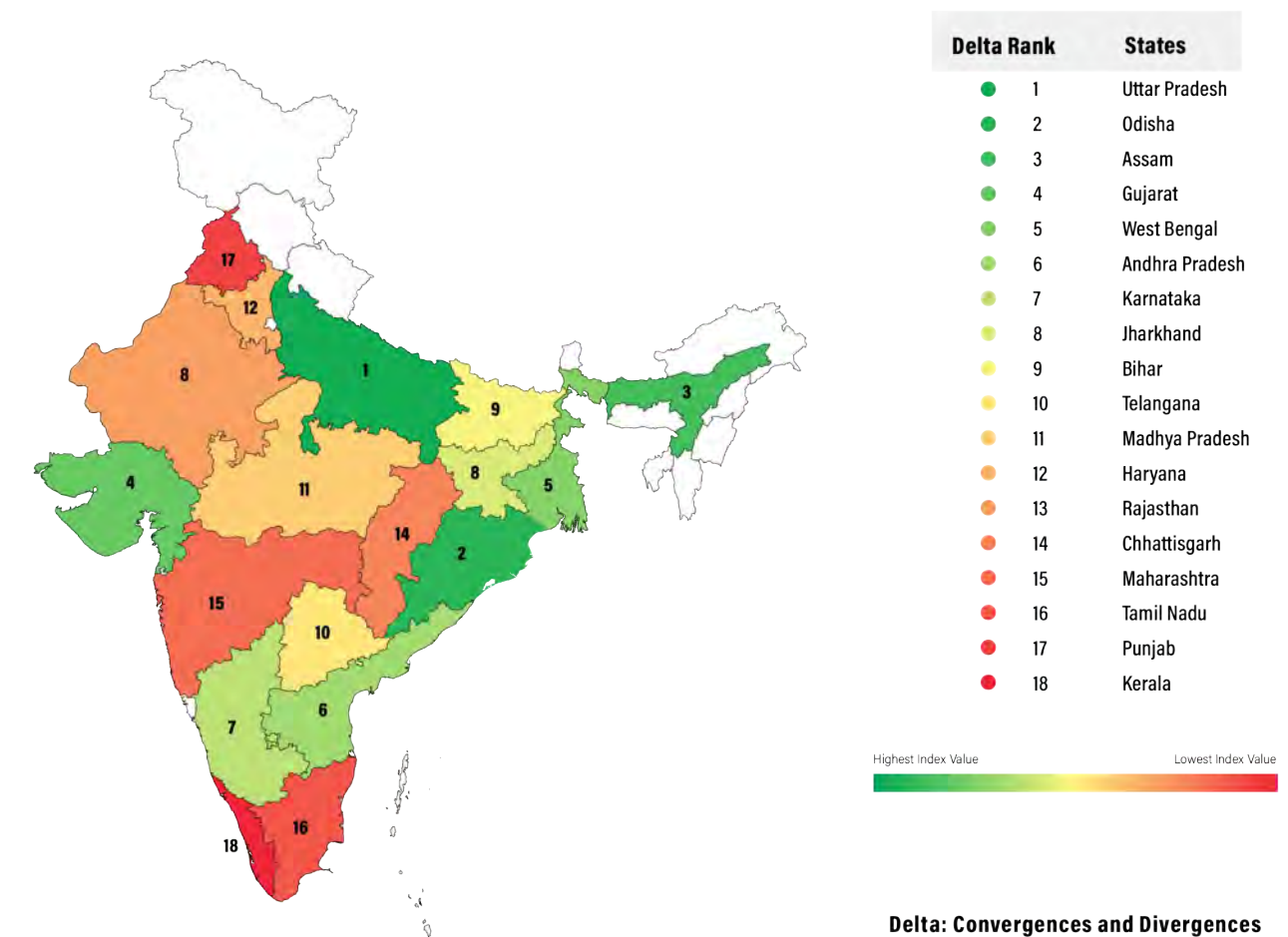
The results of the Delta Analysis for other Large States emerge consistent with this intuition. The Analysis weighs recent efforts of Uttar Pradesh most favourably, ranking it 1st among 18 Large States. The performance of Uttar Pradesh in PAI 2022 (12th rank) as well as its other renditions left much to be desired. Odisha's case is comparable; preceding Uttar Pradesh by one rank at 11th in PAI 2022, Odisha ranked 2nd in Delta Analysis. Such insights bode well for these States and indicate policy steps in the right

direction. West Bengal, Assam and Gujarat too – ranking 17th, 13th and 10th respectively in PAI 2022- appear to be on an assuring path of progress along key governance parameters. Jharkhand, Maharashtra and Bihar, however, as poorer performers across PAI 2022 and Delta Analysis, can afford to mobilise policy efforts with renewed zeal.

Among 10 Small States, Manipur ranks 1st and Nagaland 2nd in the Delta Analysis. Seeing as both these States occupied the lower rungs in PAI 2022, their remarkable rate of progress on metrics of governance is laudable. Although Nagaland occupies the last position in PAI 2022, it can draw complacency from the fact that it is improving its lot, slowly but surely. Sikkim, Himachal Pradesh and Uttarakhand occupied 1st, 2nd and 3rd ranks respectively in PAI 2022 and appeared to assume middling rates of improvement in the Delta Analysis. Tripura's second to last rank in PAI 2022 and last rank in performance delta as well should serve as an alarm; the State needs to chart greater headway in governance outcomes.

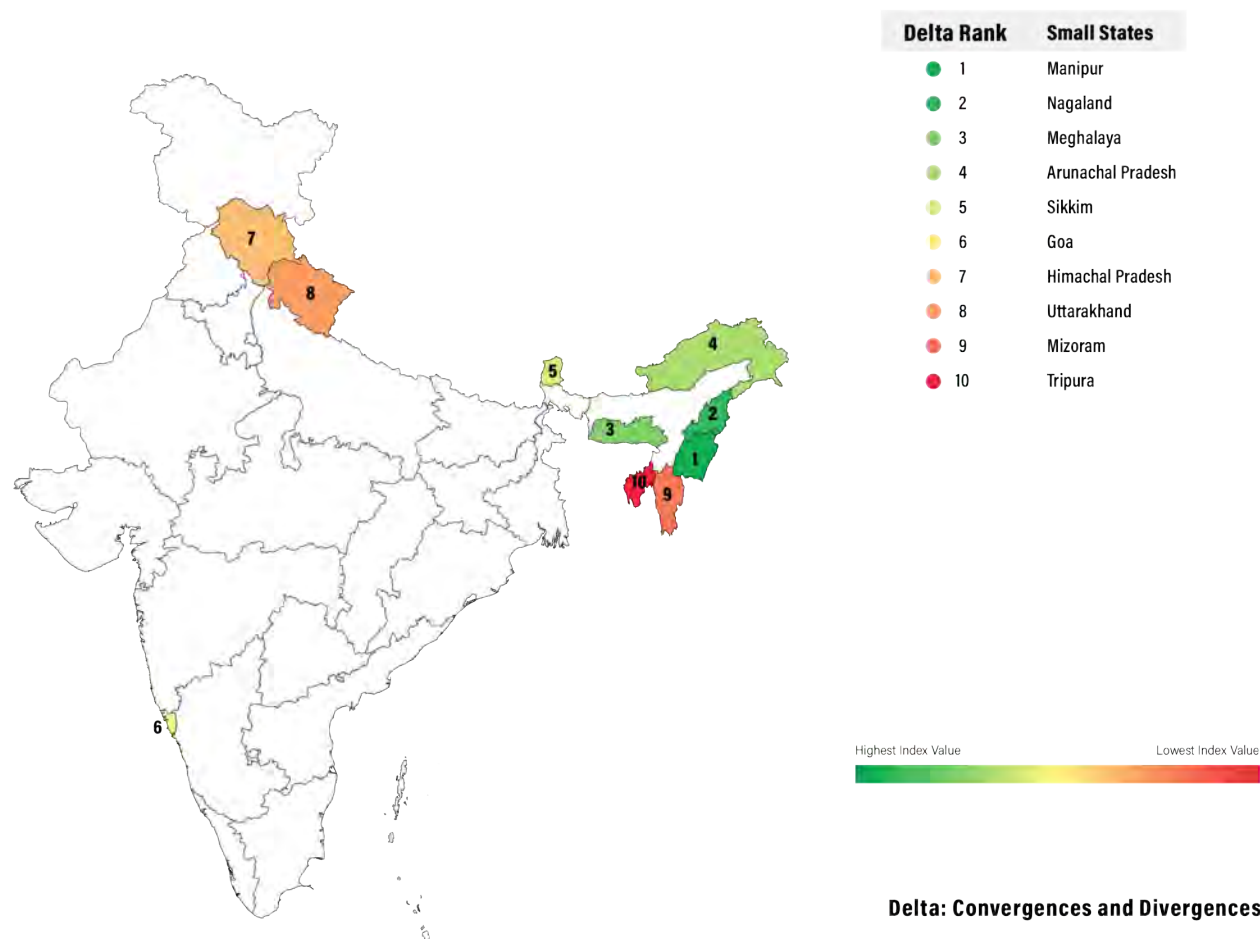
The Weight of Democratic Sensibilities

PAI 2022's ranks, however, should neither serve as a source of complacency for front-runners nor as a fount of dejection for poor performers. Those enjoying persistently high ranks and relatively slow movement - like Kerala and Tamil Nadu- should “*keep their minds open*” (Sen, 2021). They should not squander away chances of climbing the technological ladder, of addressing inequality and productivity. Those encumbered by poor ranks and



laggard improvement- Tripura, Jharkhand and Bihar-have much to look forward to if they harness their potential for catch-up growth.

It is worthy to note that ranks are indicative at best of lived realities. As explored in the chapter on ‘*Narratives of Justice*’, statistics are mere stand-ins for the social construction of governance objects within the bounds of belief systems and ideologies. The true



test in a democracy is the electorate (Kellner, 2000). By virtue of this, the weight of public opinion bears heavily on our “Sovereign Socialist Secular Democratic Republic”.

Tripura, which ranks poorly in PAI 2022’s Small States, had a largely positive climate of opinion. With the caveat that Twitter might not have been a very popular medium of communication and tweets mined were limited in number, Tripura

was adjudged favourably in indicators mapping to ‘Economic Justice’ and ‘Political Justice’. Uttarakhand too appeared positive-leaning in their intonation on key policy objects. Its best-ranking coequal in the Small States- Sikkim- oscillated between negative and positive public opinion; the same was true for Haryana and Kerala in the Large States. Chhattisgarh, Odisha, Madhya Pradesh, Rajasthan, Andhra Pradesh and occasionally Jharkhand too celebrated local wins and policy innovations.

To conclude, the accolades and debacles in rankings apart, States across India stare at one common finishing line - the Directive Principles of State Policy. Although non-justiciable, the Directive Principles in Part IV of the Constitution of India are the mandatory ends of governance in India. They are the alpha and omega of our constitutional morality. In this regard, Governments, institutions and society spanning the length and breadth of India have a long road ahead of them. While PAI 2022 weighs the statistical distance of State Governments from realising their Constitutional mandates, the non-transactional realisation of the Constitution is the ultimate yardstick in a democracy (Mehta, 2010). To this end, the Directive Principles are where our democratic sensibilities conclusively lie, forming the bedrock of ‘justice’ as we understand it.

Chapter 1 - Introduction

Ahmad, S. W., & Ali, M. A. (2006). *SOCIAL JUSTICE AND THE CONSTITUTION OF INDIA*. The Indian Journal of Political Science, 67(4), 767-782. <http://www.jstor.org/stable/41856262>

Chang, C. H., Lin, J. J., Lin, J. H., & Chiang, M. C. (2010). Domestic open-end equity mutual fund performance evaluation using extended TOPSIS method with different distance approaches. *Expert systems with applications*, 37(6), 4642-4649.

De Selincourt, O. (1937). *The Social Contract: A Critical Study of Its Development*. By J. W. Gough. (Oxford: At the Clarendon Press, London: Humphrey Milford. 1936. Pp. viii 234. Price 12s. 6d. net.). *Philosophy*, 12(47), 362-363. doi:10.1017/S0031819100012341

Granville, A. (1966). *The Indian Constitution: Cornerstone of Nation*.

Kamath, M. V. (2007). *Nani A. Palkhivala: A Life*. Hay House.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2004). Governance matters III: Governance indicators for 1996, 1998, 2000, and 2002. *The World Bank Economic Review*, 18(2), 253-287. <https://academic.oup.com/wber/article-abstract/18/2/253/1727349>

Lermack, P. (2006). *The Constitution Is the Social Contract so it Must be a Contract... Right-A Critique of Originalism as Interpretive Method*. *Wm. Mitchell L. Rev.*, 33, 1403.

Lutz, D. (2006). Sovereignty. In *Principles of Constitutional Design* (pp. 26-66). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511510267.004 <https://heinonline.org/HOL/LandingPage?handle=hein.journals/wmitch33&div=53&id=&page=>

Morris-Jones, W. H. (1971). *The government and politics of India* (Vol. 78). Hutchinson.

Press Information Bureau, (PIB). (2018). <https://pib.gov.in/newsite/PrintRelease.aspx?relid=185916>

Skinner, Q. (2010). *The sovereign state: A genealogy*. Sovereignty in fragments: The past, present and future of a contested concept, 26-46. Triantaphyllou, E. (2000). Multi-criteria decision making methods. In *Multi-criteria decision making methods: A comparative study* (pp. 5-21). Springer, Boston, MA.

Wheare, K. C. (1946). *Federal government/KC Wheare*. London; New York: H. Milford; Oxford University Press, 1946.

Chapter 2 - Growth, Development and Economic Justice

Brueckner, M., Dabla Norris, E., & Gradstein, M. (2015). National income and its distribution. *Journal of Economic Growth*, 20(2), 149-175. <https://link.springer.com/article/10.1007/s10887-015-9113-4>

Castells-Quintana, D., & Royuela, V. (2015). Are Increasing Urbanisation and Inequalities Symptoms of Growth? *Applied Spatial Analysis and Policy*, 8(3), 291-308. doi:10.1007/s12061-015-9146-2

Drèze, J. (2017). *Sense and Solidarity: Jholawala Economics for Everyone*. Oxford University Press. https://ophi.org.uk/wp-content/uploads/Jean_Dreze_2017_Sense_and_Solidarity.pdf

Drèze, J., & Sen, A. (2013). *An uncertain glory*. In *An Uncertain Glory*. Princeton University Press. <https://doi.org/10.23943/9781400848775>

Economic Survey of Haryana, 2021-22. Finance Department, Government of Haryana. (2022). Retrieved from <http://web1.hry.nic.in/budget/>

Kapoor, A., & Duggal, J. (2022). *The State of Inequality in India*. Institute for Competitiveness. https://competitiveness.in/wp-content/uploads/2022/05/Report_on_State_of_Inequality_in_India_Web_Version.pdf

Mukherjee, A., Behera, S. R., Sharma, S., Seth, B., Agarwal, R., Solanki, R., & Khandelwal, A. (2022, June 16). *State Finances: A Risk Analysis*. Reserve Bank of India - RBI Bulletin. Retrieved August 5, 2022, from https://www.rbi.org.in/Scripts/BS_ViewBulletin.aspx?Id=21070

National Crime Records Bureau. (2020). *Crime in India, 2020*. Ministry of Home Affairs, Government of India. <https://ncrb.gov.in/en/Crime-in-India-2020>

NITI Aayog, (2021). *India: National Multidimensional Poverty Index, (Baseline Report)*, Government of India, https://www.niti.gov.in/sites/default/files/2021-11/National_MPI_India-11242021.pdf

Periodic Labour Force Survey (2020-21). *Annual Report - July 2020 - June 2021*. National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India. <https://dge.gov.in/dge/sites/default/files/Annual%20report/Annual%20Report%20PLFS%202020-21.pdf>

Rajan, I. (Ed.). (2021). *India Migration Report 2020: Kerala Model of Migration Surveys*. Routledge & CRC Press. Retrieved August 5, 2022, from <https://www.routledge.com/India-Migration-Report-2020-Kerala-Model-of-Migration-Surveys/Rajan/p/book/9780367625566>

Ratha, D., Kim, E. J., Plaza, S., & Seshan, G. (2021). *Migration and Development Brief 34: Resilience: COVID-19 Crisis through a Migration Lens*. KNOMAD-World Bank, Washington, DC. License: Creative Commons Attribution CC BY, 3.

Reserve Bank of India (RBI). (2020-21). *Handbook of Statistics on Indian States*. Ministry of Finance, Government of India <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/0H-SIS241121FL7A6B5C0ECBC64B0ABF0A097B1AD40C83.PDF>

State Finances: A study of budgets. Reserve Bank of India. (2022). Retrieved August 5, 2022, from <https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=State+Finances+%3A+A+Study+of+Budgets>

Chapter 3 - The Indian Constitution and Distributive Justice

Alkire, S. (2005). Why the capability approach?. *Journal of human development*, 6(1), 115-135. <https://www.tandfonline.com/doi/abs/10.1080/146498805200034275>

Anand, S., & Sen, A. (1997). *Concepts of Human Development and Poverty: A Multidimensional Perspective*. <https://scholar.harvard.edu/sen/publications/concepts-human-development-and-poverty-multidimensional-perspective>

Ayala, A., Meier, B.M. A human rights approach to the health implications of food and nutrition insecurity. *Public Health Rev* 38, 10 (2017). <https://doi.org/10.1186/s40985-017-0056-5>

Campbell, O. M., Benova, L., Gon, G., Afsana, K., & Cumming, O. (2015). Getting the basic rights—the role of water, sanitation and hygiene in maternal and reproductive health: a conceptual framework. *Tropical medicine & in-*

ternational health, 20(3), 252-267.
<https://onlinelibrary.wiley.com/doi/abs/10.1111/tmi.12439>

Chandra, N. Rout, S. H., Mishra, P. (2022). Dynamics of Government Budgets, Growth, and Welfare. *Economic and Political weekly* 57, no. (37)
<https://www.epw.in/journal/2022/37/special-articles/dynamics-government-budgets-growth%C2%A0and-welfare.html>

Comptroller and Auditor General. (2019). Performance Audit of Pradhan Mantri Ujjwala Yojana. Ministry of Petroleum and Natural Gas. Report No. 14 of 2019
https://cag.gov.in/cag_old/content/report-no14-2019-performance-audit-pradhan-mantri-ujjwala-yojana-ministry-petroleum-and

Cumming, O., & Cairncross, S. (2016). Can water, sanitation and hygiene help eliminate stunting? Current evidence and policy implications. *Maternal & child nutrition*, 12, 91-105
<https://onlinelibrary.wiley.com/doi/abs/10.1111/mcn.12258>

Dabadge, A., Sreenivas, A., & Josey, A. (2018). What has the Pradhan Mantri Ujjwala Yojana achieved so far. *Econ Polit Wkly*, 53(20), 69-75
<https://www.im4change.org/siteadmin/tinyMCE/uploaded/Ujjwala%20Scheme.pdf>

Datt, G., & Ravallion, M. (1998). Why have Some Indian States Done Better than Others at Reducing Rural Poverty? *Economica*, 65(257), 17-38. <http://www.jstor.org/stable/2555128>

Drèze, J., & Sen, A. (2013). *An uncertain glory*. In *An Uncertain Glory*. Princeton University Press
<https://doi.org/10.23943/9781400848775>

Food and Agriculture Organization of the United Nations. Food security information for action practical guides: an introduction to the basic concepts of food security. FAO. 2008
<http://www.fao.org/docrep/013/al936e/al936e00.pdf>

Gaye, A. (2007). Access to energy and human development: Human development report 2007/2008. United Nations Development Program Human Development Report Office Occasional Paper

Hess, C. (2008). Mapping the new commons. Available at SSRN 1356835
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1356835

Hutton, G. (2018). *Financial and Economic Impacts of the Swachh Bharat Mission in India*. New Delhi, India: United Nations Children's

Emergency Fund
<https://www.unicef.org/india/media/1206/file/Financial-and-Economic-Impacts.pdf>

International Institute for Population Sciences (IIPS) and ICF. 2017. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS. <http://rchiips.org/nfhs/nfhs4.shtml>

International Institute for Population Sciences (IIPS) and ICF. 2021. National Family Health Survey (NFHS-5), 2019-2021
http://rchiips.org/nfhs/factsheet_NFHS-5.shtml

Jodha, N.S. (1998). Poverty and Environmental Resource Degradation: An Alternative Explanation and Possible Solutions." *Economic and Political weekly* 33, no. (36/37), 2384-2390
<https://www.jstor.org/stable/4407160>

Kallhoff, A. (2021). Public Goods as Obligatory Bridges between the Public and the Private. *Philosophical Papers*, 50(3), 387-405.
<https://www.tandfonline.com/doi/abs/10.1080/05568641.2022.2046494>

Kanagawa, M., & Nakata, T. (2008). Assessment of access to electricity and the socio-economic impacts in rural areas of developing countries. *Energy policy*, 36(6), 2016-2029
<https://www.sciencedirect.com/science/article/pii/S0301421508000608>

Kapur, D., & Nangia, P. (2015). Social protection in India: A welfare state sans public goods?. *India Review*, 14(1), 73-90
<https://www.tandfonline.com/doi/full/10.1080/14736489.2015.1001275?scroll=top&needAccess=true>

Kasthuri, A. (2018). Challenges to healthcare in India-The five A's. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, 43(3), 141
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6166510/>

Keeley, B., Little, C., & Zuehlke, E. (2019). The State of the World's Children 2019: Children, Food and Nutrition--Growing Well in a Changing World. UNICEF. <https://eric.ed.gov/?id=ED599360>

Kumar, M., & Mohanty, P. C. (2022). Decoding Three Pandemic Budgets: Education, Health, and Nutrition
<https://www.epw.in/journal/2022/21/commentary/decoding-three-pandemic-budgets.html>

Mumbare, S.S., Maindarkar, G., Darade, R. et al. Maternal risk factors associated with term low birth weight neonates: A matched-pair case control study. *Indian Pediatr* 49, 25-28 (2012)
<https://doi.org/10.1007/s13312-012-0010-z>
 NITI Aayog (2018). Composite water management index: a tool for water management
<https://www.academia.edu/download/61961931/CWMI-2.0-latest20200201-7436-tjr28.pdf>

NITI Aayog. (2021). National Multidimensional Poverty Index: Baseline report
https://www.niti.gov.in/sites/default/files/2021-11/National_MPI_India-11242021.pdf

Padhi, B. K., Baker, K. K., Dutta, A., Cumming, O., Freeman, M. C., Satpathy, R., ... & Panigrahi, P. (2015). Risk of adverse pregnancy outcomes among women practicing poor sanitation in rural India: a population-based prospective cohort study. *PLoS medicine*, 12(7), e1001851
<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001851>

Tillin, L. (2022). Does India have subnational welfare regimes? The role of state governments in shaping social policy. *Territory, Politics, Governance*, 10(1), 86-102
<https://www.tandfonline.com/doi/abs/10.1080/21622671.2021.1928541>

World Health Organization. (2020). Improving early childhood development: WHO guideline. World Health Organization

World Health Organization. (2020). State of the world's sanitation: an urgent call to transform sanitation for better health, environments, economies and societies
<http://202.1.196.72/jspui/bitstream/123456789/8102/1/State%20of%20the%20world%E2%80%99s%20sanitation%20%20an%20urgent%20call%20to%20transform%20sanitation%20for%20better%20health%2C%20environments%2C%20economies%20and%20societies.pdf>

References

Chapter 4 - Constitutional Supremacy and the Rule of Law

Abdul Rehman Antuley v. R S Nayak, 1992. 1992 1 SCC 225

Amnesty International India. (2017). Justice under trial: A study of pre-trial detention in India. Amnesty International India <https://policehumanrightsresources.org/justice-under-trial-a-study-of-pre-trial-detention-in-india>

Banerjee, A., Chattopadhyay, R., Duflo, E., Keniston, D., & Singh, N. (2021). Improving police performance in Rajasthan, India: Experimental evidence on incentives, managerial autonomy, and training. *American Economic Journal: Economic Policy*, 13(1), 36-66

Borker, G. (2021). Safety first: Perceived risk of street harassment and educational choices of women. World Bank <https://pdfs.semanticscholar.org/c4cb/d6c92d50e4d-d80c3b420145b64062b15d7b1.pdf>

Bureau of Police Research and Development. (2020). Data on Police Organisations. Ministry of Home Affairs, Government of India. Retrieved from <https://bprd.nic.in/WriteReadData/News/DoPO2020.pdf>

Chakraborty, T., & Lohawala, N. (2021). Women, Violence and Work: Threat of Sexual Violence and Women's Decision to Work. Institute of Labor Economics (IZA), Discussion Paper No. 14372 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3851048

Devulapalli, S. Padmanabhan, V. (2019). India's Police Force Among the World's Weakest. Mint <https://www.livemint.com/news/india/india-s-police-force-among-the-world-s-weakest-1560925355383.html>

Dicey, A. V. (2013). *The law of the constitution* (Vol. 1). Oxford University Press

Holman, B., & Zidenberg, J. (2006). *The dangers of detention*. Washington, DC: Justice Policy Institute, 4 https://justicepolicy.org/wp-content/uploads/justicepolicy/documents/dangers_of_detention.pdf

<https://www.mha.gov.in/MHA1/PrisonReforms/NewPDF/Over-crowdingPrison09052011.pdf>

Hussainara Khatoon v. Home Secretary, State of Bihar. 1979 AIR 1396

Keshavananda Bharati v. State of Kerala, AIR 1973 SC 1461

<https://main.sci.gov.in/jonew/judis/29981.pdf>

Ministry of Home Affairs (2016). Model Prison Manual. Government of India. Retrieved from <https://www.mha.gov.in/sites/default/files/PrisonManual2016.pdf>

National Commission Scheduled Castes and Scheduled Tribes. (1992-93). First Report of the National Commission for Scheduled Castes and Scheduled Tribes. Government of India. Retrieved from <https://ncst.nic.in/content/first-report-ncscst-1992-93>

Press Information Bureau (PIB). (2022). Union Home and Cooperation Minister, Shri Amit Shah chaired the meeting of the Parliamentary Consultative Committee of the Ministry of Home Affairs on the topic "Forensic Science Capabilities: Strengthening for Time bound and Scientific Investigation" at Kevadia, Gujarat today. Ministry of Home Affairs, Government of India. Retrieved from <https://pib.gov.in/PressReleasePage.aspx?PRID=1837146>

Ramachandra Rao v. State of Karnataka. 2002 AIR (SC) 1856, 2002 (4) SCC 578, 2002 (3)

Reddy, G. K. (2021). Rajya Sabha Unstarred Question No.3266. Ministry of Home Affairs, Government of India. Retrieved from <https://www.mha.gov.in/MHA1/Par2017/pdfs/par2021-pdfs/rs-24032021/3266.pdf>

Report of the Indian Jails Committee, 1919-20. (1920). Simla: Superintendent Government Central Press. Retrieved from <https://dspace.gipe.ac.in/xmlui/bitstream/handle/10973/22789/GIPE-015221-Contents.pdf?sequence=2&isAllowed=y>

Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Bill, 1989

Siddique, Z. (2018). Violence and the labor supply of married women in India. Cornell University: NEUDC. http://barrett.dyson.cornell.edu/NEUDC/paper_345

Som Raj vs State of Haryana AIR 1990 SC 1176 <https://main.sci.gov.in/jonew/judis/7643.pdf>

Times of India (2010), Police-public ratio in State Far Below UN Standard: UN. <https://timesofindia.indiatimes.com/city/mysuru/police-pub->

[lic-ratio-in-state-far-below-un-standard-dgp/article-show/6332577.cms#:~:text=According%20to%20the%20UN%2C%20the,officers%20for%20one%20lakh%20citizens](https://main.sci.gov.in/jonew/judis/29981.pdf)

UN Economic and Social Council (ECOSOC). (1977), Standard Minimum Rules for the Treatment of Prisoners, United Nations, retrieved from https://www.unodc.org/pdf/criminal_justice/UN_Standard_Minimum_Rules_for_the_Treatment_of_Prisoners.pdf UN General Assembly. (1966). International Covenant on Civil and Political Rights. United Nations, Treaty Series, vol. 999, p. 171, retrieved from <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>

Chapter 5 - Narratives of Justice

'Vaccine Maitri created great global goodwill': S Jaishankar in Parliament. Hindustan Times. (2021). Retrieved 26 August 2022, from <https://www.hindustantimes.com/india-news/vaccine-maitri-created-great-global-goodwill-eam-jaishankar-in-parliament-101615988589742.html>

APF. (2021). The Loss of Learning for Children during the Pandemic. Azim Premji University. Retrieved 13 September 2022, from <https://azimpremjiuniversity.edu.in/field-studies-in-education/learning-loss-during-pandemic>

Bharat Biotech International Limited (BBIL). (2021). Restricted Use of COVAXINTM Under Clinical Trial Mode. MoHFW. Retrieved 26 August 2022, from <https://www.mohfw.gov.in/pdf/Version4PDFCOVAXINImplementationPlan11Jan2021.pdf>

Bittner, E. (1970). Functions of the Police in Modern Society. National Institute of Mental Health, Centre for Study of Crime and Delinquency

CEEW. (2019). Role of Central and State Government in Power Sector in India. Retrieved 2 September 2022, from <https://www.ceew.in/cef/masterclass/explains/role-of-central-and-state-government-in-power-sector-in-india>

Chakravarthi, B. R., Priyadarshini, R., Muralidaran, V., Jose, N., Suryawanshi, S., Sherly, E., & McCrae, J. P. (2022). DravidianCode-Mix: Sentiment Analysis and Offensive Language identification dataset for Dravidian Languages in Code-Mixed text. *Language Resources and Evaluation*, 1-42

Chand, M. (2021). India's Vaccine Diplomacy: Combating Pandemic, the India Way. Consulate General of India, Vladivostok, Russia. Retrieved 26 August 2022, from <https://www.cgivladivostok.gov.in/docs/1611743942India%E2%80%99s%20Vaccine%20Diplomacy.docx.pdf>

Clark, J. (2013). Conceptualising social media as complaint channel. *Journal of Promotional Communications*, 1(1)

Dansana, P. (2016). Nature of Justice Envisaged Under Preamble to Constitution of India. Available at SSRN 2718197

ECI. (2007). Role of CPMF and State Police in conduct of polls. Retrieved 13 September 2022, from <https://eci.gov.in/files/file/87-role-of-cpmf-and-state-police-in-conduct-of-polls-regarding/>

Fan, R., Xu, K. E., & Zhao, J. (2016). Higher contagion and weaker ties mean anger spreads faster than joy in social media. *arXiv preprint arXiv:1608.03656*

Fan, S., & Chan-Kang, C. (2005). Road Development, Economic Growth, and Poverty Reduction in China. *International Food Policy Research Institute*

Fu, Y., Jin, H., Xiang, H., & Wang, N. (2022). Optimal lockdown policy for vaccination during COVID-19 pandemic. *Finance Research Letters*, 45. <https://doi.org/10.1016/j.frl.2021.102123>

Government of India. (2022). CoWIN Dashboard. MyGov.in. Retrieved 26 August 2022, from <https://www.mygov.in/covid-19>

Govt. of Karnataka, Finance Secretariat, No. FD 37 CSL 2018 (September 17, 2018)

Gupta, D. (2005). Whither the Indian Village? : Culture and Agriculture in 'rural' India. *Review of Development and Change*, 10(1), 1-20

Huber, J. D., & Powell, G. B. (1994). Congruence between citizens and policymakers in two visions of liberal democracy. *World Politics*,

46(3), 291-326

Hudson, B., Hunter, D., & Peckham, S. (2019). Policy failure and the policy-implementation gap: can policy support programs help?. *Policy design and practice*, 2(1), 1-14

Jain, S., & Gupta, A. Building Smart Police in India: Background into the Needed Police Force Reforms. Retrieved 29 August 2022, from https://www.niti.gov.in/writereaddata/files/document_publication/Strengthening-Police-Force.pdf

Kumar, A. (2022). India COVID-19 Vaccine Tracker for Districts and Parliamentary Constituencies of India. Geographic Insights Lab at the Harvard Center for Population and Development Studies. Retrieved 26 August 2022, from <https://geographicinsights.iq.harvard.edu/IndiaVaccine>.

Lloyd, S., & Sreedhar, S. (2020). Hobbes's Moral and Political Philosophy. Retrieved 29 August 2022, from <https://plato.stanford.edu/archives/fall2020/entries/hobbes-moral/>

Maupéu, H. (2008). Revisiting post-election violence. *Les Cahiers d'Afrique de l'Est/The East African Review*, (38), 193-230

Maynard, D. G., & Greenwood, M. A. (2014, March). Who cares about sarcastic tweets? investigating the impact of sarcasm on sentiment analysis. In *Lrec 2014 proceedings*. ELRA

MHRD. (2020). Retrieved 13 September 2022, from <https://cdnbbsr.s3waas.gov.in/s3850af92f8d9903e7a4e-0559a98ecc857/uploads/2020/05/20200506100.pdf>

Ministry of Finance. (2021). Government announces Excise Duty reduction on Petrol and Diesel on the eve of Diwali. Press Information Bureau. Retrieved August 24, 2022, from <https://pib.gov.in/PressReleasePage.aspx?PRID=1769306>

Ministry of Health & Family Welfare (MoHFW). (2022). Dr Mansukh Mandaviya delivers keynote address at webinar on "India's Public Health Response to manage COVID-19" with NGOs. Retrieved 26 August 2022, from <https://pib.gov.in/PressReleasePage.aspx?PRID=1806922>

Ministry of Health & Family Welfare, Government of India (MoHFW). (2020). COVID-19 Vaccines Operational Guidelines

Ministry of Health and Family Welfare. (2021). Government of India announces a Liberalised and Accelerated Phase 3 Strategy of Covid-19 Vaccination from 1st May. Retrieved 26 August 2022, from <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1712710>

Ministry of Health and Family Welfare. (2021). Phase 3 Clinical Trial of COVAXIN, developed by ICMR & Bharat Biotech, shows 81% efficacy. Retrieved 26 August 2022, from <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1702293>
Ministry of Health and Family Welfare. (2021). Union Minister for Health and Family Welfare Dr. Mansukh Mandaviya interacts with ambassadors of Latin America and Caribbean Nations. Retrieved 26 August 2022, from <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1775120>

Ministry of Health and Family Welfare. (2022). COVID-19: Myth vs. Facts. Retrieved 26 August 2022, from <https://pib.gov.in/PressReleasePage.aspx?PRID=1786925>

Ministry of Labour and Employment, Government of India. (2022) Improve Ease of Doing Business. Retrieved 9 September 2022, from <https://labour.gov.in/policies/improve-ease-of-doing-business>

Ministry of Petroleum & Natural Gas. (2021). Reducing Dependence on Import of Oil. Press Information Bureau. Retrieved August 23, 2022, from <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1706564>

Ministry of Power. (2005). National Electricity Policy. *The Gazette of India*

Ministry of Power. (2021). Mission 500 GW by 2030. Press Information Bureau. Retrieved August 24, 2022, from <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1772347>

Ministry of Power. Power availability witnesses marked rise across the Country. Press Information Bureau. (2021). Retrieved 2 September 2022, from <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1737796>.

References

Ministry of Road Transport and Highways (MoRTH), Government of India. (2022). Basic Road Statistics in India, 2018-19 (p. 19). Retrieved from <https://morth.nic.in/sites/default/files/Basic%20Road%20Statistics%20in%20India-2018-19.pdf>

Ministry of Road Transport and Highways (MoRTH), Government of India. (2022). Road Accidents in India (p. 139). Retrieved from https://morth.nic.in/sites/default/files/RA_2020.pdf
MoHFW. (2020). Retrieved 13 September 2022, from <https://main.mohfw.gov.in/sites/default/files/schooladvisory.pdf>

Mueller, B. (2020). Why public policies fail: Policymaking under complexity. *Economia*, 21(2), 311-323

NCRB. (2021). Accidental Deaths & Suicides in India 2021. Retrieved 13 September 2022, from https://ncrb.gov.in/sites/default/files/ADSI-2021/ADSI_2021_FULL_REPORT.pdf

NITI Aayog. (2021). Myths & Facts on India's Vaccination Process. Retrieved 26 August 2022, from <https://pib.gov.in/PressReleasePage.aspx?PRID=1722078>

Omotola, S. (2010). Explaining electoral violence in Africa's 'new' democracies. *African Journal on Conflict Resolution*, 10(3), 51-73.
OPEC : Taxes on Oil. (2021). Retrieved 26 August 2022, from https://www.opec.org/opec_web/en/data_graphs/333.html

Pandey, P., Raviprasad, P., Mishra, P., Suresh, C., Pal, & Agrawal, V. (2014). Nuclear and Solar Energy: Fulfill India's Future Energy Demand. doi:10.13140/2.1.1490.3686

Patel, N., & Sethi, T. (2021). Rural Women: Key to New India's Agrarian Revolution. Retrieved 13 September 2022, from <https://www.niti.gov.in/rural-women-key-new-indias-agrarian-revolution>

PIB Headquarters. (2021). PIB'S BULLETIN ON COVID-19. Retrieved 26 August 2022, from <https://pib.gov.in/PressReleasePage.aspx?PRID=1688296>

Rajagopal, K. (2022). Supreme Court calls for a Panel to look into Freebies issue. *The Hindu*. Retrieved 26 August 2022, from <https://www.thehindu.com/news/national/sc-suggests-setting-up-dispassionate-body-to-resolve-freebies-issue/article65720314.ece>

Reserve Bank of India - function wise monetary. (n.d.). Retrieved August 24, 2022, from

https://www.rbi.org.in/scripts/FS_Overview.aspx?fn=2752

Sahoo, N., & Ghosh, A. (2021). The COVID-19 Challenge to Indian Federalism. Retrieved 26 August 2022, from

https://www.orfonline.org/research/the-covid-19-challenge-to-indian-federalism/#_edn65

Sarkar, K. (1978). *Public Finance in Ancient India*. Abhinav Publications

Schmitter, P. C., & Karl, T. L. (1991). What democracy is... and is not. *Journal of democracy*, 2(3), 75-88

Shah, A. (2007). *Budgeting and Budgetary Institutions*. Retrieved 1 September 2022, from <https://openknowledge.worldbank.org/bitstream/handle/10986/6667/399960PAPER0Bu10082136939301PUBLIC1.pdf>

Shanahan, E. A., Jones, M. D., McBeth, M. K., & Radaelli, C. M. (2018). The narrative policy framework. In *Theories of the policy process* (pp. 173-213). Routledge

Srivastava, S. (2021). Petrol and Diesel Prices. PRS Legislative Research. Retrieved 26 August 2022, from <https://prsindia.org/theprsblog/petrol-and-diesel-prices>

Statista. (2022). Global Twitter user age distribution 2021. Statista. Retrieved 20 September 2022, from <https://www.statista.com/statistics/283119/age-distribution-of-global-twitter-users/>

The Indian Express. (2021). India will complete COVID vaccination exercise by December, says Union Minister Prakash Javadekar. Retrieved 26 August 2022, from <https://indianexpress.com/article/coronavirus/india-will-complete-covid-vaccination-exercise-by-december-prakash-javadekar-7334314/>

Tillin, L. (2021). Center and States Need to Coordinate, Not Compete. Center for the Advanced Study of India (CASI). Retrieved 26 August 2022, from <https://casi.sas.upenn.edu/iit/louisetillin>

TRAI. (2021). *Yearly Performance Indicators Indian Telecom Sector (Sixth Edition)*. Retrieved 13 September 2022, from https://www.trai.gov.in/sites/default/files/YIR_08072022_0.pdf

TRAI. (2021). *Yearly Performance Indicators Indian Telecom Sector (Sixth Edition)*. Retrieved 13 September 2022, from https://www.trai.gov.in/sites/default/files/YIR_08072022_0.pdf

Union of India Aff. ¶ 22, May 9, 2021

United Nations. (2005). *The Effects of Power Sector Reform on Energy Services for the Poor*. Retrieved 2 September 2022, from https://www.un.org/esa/sustdev/publications/power_sector_reform.pdf

United Nations. (2015). *Employment, decent work for all and social protection: Sustainable Development Knowledge Platform*. Retrieved 9 September 2022, from <https://sustainabledevelopment.un.org/topics/employment>

USIP. (2022). *Employment Generation*. United States Institute of Peace. Retrieved 9 September 2022, from <https://www.usip.org/guiding-principles-stabilization-and-reconstruction-the-web-version/sustainable-economy/employment-g#:~:text=Economically%2C%20employment%20provides%20income%20to,welfare%20in%20the%20long%20run>

USIP. (2022). *Public Order*. United States Institute of Peace. Retrieved 29 August 2022, from <https://www.usip.org/guiding-principles-stabilization-and-reconstruction-the-web-version/rule-law/public-order>

WHO. (2020). *Coronavirus disease (COVID-19): Herd immunity, lockdowns and COVID-19*. WHO. Retrieved 26 August 2022, from <https://www.who.int/news-room/questions-and-answers/item/herd-immunity-lockdowns-and-covid-19>

WHO. (2021). *India deploys drones to deliver COVID-19 vaccines*. Retrieved 26 August 2022, from <https://www.who.int/india/news/feature-stories/detail/india-deploys-drones-to-deliver-covid-19-vaccines#:~:text=The%20inaugural%20flight%20of%20the,an%20Island%20in%20Loktak%20Lake>

World Bank. (2012). *Jobs are a cornerstone of development, says World Development Report 2013*. Retrieved from <https://www.worldbank.org/en/news/press-release/2012/>

10 /01/jobs-cornerstone-development-says-world-development-report

World Bank. (2012). India: Issues and Priorities for Agriculture. Retrieved 13 September 2022, from <https://www.worldbank.org/en/news/feature/2012/05/17/india-agriculture-issues-priorities#:~:text=India%20is%20a%20global%20agricultural,under%20wheat%2C%20rice%20and%20cotton>

Chapter 6 - Conclusion

Dansana, P. (2016). Nature of Justice Envisaged Under Preamble to Constitution of India. Available at SSRN 2718197

DARPG. (2021). Good Governance Index 2020-21. Retrieved 17 September 2022, from https://darpg.gov.in/sites/default/files/GGI_Report_22.12.2021.pdf

Eichengreen, B., Park, D., & Shin, K. (2013). Growth Slowdowns Redux: New evidence on the middle-income trap (No. w18673). National Bureau of Economic Research

IMF. (2012). Retrieved 17 September 2022, from <https://www.imf.org/external/pubs/ft/fandd/2012/09/dervis.htm#:~:text=Emerging%20and%20developing%20economies%20are,catch%2Dup%2C%20and%20demographics>

Kerala Looks Ahead. (2021) (pp. 216-218). Kerala. Retrieved 17 September 2022, from <https://spb.kerala.gov.in/sites/default/files/inline-files/KLA.proced.pdf>

Mehta, P. (2010). What is constitutional morality. India-seminar.com. Retrieved 17 September 2022, from https://www.india-seminar.com/2010/615/615_pratap_bhanu_mehta.htm

NITI Aayog. (2021). Export Preparedness Index. Retrieved 17 September 2022, from https://www.niti.gov.in/sites/default/files/2020_08/Digital_ExportPreparednessIndex2020_0.pdf

NITI Aayog. (2021). SDG India Index. Retrieved 17 September 2022, from https://www.niti.gov.in/writereaddata/files/SDG_3.0_Final_04.03.2021_Web_Spreads.pdf

NITI Aayog. (2022). India Innovation Index. Retrieved 17 September 2022, from https://www.niti.gov.in/sites/default/files/2022-07/India-Innovation-Index-2021-Web-Version_21_7_22.pdf

Parker, W. N. (1955). Growth and Stagnation in the European Economy: A Summary and Critical Comments. *Scandinavian Economic History Review*, 3(2), 239-255

Sen, A. (2008). The Idea of Justice. *Journal of Human Development*, 9(3), 331-342

Sihag, B. S. (2009). *Modern Perspectives on Kautilya's Economics*. Emerald Group Publishing Limited

The Tribune. (2019). Why crime finds a fertile ground in Haryana. The Tribune. Retrieved 17 September 2022, from <https://www.tribuneindia.com/news/archive/features/why-crime-finds-fertile-ground-in-haryana-812691>

Vollrath, D. (2020). Slow economic growth is a sign of success. LSE. Retrieved 17 September 2022, from <https://blogs.lse.ac.uk/usappblog/2020/02/22/slow-economic-growth-is-a-sign-of-success/>



PAI 2022, through its efforts in quantitatively measuring sub-national governance intends to trigger policy reorientation and action in areas where States fare poorly. As a head-start, to the policy action, PAI 2022 provides State-level factsheets highlighting areas of accomplishments and aspirations. The factsheets also offer broad set of recommendations to help steer development policies through focussed research.

STATE FACT SHEETS

AP ANDHRA PRADESH



Accomplishments

- Equitable distribution of income and resources
- Incidence of crime
- Access to clean cooking fuel
- Participation of females in the economy
- Regularity and reliability of power supply
- Efficiency of police in mobilising case-related evidence
- Safe sanitation coverage
- Assurance of a standard of living to wage workers
- Redress the undertrial population



Aspirations

- Learning outcomes for school goers
- Functional devolution to rural and urban local bodies



Recommendations

- Restructure pedagogical methods and tools to improve learning outcomes
- Implement State Finance Commission recommendations



Theme	Score	Rank
Overall	0.592	7
 Economic Justice	0.585	7
 Revenues of State	0.405	13
 Social Security and Social Insurance	0.563	4
 Political Justice	0.657	6
 Rule of Law	0.657	6
 Social Justice	0.535	7
 Control of Material Resources	0.610	5
 Securing Social Order for Promotion of Welfare	0.452	12

AS ASSAM



Accomplishments

- Public expenditure on development
- Population health
- Commitment to independent financial devolution to local bodies
- Efficiency and environmental sustainability of land use



Aspirations

- Own Source Revenue Mobilisation
- Efficiency of police in mobilising case-related evidence
- Regularity and reliability of power supply
- Incidence of crime
- Functional devolution to rural and urban local bodies
- Ease of logistics and trade



Recommendations

- Diversify revenue sources to improve own tax revenue
- Conduct training sessions on scientific techniques of investigation to improve efficiency in police disposal of cases
- Optimise energy mix
- Implement State Finance Commission recommendations
- Rationalise and economise trade-related paperwork, permits, and processes



Theme	Score	Rank
Overall	0.502	13
Economic Justice	0.607	5
Revenues of State	0.493	5
Social Security and Social Insurance	0.499	12
Political Justice	0.528	14
Rule of Law	0.528	14
Social Justice	0.372	14
Control of Material Resources	0.315	18
Securing Social Order for Promotion of Welfare	0.513	6

BH BIHAR



Accomplishments

- Coverage of social safety net
- Commitment to independent financial devolution to local bodies
- Efficiency and environmental sustainability of land use



Aspirations

- Assurance of a standard of living to wage workers
- Labour productivity
- Participation of females in the economy
- Redress for undertrial population
- Early Childhood Development outcomes
- Safe sanitation coverage



Recommendations

- Revise wage-setting norms to increase minimum wages
- Earmark policies and investments for skill diversification and upgradation
- Encourage women's mobility and autonomy to cue behavioural change for continued education and greater participation in the labour force
- Undertake awareness-building exercises to increase awareness, uptake and utilisation of legal aid entitlements by undertrial population
- Integrate early learning, caregiving and nutrition services; pioneer solutions for cognitive and motor development
- Ensure the functionality of toilets and the safe, preferably off-site, management of sewage



Theme	Score	Rank
Overall	0.460	15
 Economic Justice	0.455	13
 Revenues of State	0.347	16
 Social Security and Social Insurance	0.528	8
 Political Justice	0.588	12
 Rule of Law	0.588	12
 Social Justice	0.339	16
 Control of Material Resources	0.416	16
 Securing Social Order for Promotion of Welfare	0.463	10

CG CHHATTISGARH



Accomplishments

- Public expenditure on development
- Participation of females in the economy
- Employment Opportunities
- Own Source Revenue Mobilisation
- Redress for undertrial population



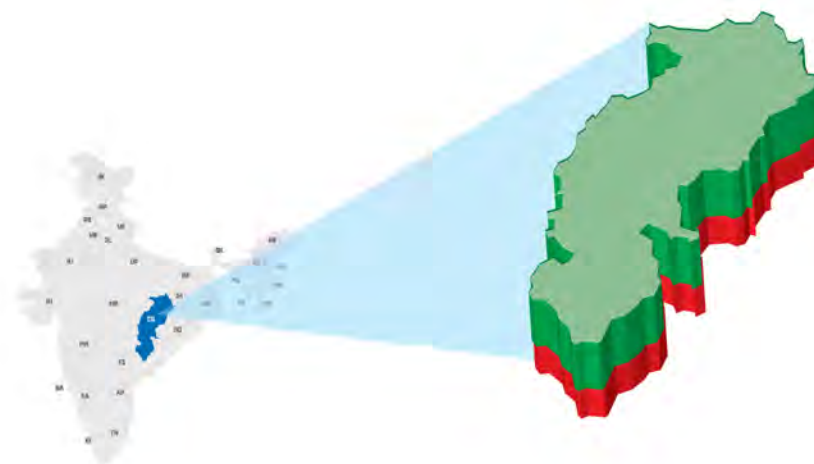
Aspirations

- Learning outcomes for school-goers
- Assurance of a standard of living to wage workers
- Commitment to independent financial devolution to local bodies
- Population health
- Access to clean cooking fuel



Recommendations

- Restructure pedagogical methods and tools to improve learning outcomes
- Revise wage-setting norms to increase minimum wages
- Implement State Finance Commission recommendations
- Bring emergency and non-emergency medical care closer to the population by strengthening public healthcare systems
- Introduce cost-sharing arrangements or alterations to the financial ecosystem surrounding the uptake and affordability of clean cooking fuels



Theme	Score	Rank
Overall	0.630	4
 Economic Justice	0.830	1
 Revenues of State	0.584	2
 Social Security and Social Insurance	0.566	3
 Political Justice	0.609	10
 Rule of Law	0.609	10
 Social Justice	0.452	9
 Control of Material Resources	0.596	6
 Securing Social Order for Promotion of Welfare	0.369	16

GJ GUJARAT



Accomplishments

- Incidence of crime
- Regularity and reliability of power supply
- Ease of logistics and trade
- Employment Opportunities
- Efficiency of police in mobilising case-related evidence



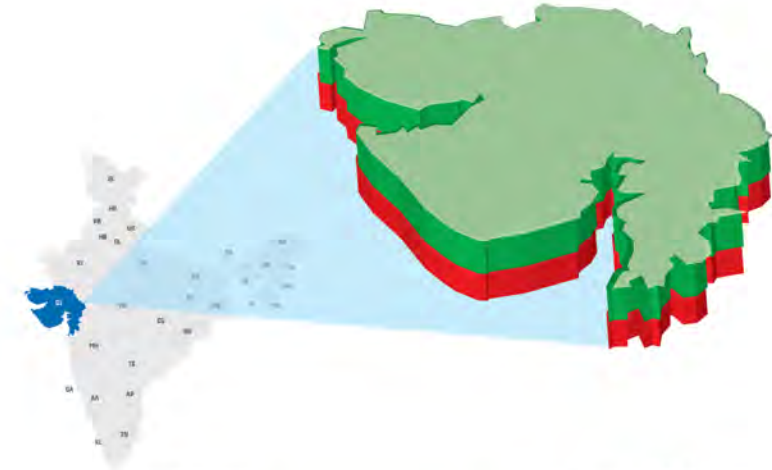
Aspirations

- Commitment to independent financial devolution to local bodies
- Efficiency and environmental sustainability of land use
- Public expenditure on development
- Own Source Revenue Mobilisation



Recommendations

- Implement State Finance Commission recommendations
- Undertake land restoration through Joint Forest Management measures such as regulated grazing and appropriate afforestation
- Rationalise unproductive public expenditure
- Diversify revenue sources to improve own tax revenue



Theme	Score	Rank
Overall	0.547	10
 Economic Justice	0.830	15
 Revenues of State	0.346	17
 Social Security and Social Insurance	0.507	11
 Political Justice	0.640	7
 Rule of Law	0.640	7
 Social Justice	0.586	4
 Control of Material Resources	0.669	2
 Securing Social Order for Promotion of Welfare	0.449	13



HARYANA



Accomplishments

- Labour productivity
- Assurance of a standard of living to wage workers
- Ease of logistics and trade
- Functional devolution to rural and urban local bodies
- Learning outcomes for school-goers
- Safe sanitation coverage
- Early Childhood Development outcomes



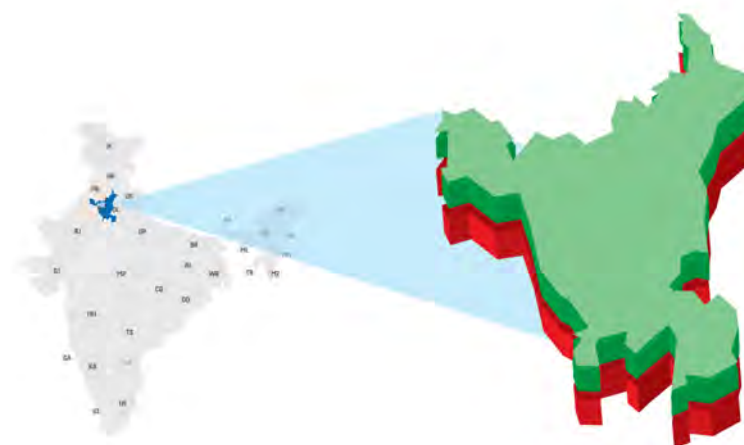
Aspirations

- Efficiency of police in mobilising case-related evidence
- Redress for undertrial population
- Participation of females in the economy
- Employment opportunities
- Coverage of social safety net
- Incidence of crime
- Regularity and reliability of power supply



Recommendations

- Place a thrust on generating meaningful employment
- Encourage women's mobility and autonomy to cue behavioural change for continued education and greater participation in the labour force
- Undertake awareness-building exercises to increase awareness, uptake and utilisation of legal aid entitlements by undertrial population
- Conduct training sessions on scientific techniques of investigation to support State police departments
- Introduce predictive policing solutions
- Harness appropriate alternative sources of energy such as biomass to meet energy demands



Theme	Score	Rank
Overall	0.694	1
 Economic Justice	0.800	2
 Revenues of State	0.602	1
 Social Security and Social Insurance	0.556	5
 Political Justice	0.520	16
 Rule of Law	0.520	16
 Social Justice	0.764	2
 Control of Material Resources	0.663	3
 Securing Social Order for Promotion of Welfare	0.636	2

JH JHARKHAND



Accomplishments

- Coverage of social safety net
- Participation of females in the economy
- Public expenditure on development
- Employment Opportunities



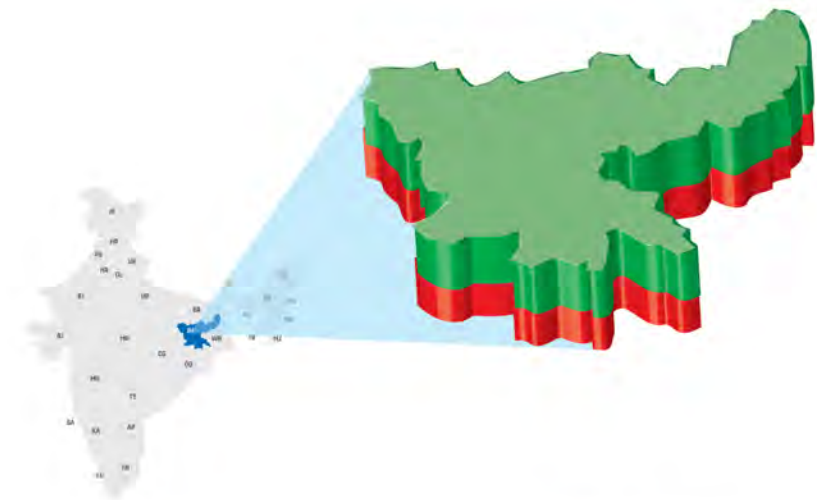
Aspirations

- Equitable distribution of income and resources
- Early Childhood Development outcomes
- Safe sanitation coverage
- Access to safe drinking water
- Efficiency and environmental sustainability of land use
- Access to clean cooking fuel



Recommendations

- Revise wage-setting norms to increase minimum wages
- Integrate early learning, caregiving and nutrition services; pioneer solutions for cognitive and motor development
- Ensure the functionality of toilets and the safe, preferably off-site, management of sewage
- Undertake land restoration through Joint Forest Management measures such as regulated grazing and appropriate afforestation
- Introduce cost-sharing arrangements or alterations to the financial ecosystem surrounding the uptake and affordability of clean cooking fuels



Theme	Score	Rank
Overall	0.353	18
 Economic Justice	0.511	10
 Revenues of State	0.404	12
 Social Security and Social Insurance	0.510	11
 Political Justice	0.456	18
 Rule of Law	0.456	18
 Social Justice	0.093	18
 Control of Material Resources	0.361	17
 Securing Social Order for Promotion of Welfare	0.288	18

KA KARNATAKA



Accomplishments

- Labour productivity
- Assurance of a standard of living to wage workers
- Employment Opportunities
- Access to clean cooking fuel
- Own Source Revenue Mobilisation
- Functional devolution to rural and urban local bodies



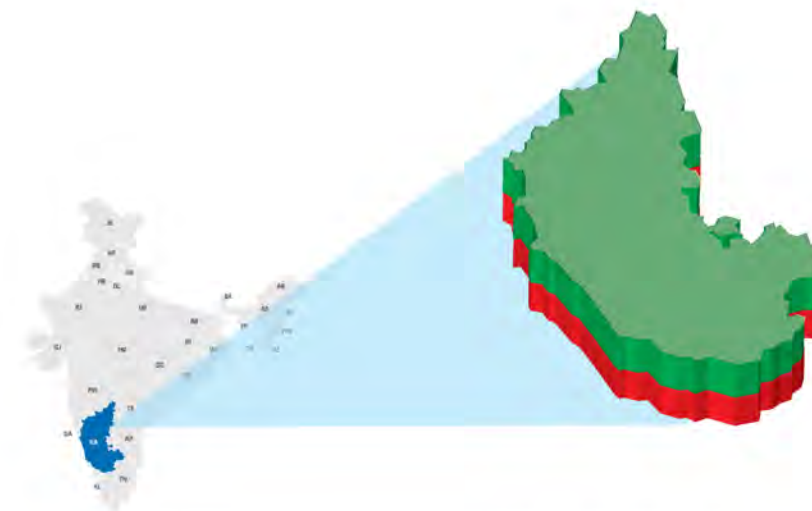
Aspirations

- Commitment to independent financial devolution to local bodies
- Regularity and reliability of power supply
- Efficiency and environmental sustainability of land use
- Coverage of social safety net
- Equitable distribution of income and resources



Recommendations

- Implement State Finance Commission recommendations
- Optimise energy mix
- Undertake land restoration through Joint Forest Management measures such as regulated grazing and appropriate afforestation
- Mobilise interest and investment in social funds
- Revise wage-setting norms to increase minimum wages



Theme	Score	Rank
Overall	0.621	6
 Economic Justice	0.790	3
 Revenues of State	0.506	4
 Social Security and Social Insurance	0.620	1
 Political Justice	0.638	8
 Rule of Law	0.638	8
 Social Justice	0.436	10
 Control of Material Resources	0.522	10
 Securing Social Order for Promotion of Welfare	0.458	11

KL KERALA



Accomplishments

- Efficiency of police in mobilising case-related evidence
- Redress for undertrial population
- Population health
- Early Childhood Development outcomes
- Safe sanitation coverage
- Labour productivity
- Assurance of a standard of living to wage workers
- Functional devolution to rural and urban local bodies
- Equitable distribution of income and resources



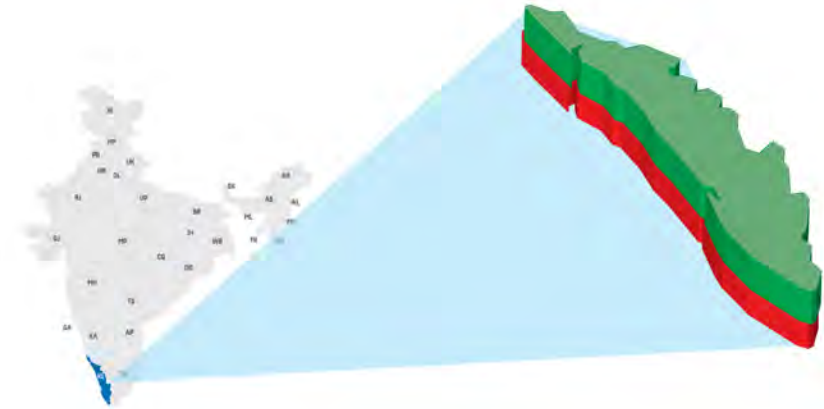
Aspirations

- Access to safe drinking water
- Ease of logistics and trade
- Public expenditure on development
- Employment Opportunities



Recommendations

- Apprise drinking water quality through Consumer Confidence Reports
- Rationalise and economise trade-related paperwork, permits, and processes
- Rationalise unproductive public expenditure
- Place a thrust on generating meaningful employment



Theme	Score	Rank
Overall	0.666	3
 Economic Justice	0.495	12
 Revenues of State	0.461	6
 Social Security and Social Insurance	0.455	14
 Political Justice	0.796	2
 Rule of Law	0.796	2
 Social Justice	0.708	3
 Control of Material Resources	0.631	4
 Securing Social Order for Promotion of Welfare	0.671	1

MP MADHYA PRADESH



Accomplishments

- Employment Opportunities
- Functional devolution to rural and urban local bodies
- Learning outcomes for school-goers
- Regularity and reliability of power supply
- Commitment to independent financial devolution to local bodies



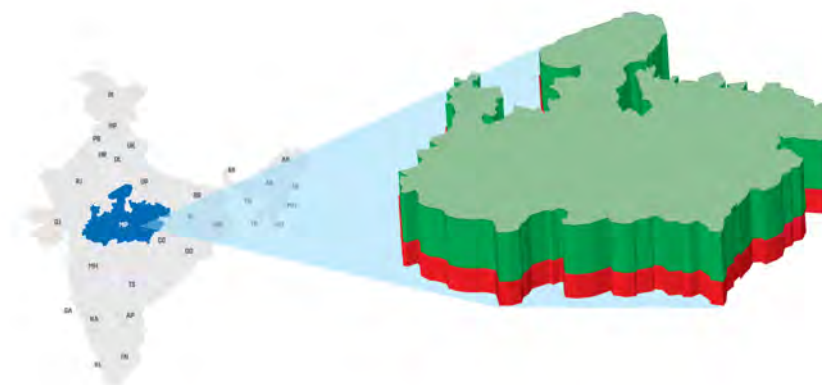
Aspirations

- Population health
- Access to safe drinking water
- Ease of logistics and trade
- Assurance of a standard of living to wage workers



Recommendations

- Bring emergency and non-emergency medical care closer to the population by strengthening public healthcare systems
- Apprise drinking water quality through Consumer Confidence Reports
- Rationalise and economise trade-related paperwork, permits, and processes
- Revise wage-setting norms to increase minimum wages



Theme	Score	Rank
Overall	0.576	8
Economic Justice	0.573	9
Revenues of State	0.423	11
Social Security and Social Insurance	0.534	6
Political Justice	0.734	3
Rule of Law	0.734	3
Social Justice	0.423	11
Control of Material Resources	0.484	12
Securing Social Order for Promotion of Welfare	0.485	8



MAHARASHTRA



Accomplishments

- Own Source Revenue Mobilisation
- Labour productivity
- Access to clean cooking fuel
- Ease of logistics and trade



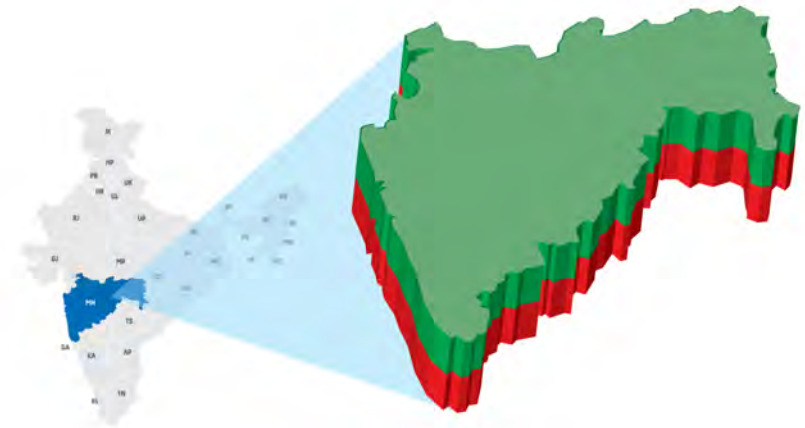
Aspirations

- Public expenditure on development
- Regularity and reliability of power supply
- Coverage of social safety net
- Equitable distribution of income and resources



Recommendations

- Rationalise unproductive public expenditure
- Optimise energy mix
- Mobilise interest and investment in social funds
- Revise wage-setting norms to increase minimum wages



Theme	Score	Rank
Overall	0.441	16
 Economic Justice	0.403	16
 Revenues of State	0.428	10
 Social Security and Social Insurance	0.407	17
 Political Justice	0.597	11
 Rule of Law	0.597	11
 Social Justice	0.403	16
 Control of Material Resources	0.463	14
 Securing Social Order for Promotion of Welfare	0.421	15

OR

ODISHA



Accomplishments

- Public expenditure on development
- Coverage of social safety net
- Commitment to independent financial devolution to local bodies



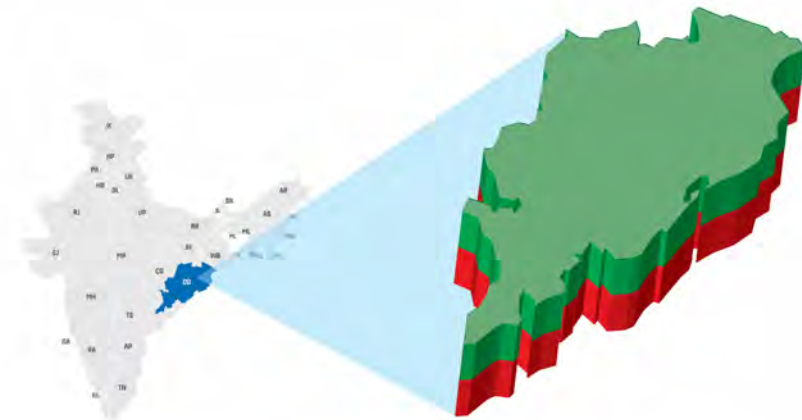
Aspirations

- Employment Opportunities
- Access to safe drinking water
- Redress for undertrial population
- Safe sanitation coverage
- Access to clean cooking fuel



Recommendations

- Place a thrust on generating meaningful employment
- Apprise drinking water quality through Consumer Confidence Reports
- Undertake awareness-building exercises to increase awareness, uptake, and utilisation of legal aid entitlements by undertrial population
- Ensure the functionality of toilets and the safe, preferably off-site, management of sewage
- Introduce cost-sharing arrangements or alterations to the financial ecosystem surrounding the uptake and affordability of clean cooking fuels



Theme	Score	Rank
Overall	0.541	11
 Economic Justice	0.690	4
 Revenues of State	0.575	3
 Social Security and Social Insurance	0.511	9
 Political Justice	0.570	13
 Rule of Law	0.570	13
 Social Justice	0.362	15
 Control of Material Resources	0.474	13
 Securing Social Order for Promotion of Welfare	0.443	14

PB

PUNJAB



Accomplishments

- Efficiency and environmental sustainability of land use
- Learning outcomes for school-goers
- Safe sanitation coverage
- Commitment to independent financial devolution to local bodies
- Early Childhood Development outcomes
- Access to safe drinking water
- Ease of logistics and trade



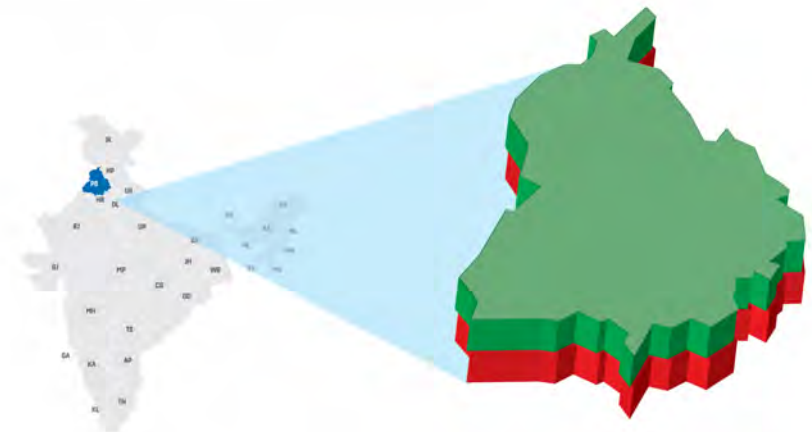
Aspirations

- Participation of females in the economy
- Employment Opportunities
- Redress for undertrial population
- Coverage of social safety net



Recommendations

- Encourage women's mobility and autonomy to cue behavioural change for continued education and greater participation in the labour force
- Place a thrust on generating meaningful employment
- Undertake awareness-building exercises to increase awareness, uptake and utilisation of legal aid entitlements by undertrial population
- Mobilise interest and investment in social funds



Theme	Score	Rank
Overall	0.622	5
 Economic Justice	0.334	17
 Revenues of State	0.385	15
 Social Security and Social Insurance	0.387	18
 Political Justice	0.616	9
 Rule of Law	0.616	9
 Social Justice	0.916	1
 Control of Material Resources	0.796	1
 Securing Social Order for Promotion of Welfare	0.634	3

RJ RAJASTHAN



Accomplishments

- Participation of females in the economy
- Commitment to independent financial devolution to local bodies
- Learning outcomes for school-goers



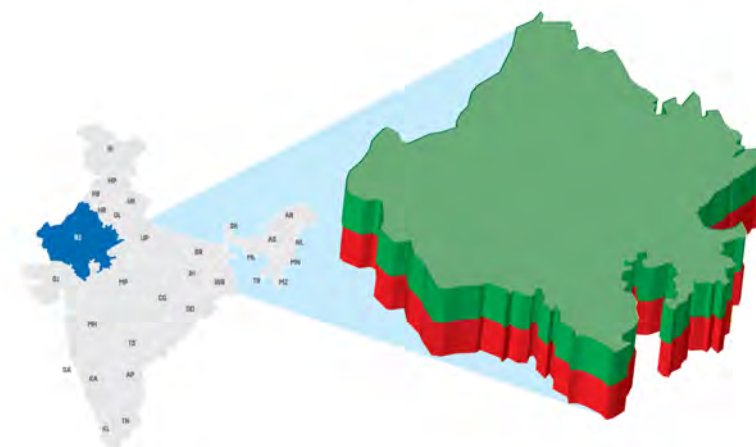
Aspirations

- Efficiency and environmental sustainability of land use
- Ease of logistics and trade
- Equitable distribution of income and resources
- Employment Opportunities



Recommendations

- Undertake land restoration through Joint Forest Management measures such as regulated grazing and appropriate afforestation
- Revise wage-setting norms to increase minimum wages
- Rationalise and economise paperwork, permits, processes that are redundant
- Place a thrust on generating meaningful employment



Theme	Score	Rank
Overall	0.552	9
 Economic Justice	0.444	14
 Revenues of State	0.449	8
 Social Security and Social Insurance	0.424	16
 Political Justice	0.723	4
 Rule of Law	0.723	4
 Social Justice	0.490	8
 Control of Material Resources	0.510	11
 Securing Social Order for Promotion of Welfare	0.522	5

TN

TAMIL NADU



Accomplishments

- Redress for undertrial population
- Population health
- Early Childhood Development outcomes
- Equitable distribution of income and resources
- Efficiency of police in mobilising case-related evidence
- Incidence of crime
- Functional devolution to rural and urban local bodies
- Access to clean cooking fuel



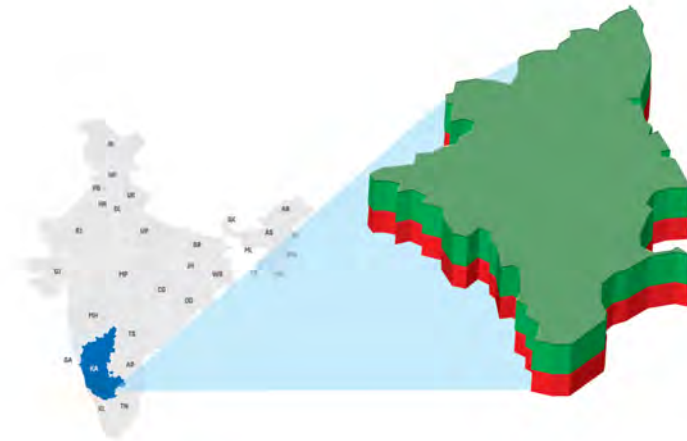
Aspirations

- Employment Opportunities
- Public expenditure on development
- Learning outcomes for school-goers



Recommendations

- Place a thrust on generating meaningful employment
- Rationalise unproductive public expenditure
- Restructure pedagogical methods and tools to improve learning outcomes



Theme	Score	Rank
Overall	0.621	6
 Economic Justice	0.334	8
 Revenues of State	0.393	14
 Social Security and Social Insurance	0.578	2
 Political Justice	0.638	8
 Rule of Law	0.638	8
 Social Justice	0.543	6
 Control of Material Resources	0.575	7
 Securing Social Order for Promotion of Welfare	0.498	7

TL

TELANGANA



Accomplishments

- Access to clean cooking fuel
- Own Source Revenue Mobilisation
- Participation of females in the economy
- Redress for undertrial population
- Equitable distribution of income and resources
- Access to safe drinking water



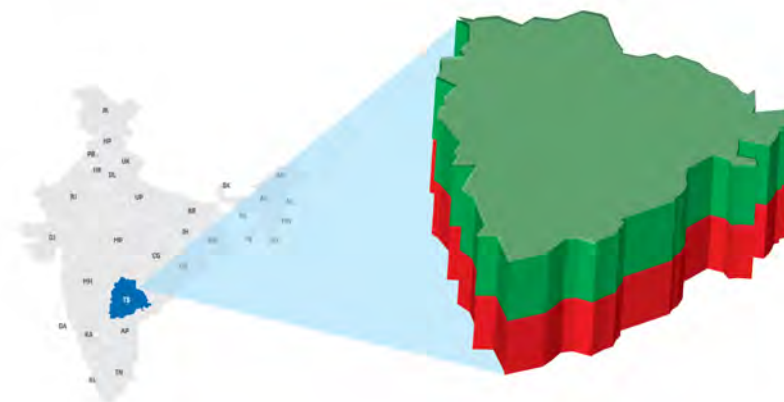
Aspirations

- Functional devolution to rural and urban local bodies
- Learning outcomes for school-goers
- Commitment to independent financial devolution to local bodies
- Population health



Recommendations

- Implement State Finance Commission recommendations
- Restructure pedagogical methods and tools to improve learning outcomes
- Implement State Finance Commission recommendations
- Bring emergency and non-emergency medical care closer to the population by strengthening public healthcare systems



Theme	Score	Rank
Overall	0.487	14
Economic Justice	0.607	6
Revenues of State	0.445	9
Social Security and Social Insurance	0.534	7
Political Justice	0.464	17
Rule of Law	0.464	17
Social Justice	0.390	12
Control of Material Resources	0.561	8
Securing Social Order for Promotion of Welfare	0.291	17

UP

UTTAR PRADESH



Accomplishments

- Own Source Revenue Mobilisation
- Efficiency and environmental sustainability of land use
- Access to safe drinking water



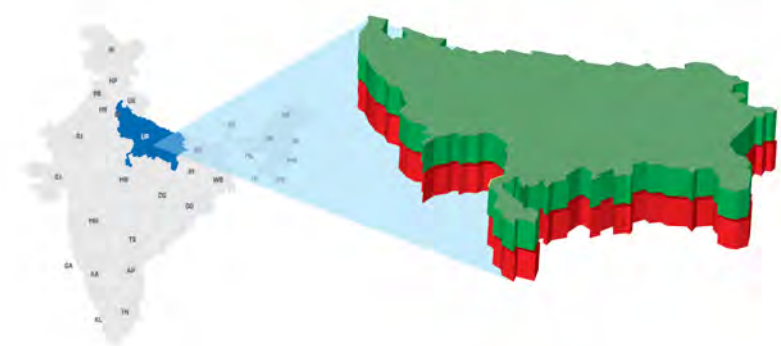
Aspirations

- Participation of females in the economy
- Early Childhood Development outcomes
- Learning outcomes for school-goers
- Labour productivity
- Regularity and reliability of power supply



Recommendations

- Encourage women's mobility and autonomy to cue behavioural change for continued education and greater participation in the labour force
- Integrate early learning, caregiving and nutrition services; pioneer solutions for cognitive and motor development
- Restructure pedagogical methods and tools to improve learning outcomes
- Earmark policies and investments for skill diversification and upgradation
- Optimise energy mix



Theme	Score	Rank
Overall	0.520	12
 Economic Justice	0.497	11
 Revenues of State	0.454	7
 Social Security and Social Insurance	0.463	13
 Political Justice	0.628	5
 Rule of Law	0.628	5
 Social Justice	0.381	13
 Control of Material Resources	0.448	15
 Securing Social Order for Promotion of Welfare	0.478	9



WEST BENGAL



Accomplishments

- Regularity and reliability of power supply
- Efficiency of police in mobilising case-related evidence
- Population health
- Learning outcomes for school-goers



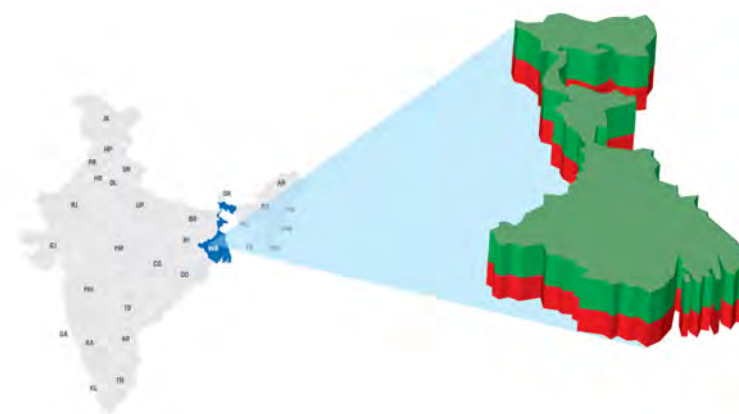
Aspirations

- Commitment to independent financial devolution to local bodies
- Safe sanitation coverage
- Ease of logistics and trade
- Labour productivity
- Own Source Revenue Mobilisation
- Incidence of crime



Recommendations

- Implement State Finance Commission recommendations
- Ensure the functionality of toilets and the safe, preferably off-site, management of sewage
- Rationalise and economise trade-related paperwork, permits, and processes
- Earmark policies and investments for skill diversification and upgradation
- Diversify revenue sources to improve own tax revenue
- Introduce predictive policing solutions



Theme	Score	Rank
Overall	0.423	17
 Economic Justice	0.180	18
 Revenues of State	0.217	18
 Social Security and Social Insurance	0.444	15
 Political Justice	0.522	15
 Rule of Law	0.522	15
 Social Justice	0.569	5
 Control of Material Resources	0.556	9
 Securing Social Order for Promotion of Welfare	0.551	4

AP

ARUNACHAL PRADESH



Accomplishments

- Public expenditure on development
- Redress for undertrial population
- Efficiency and environmental sustainability of land use
- Equitable distribution of income and resources
- Functional devolution to rural and urban local bodies
- Labour productivity



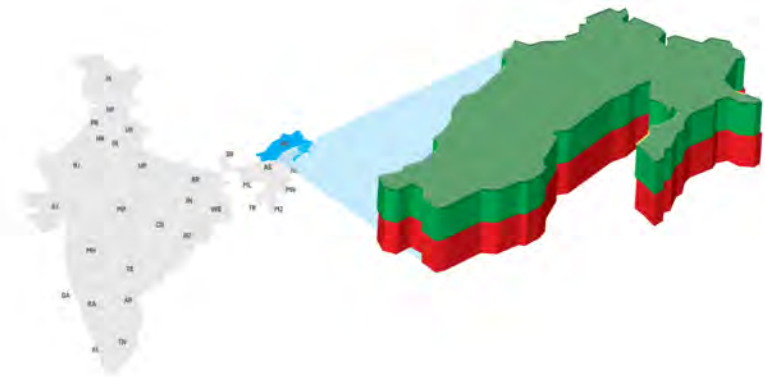
Aspirations

- Coverage of social safety net
- Population health
- Participation of females in the economy
- Incidence of crime
- Regularity and reliability of power supply
- Assurance of a standard of living to wage workers



Recommendations

- Mobilise interest and investment in social funds
- Bring emergency and non-emergency medical care closer to the population by strengthening public healthcare systems
- Encourage women's mobility and autonomy to cue behavioural change for continued education and greater participation in the labour force
- Introduce predictive policing solutions
- Optimise energy mix
- Revise wage-setting norms to increase minimum wages



Theme	Score	Rank
Overall	0.463	6
 Economic Justice	0.532	2
 Revenues of State	0.694	1
 Social Security and Social Insurance	0.479	9
 Political Justice	0.429	9
 Rule of Law	0.429	9
 Social Justice	0.431	5
 Control of Material Resources	0.431	7
 Securing Social Order for Promotion of Welfare	0.516	3



GOA



Accomplishments

- Labour productivity
- Own Source Revenue Mobilisation
- Assurance of a standard of living to wage workers
- Access to safe drinking water
- Access to clean cooking fuel
- Regularity and reliability of power supply
- Safe sanitation coverage
- Ease of logistics and trade
- Population health
- Learning outcomes for school-goers



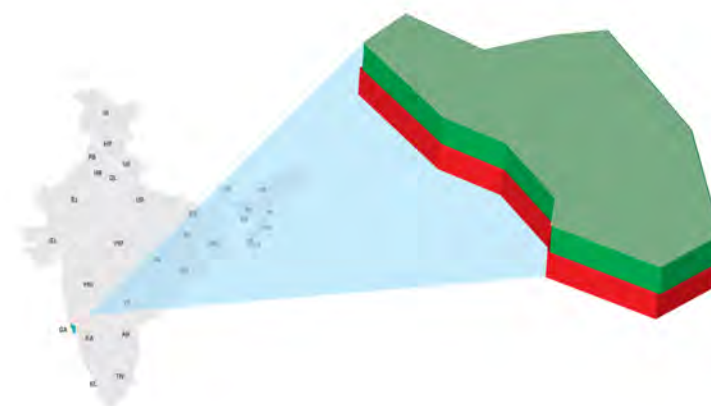
Aspirations

- Public expenditure on development
- Coverage of social safety net
- Employment Opportunities
- Functional devolution to rural and urban local bodies
- Efficiency and environmental sustainability of land use



Recommendations

- Rationalise unproductive public expenditure
- Mobilise interest and investment in social funds
- Place a thrust on generating meaningful employment
- Implement State Finance Commission recommendations
- Undertake land restoration through Joint Forest Management measures such as regulated grazing and appropriate afforestation



Theme	Score	Rank
Overall	0.482	4
Economic Justice	0.519	3
Revenues of State	0.562	2
Social Security and Social Insurance	0.568	7
Political Justice	0.380	10
Rule of Law	0.380	10
Social Justice	0.549	4
Control of Material Resources	0.686	1
Securing Social Order for Promotion of Welfare	0.393	8

HP

HIMACHAL PRADESH



Accomplishments

- Participation of females in the economy
- Functional devolution to rural and urban local bodies
- Commitment to independent financial devolution to local bodies
- Population health
- Efficiency of police in mobilising case-related evidence
- Access to safe drinking water
- Own Source Revenue Mobilisation
- Assurance of standard of living to wage workers
- Ease of logistics and trade
- Learning outcomes for school-goers



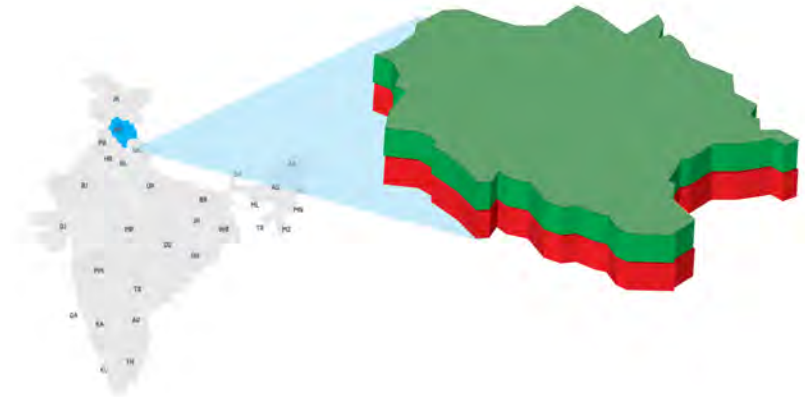
Aspirations

- Coverage of social safety net
- Incidence of crime
- Regularity and reliability of power supply
- Efficiency and environmental sustainability of land use
- Equitable distribution of income and resources



Recommendations

- Mobilise interest and investment in social funds
- Introduce predictive policing solutions
- Optimise energy mix
- Undertake land restoration through Joint Forest Management measures such as regulated grazing and appropriate afforestation
- Revise wage-setting norms to increase minimum wages



Theme	Score	Rank
Overall	0.504	2
 Economic Justice	0.368	6
 Revenues of State	0.364	5
 Social Security and Social Insurance	0.595	5
 Political Justice	0.496	5
 Rule of Law	0.496	5
 Social Justice	0.650	2
 Control of Material Resources	0.492	6
 Securing Social Order for Promotion of Welfare	0.641	1

MN

MANIPUR



Accomplishments

- Learning outcomes for school-goers
- Early Childhood Development outcomes
- Equitable distribution of income and resources
- Population health



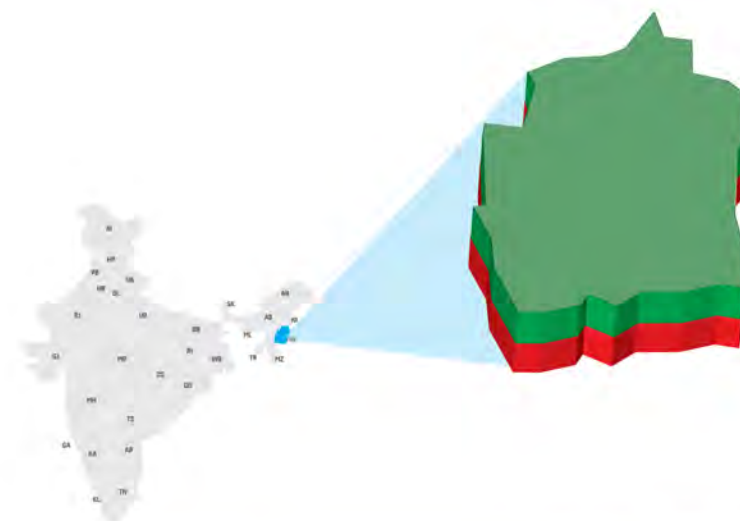
Aspirations

- Labour productivity
- Participation of females in the economy
- Safe sanitation coverage
- Access to safe drinking water
- Regularity and reliability of power supply



Recommendations

- Earmark policies and investments for skill diversification and upgradation
- Encourage women's mobility and autonomy to cue behavioural change for continued education and greater participation in the labour force
- Ensure the functionality of toilets and the safe, preferably off-site, management of sewage
- Apprise drinking water quality through Consumer Confidence Reports
- Optimise energy mix



Theme	Score	Rank
Overall	0.344	8
Economic Justice	0.279	8
Revenues of State	0.283	9
Social Security and Social Insurance	0.575	6
Political Justice	0.434	8
Rule of Law	0.434	8
Social Justice	0.319	8
Control of Material Resources	0.342	9
Securing Social Order for Promotion of Welfare	0.500	4

ML

MEGHALAYA



Accomplishments

- Own Source Revenue Mobilisation
- Employment Opportunities
- Participation of females in the economy



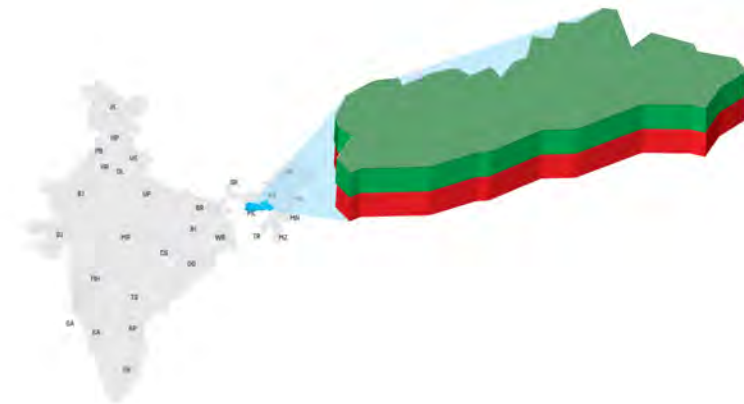
Aspirations

- Access to safe drinking water
- Population health
- Early Childhood Development outcomes
- Efficiency of police in mobilising case-related evidence
- Redress for undertrial population
- Access to clean cooking fuel
- Learning outcomes for school-goers



Recommendations

- Apprise drinking water quality through Consumer Confidence Reports
- Bring emergency and non-emergency medical care closer to the population by strengthening public healthcare systems
- Integrate early learning, caregiving and nutrition services; pioneer solutions for cognitive and motor development
- Conduct training sessions on scientific techniques of investigation to improve efficiency in police disposal of cases
- Undertake awareness-building exercises to increase awareness, uptake and utilisation of legal aid entitlements by undertrial population
- Introduce cost-sharing arrangements or alterations to the financial ecosystem surrounding the uptake and affordability of clean cooking fuels
- Restructure pedagogical methods and tools to improve learning outcomes



Theme	Score	Rank
Overall	0.446	7
 Economic Justice	0.485	4
 Revenues of State	0.452	3
 Social Security and Social Insurance	0.628	3
 Political Justice	0.486	7
 Rule of Law	0.486	7
 Social Justice	0.369	7
 Control of Material Resources	0.552	4
 Securing Social Order for Promotion of Welfare	0.349	10



MIZORAM



Accomplishments

- Safe sanitation coverage
- Public expenditure on development
- Incidence of crime
- Access to clean cooking fuel
- Redress for undertrial population
- Functional devolution to rural and urban local bodies
- Early Childhood Development outcomes



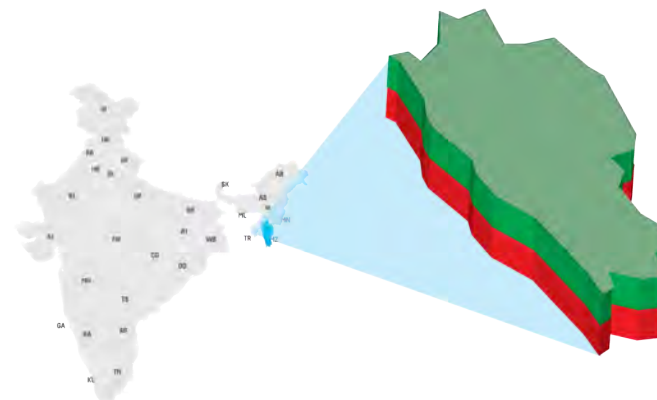
Aspirations

- Commitment to independent financial devolution to local bodies
- Ease of logistics and trade
- Learning outcomes for school-goers
- Own Source Revenue Mobilisation



Recommendations

- Implement State Finance Commission recommendations
- Rationalise and economise trade-related paperwork, permits, and processes
- Restructure pedagogical methods and tools to improve learning outcomes
- Diversify revenue sources to improve own tax revenue



Theme	Score	Rank
Overall	0.455	5
Economic Justice	0.428	5
Revenues of State	0.391	4
Social Security and Social Insurance	0.627	4
Political Justice	0.515	4
Rule of Law	0.515	4
Social Justice	0.421	6
Control of Material Resources	0.537	5
Securing Social Order for Promotion of Welfare	0.418	6

NL

NAGALAND



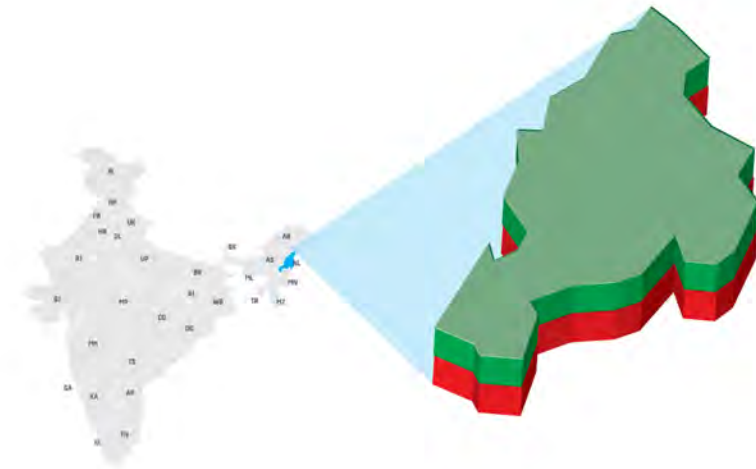
Aspirations

- Assurance of a standard of living to wage workers
- Employment Opportunities
- Commitment to independent financial devolution to local bodies
- Ease of logistics and trade
- Early Childhood Development outcomes



Recommendations

- Revise wage-setting norms to increase minimum wages
- Place a thrust on generating meaningful employment
- Implement State Finance Commission recommendations
- Rationalise and economise trade-related paperwork, permits, and processes
- Integrate early learning, caregiving and nutrition services; pioneer solutions for cognitive and motor development



Theme	Score	Rank
Overall	0.310	10
 Economic Justice	0.231	9
 Revenues of State	0.327	6
 Social Security and Social Insurance	0.501	8
 Political Justice	0.594	2
 Rule of Law	0.594	2
 Social Justice	0.105	10
 Control of Material Resources	0.382	8
 Securing Social Order for Promotion of Welfare	0.362	9

SK

SIKKIM



Accomplishments

- Employment Opportunities
- Early Childhood Development outcomes
- Labour productivity
- Assurance of a standard of living to wage workers
- Participation of females in the economy
- Commitment to independent financial devolution to local bodies
- Efficiency and environmental sustainability of land use



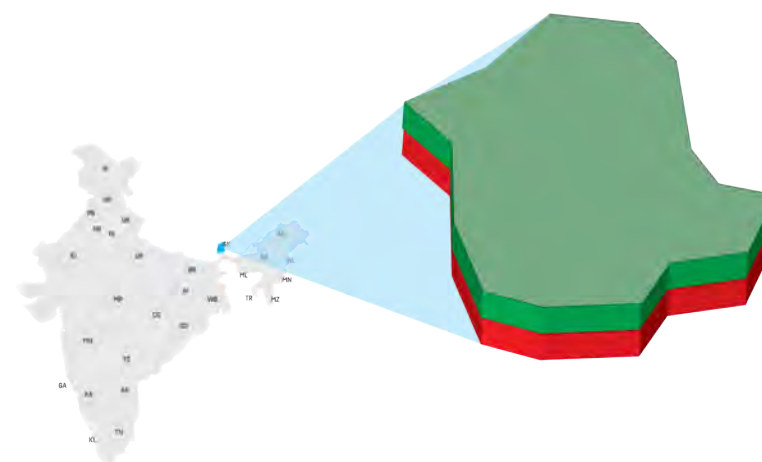
Aspirations

- Public expenditure on development
- Equitable distribution of income and resources
- Learning outcomes for school-goers
- Own Source Revenue Mobilisation



Recommendations

- Rationalise unproductive public expenditure
- Revise wage-setting norms to increase minimum wages
- Restructure pedagogical methods and tools to improve learning outcomes
- Diversify revenue sources to improve own tax revenue



Theme	Score	Rank
Overall	0.554	1
Economic Justice	0.612	1
Revenues of State	0.322	7
Social Security and Social Insurance	0.897	1
Political Justice	0.494	4
Rule of Law	0.494	4
Social Justice	0.555	3
Control of Material Resources	0.638	2
Securing Social Order for Promotion of Welfare	0.428	5

TR

TRIPURA



Accomplishments

- Coverage of social safety net
- Redress for undertrial population
- Employment Opportunities
- Commitment to independent financial devolution to local bodies



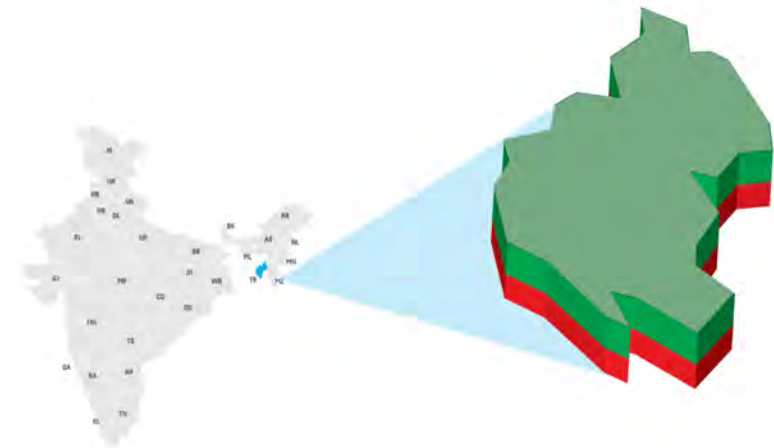
Aspirations

- Labour productivity
- Safe sanitation coverage
- Incidence of crime



Recommendations

- Earmark policies and investments for skill diversification and upgradation
- Ensure the functionality of toilets and the safe, preferably off-site, management of sewage
- Introduce predictive policing solutions



Theme	Score	Rank
Overall	0.316	9
 Economic Justice	0.314	7
 Revenues of State	0.208	10
 Social Security and Social Insurance	0.645	2
 Political Justice	0.487	6
 Rule of Law	0.487	6
 Social Justice	0.147	9
 Control of Material Resources	0.330	10
 Securing Social Order for Promotion of Welfare	0.415	7



UTTARKHAND



Accomplishments

- Efficiency of police in mobilising case-related evidence
- Ease of logistics and trade
- Regularity and reliability of power supply
- Access to safe drinking water
- Efficiency and environmental stability of land use



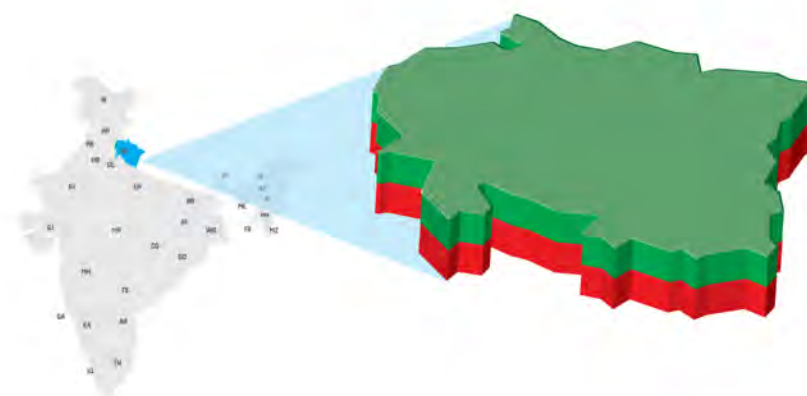
Aspirations

- Assurance of a standard of living to wage workers
- Employment Opportunities
- Functional devolution to rural and urban local bodies
- Public expenditure on development
- Equitable distribution of income and resources



Recommendations

- Revise wage-setting norms to increase minimum wages
- Place a thrust on generating meaningful employment
- Implement State Finance Commission recommendations
- Rationalise unproductive public expenditure
- Revise wage-setting norms to increase minimum wages



Theme	Score	Rank
Overall	0.495	3
 Economic Justice	0.093	10
 Revenues of State	0.285	8
 Social Security and Social Insurance	0.389	10
 Political Justice	0.615	1
 Rule of Law	0.615	1
 Social Justice	0.778	1
 Control of Material Resources	0.564	3
 Securing Social Order for Promotion of Welfare	0.641	1



- **Details of Indicators used in PAI 2022**
- **Technical Note on Multi Criteria Decision Making Model**
- **Technical Note on Sentiment Analysis**
- **Sub-theme and Theme level ranks and scores**
- **Sentiment Analysis - Additional Insights**
- **Delta Analysis Indicators and Sources**
- **Delta Analysis Results**
- **Media Reach for PAI 2021**

ANNEXURES

Theme	Economic Justice
Sub-Theme	Revenues of State
Indicator	Public Expenditure on Development
Rationale	Measures the enthusiasm of the State in reducing percentage share of salary payment and redirecting the amount towards furthering development outcomes
Constitutional Provision	<i>State List</i> - Treasure trove <i>Concurrent List</i> - Economic and social planning
Data Source	State Finances: A Study of Budgets
Publisher	Reserve Bank of India
Year	2021-22
Data Periodicity	Annual
Computation Formula	$(\text{Development Expenditure} \div \text{Gross State Domestic Product}) \times 100$
Data Unit	Percentage (%)
Interpretation	Higher value means better performance
Data Caveats	Latest reported Actual Accounts (2019) were used for calculations instead of Budgeted or Revised Estimates

Theme	Economic Justice
Sub-Theme	Revenues of State
Indicator	Own Source Revenue Mobilisation
Rationale	Measures the efficiency of State in improving revenue generation to meet growing expenditure and support the social sector investments of the state
Constitutional Provision	<i>State List</i> - Treasure trove <i>Concurrent List</i> - Economic and social planning
Data Source	State Finances: A Study of Budgets
Publisher	Reserve Bank of India
Year	2020-21
Data Periodicity	Annual
Computation Formula	Compound Annual Growth Rate (CAGR)
Data Unit	(₹) Rupee
Interpretation	Higher value means better performance
Data Caveats	Latest reported Actual Accounts (2019) were used for calculations instead of Budgeted or Revised Estimates

Theme	Economic Justice		
Sub-Theme	Revenues of State		
Indicator	Labour Productivity		
Rationale	Measures labour productivity. A high GSDP per hour generally indicates growth in real wage rate. This also motivates the use of new technology to boost productivity		
Constitutional Provision	State List - Trade and commerce in, and the production, supply and distribution of the products of any industry where the control of such industry by the Union is declared by Parliament by law to be expedient in the public interest, and imported goods of the same kind as such products		
Data Source	State Finances: A Study of Budgets	Time Use Survey	Census of India
Publisher	Reserve Bank of India	National Statistical Office, Ministry of Statistics and Programme Implementation	Office of the Registrar General & Census Commissioner, India
Year	2021-22	2019	2011
Data Periodicity	Annual	Non-periodic	Decennial
Computation Formula	Gross State Domestic Product ÷ (Average time spent per person * 365 * Projected Working Age Population)		
Data Unit	₹ per Hour		
Interpretation	Higher value means better performance		
Data Caveats	Latest reported Actual Accounts (2019) were used for calculations instead of Budgeted or Revised Estimates	The time spent per working-aged person (15-59 years) on 'Employment and Related Activities' was used	Population Projections for the year 2019 were used

Theme	Economic Justice
Sub-Theme	Social Security and Social Insurance
Indicator	Gender Contrasted Worker Population Ratio
Rationale	Measures the efforts taken by the state in reducing the gender gap in labour force participation. Financial agency is often considered a starting point in achieving gender quality and agency.
Constitutional Provision	<i>Fundamental Right</i> - Equality of opportunity in matters of public employment <i>Directive Principles of State Policy</i> - The State shall, in particular, direct its policy towards securing that the citizens, men and women equally, have the right to an adequate means of livelihood
Data Source	Periodic Labour Force Survey
Publisher	National Statistical Office, Ministry of Statistics and Programme Implementation
Year	2020-21
Data Periodicity	Annual
Computation Formula	Female Worker Population Ratio ÷ Male Worker Population Ratio
Data Unit	Percentage (%)
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Economic Justice
Sub-Theme	Social Security and Social Insurance
Indicator	Gini Index
Rationale	Measures economic inequality within the state. It would also indicate the failure/ success of the State's fiscal policies
Constitutional Provision	<i>Directive Principles of State Policy</i> - The State shall, in particular, strive to minimise the inequalities in income, and endeavour to eliminate inequalities in status, facilities and opportunities, not only amongst individuals but also amongst groups of people residing in different areas or engaged in different vocations
Data Source	Periodic Labour Force Survey
Publisher	National Statistical Office, Ministry of Statistics and Programme Implementation
Year	2020-21
Data Periodicity	Annual
Computation Formula	Author's Computation using Lorenz Curve
Data Unit	Index value
Interpretation	Lower value means better performance
Data Caveats	-

Theme	Economic Justice		
Sub-Theme	Social Security and Social Insurance		
Indicator	Coverage of Social Safety Net		
Rationale	Measures the humanitarian responsibility of the State in extending social security to the vulnerable of vulnerable population to reduce unnecessary burden on those earning below the poverty line		
Constitutional Provision	<i>State List</i> - Relief of the disabled and unemployable retarded. <i>Eleventh Schedule</i> - Social welfare, including welfare of the handicapped and mentally retarded. <i>Concurrent List</i> - Social security and social insurance; employment and unemployment <i>Directive Principles of State Policy</i> - Right to work, to education and to public assistance in certain cases		
Data Source	National Social Assistance Programme	National Sample Survey 76th Round, Persons with Disabilities	Census of India
Publisher	Ministry of Rural Development	National Statistical Office, Ministry of Statistics and Programme Implementation	Office of the Registrar General & Census Commissioner, India
Year	2022	2018	2011
Data Periodicity	Annual	Quinquennial	Decennial
Computation Formula	$[(\text{IGNOAPS beneficiaries} \div \text{old age population}) + (\text{IGNDPS beneficiaries} \div \text{disabled population})] \div 2$		
Data Unit	Percentage (%)		
Interpretation	Higher value means better performance		
Data Caveats	For North-Eastern States, percentage of elderly population was derived from the combined North Eastern States value to estimate old age population For Goa and Puducherry, the percentage share of elderly from Census 2011 were used to estimate from projected population Population projections for 2021 were used		

Theme	Economic Justice	
Sub-Theme	Social Security and Social Insurance	
Indicator	Standard of living of MGNREGS workers	
Rationale	Measures to what extent the wages provided under MNREGA is sufficient for the cost of living (measured using poverty line) in the region	
Constitutional Provision	<i>Directive Principles of State Policy</i> - The State shall, in particular, strive to minimise the inequalities in income, and endeavour to eliminate inequalities in status, facilities and opportunities, not only amongst individuals but also amongst groups of people residing in different areas or engaged in different vocations	
Data Source	Gazette Notification	Handbook of Statistics on Indian Economy
Publisher	Ministry of Rural Development	Reserve Bank of India
Year	2020-21	2011-12
Data Periodicity	Non-periodic	Annual
Computation Formula	State-wise MGNREGA wages - Poverty Line	
Data Unit	Rupee (₹)	
Interpretation	Higher value means better performance	
Data Caveats	Andhra Pradesh's Poverty Line value has been used for Telangana	

Theme	Economic Justice	
Sub-Theme	Social Security and Social Insurance	
Indicator	Unemployment Rate	
Rationale	Measures the availability of job opportunities as the state has the responsibility of creating opportunities that would supplements human development in the long run	
Constitutional Provision	<i>Fundamental Right</i> - Equality of opportunity in matters of public employment <i>Concurrent List</i> - Social security and social insurance; employment and unemployment	
Data Source	Periodic Labour Force Survey	
Publisher	National Statistical Office, Ministry of Statistics and Programme Implementation	
Year	2020-21	
Data Periodicity	Annual	
Computation Formula	Directly from data source	
Data Unit	Percentage (%)	
Interpretation	Lower value means better performance	
Data Caveats		

Theme	Political Justice
Sub-Theme	Rule of Law
Indicator	Functional Devolution
Rationale	Measures the extent of devolution that each state has managed to attain the devolution mandated by the Panchayati Raj Act. This entails devolution of funds, functions and functionaries from State government to rural and urban local bodies
Constitutional Provision	<i>State List</i> - Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration
Data Source	Fifteenth Finance Commission Report
Publisher	Fifteenth Finance Commission, Government of India
Year	2021-26
Data Periodicity	Quinquennial
Computation Formula	Directly from data source
Data Unit	Score out of 47
Interpretation	Higher value means better performance
Data Caveats	Only urban devolution has been considered for Meghalaya, Manipur and Nagaland since the 73rd and 74th Constitutional Amendment Acts, 1992 exempt these from following such architecture

Theme	Political Justice
Sub-Theme	Rule of Law
Indicator	Commitment to Fiscal Federalism
Rationale	Measures fiscal devolution through status of constituting State Finance Commission. State Government has the sole responsibility of devolving funds, functions and functionaries to ULBs and RLBs. For several schemes and programmes, PRIs act as the service delivery mechanism, implementation body and primary point of contact. A non-existent body at the local government level, causes blockages in the delivery mechanism and governance
Constitutional Provision	<i>State List</i> - Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration
Data Source	Fifteenth Finance Commission Report
Publisher	Fifteenth Finance Commission, Government of India
Year	2021-26
Data Periodicity	Quinquennial
Computation Formula	Directly from data source
Data Unit	Number
Interpretation	Higher value means better performance
Data Caveats	Nagaland and Meghalaya values have been imputed using MICE with Random Forest

Theme	Political Justice
Sub-Theme	Rule of Law
Indicator	Police Efficiency
Rationale	Measures the proportion of cases that were true but dismissed due to insufficient evidence. It provides insights into police effectiveness and efficiency. It could be indicative of outdated technology in investigation, low motivation, high constabulary strength and poor training among police staff
Constitutional Provision	State List - Police (including railway and village police) subject to the provisions of entry 2A of List I
Data Source	National Crime Records Bureau
Publisher	Ministry of Home Affairs, Government of India
Year	2020
Data Periodicity	Annual
Computation Formula	$\{[\text{Number of cases true but insufficient evidence or untraced or no clue (IPC+SLL)}] \div [\text{Total Cases Disposed Off by Police (IPC+SLL)}]\} * 100$
Data Unit	Percentage (%)
Interpretation	Lower value means better performance
Data Caveats	-

Theme	Political Justice
Sub-Theme	Rule of Law
Indicator	Undertrial Population in Prisons
Rationale	Measures the proportion of under trial population in prisons that could result in prison overcrowding. Additionally, it can be seen as a violation of human rights as the imprisoned individual could also be innocent of the accused crime
Constitutional Provision	State List - Prisons, reformatories, Borstal institutions and other institutions of a like nature, and persons detained therein; arrangements with other States for the use of prisons and other institutions
Data Source	National Crime Records Bureau
Publisher	Ministry of Home Affairs, Government of India
Year	2020
Data Periodicity	Annual
Computation Formula	$(\text{Number of Under trials} \div \text{Total Prison Inmates}) * 100$
Data Unit	Percentage (%)
Interpretation	Lower value means better performance
Data Caveats	-

Theme	Political Justice
Sub-Theme	Rule of Law
Indicator	Crime Rate
Rationale	Measures the extent of maintenance of law and order by the state. The State is responsible protection of safety and creation of a sense of security which are fundamental rights of all citizens. Moreover, high crime rates could be indicative of larger phenomenon like unemployment, poverty, etc.
Constitutional Provision	<i>State List</i> - Public order (but not including 5[the use of any naval, military or air force or any other armed force of the Union or of any other force subject to the control of the Union or of any contingent or unit thereof] in aid of the civil power)
Data Source	National Crime Records Bureau
Publisher	Ministry of Home Affairs, Government of India
Year	2020
Data Periodicity	Annual
Computation Formula	Directly from data source
Data Unit	Per lakh population
Interpretation	Lower value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Control of Material Resource-
Indicator	Households with access to clean cooking fuel
Rationale	Measures governmental efforts in increasing use of clean cooking fuel. Use of traditional sources of cooking fuel pose significant health risks. The high amount to be paid as security deposits to access gas cylinders have been identified as a factor of apprehension, thus creating a space for State intervention
Constitutional Provision	<i>State List</i> - Gas and gas-works : Taxes on the sale of petroleum crude, high speed diesel, motor spirit (commonly known as petrol), natural gas, aviation turbine fuel and alcoholic liquor for human consumption, but not including sale in the course of inter-State trade or commerce or sale in the course of international trade or commerce of such goods
Data Source	National Family Health Survey-5
Publisher	Ministry of Health and Family Welfare, Government of India
Year	2019-21
Data Periodicity	Quinquennial
Computation Formula	Directly from data source
Data Unit	Percentage (%)
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Control of Material Resources
Indicator	Households with improved sanitation services
Rationale	Measure access to sanitation facilities. Lack of access to sanitation services pose health risks, and could indirectly result in poor schools attendance, employability, etc. As public health and sanitation comes under the purview of the State, managing these risks becomes the States' direct responsibility
Constitutional Provision	<i>State List</i> - Public health and sanitation; hospitals and dispensaries
Data Source	National Family Health Survey - 5
Publisher	Ministry of Health and Family Welfare, Government of India
Year	2019-21
Data Periodicity	Quinquennial
Computation Formula	Directly from data source
Data Unit	Percentage (%)
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Control of Material Resources
Indicator	Households with improved drinking water sources
Rationale	Measures governmental efforts to improve access to clean drinking water. The government is responsible for the equitable division of common goods to promote equal opportunity for development of all individuals. Additionally, 100% rural functional tap water connectivity is a target to be achieved by 2024 under the Jal Jeevan Mission
Constitutional Provision	<i>State List</i> - Water, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of entry 56 of List I
Data Source	National Family Health Survey-5
Publisher	Ministry of Health and Family Welfare, Government of India
Year	2019-21
Data Periodicity	Quinquennial
Computation Formula	Directly from data source
Data Unit	Percentage (%)
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Control of Material Resources
Indicator	Trade and Logistics Ecosystem
Rationale	Measures the ease of logistics in each State. Effective communications are known to contribute towards better sectoral contributions to GDP. As Communications is an item under the State List, The State government and local bodies are responsible for maintaining good connectivity
Constitutional Provision	<i>State List</i> - Communications, that is to say, roads, bridges, ferries, and other means of communication not specified in List I; municipal tramways; ropeways; inland waterways and traffic thereon subject to the provisions
Data Source	LEADS Index report
Publisher	Ministry of Commerce and Industry, Government of India
Year	2021
Data Periodicity	Non-periodic
Computation Formula	Directly from data source
Data Unit	Index value
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Social Justice	
Sub-Theme	Control of Material Resources	
Indicator	Uninterrupted Power Supply	
Rationale	Measures the average hours of power supply in the State. While Electricity is an item on the Concurrent List, the state determines its general policy direction, taxes, tariffs and exercises control over generation, distribution and utilisation	
Constitutional Provision	<i>Concurrent List</i> - Electricity <i>State List</i> - Taxes on the consumption or sale of electricity	
Data Source	Annual Report of Central Electricity Authority	Lok Sabha Unstarred Question Number 992
Publisher	Central Electricity Authority, Government of India	Ministry of Power, Government of India
Year	2020-21	2019
Data Periodicity	Non-periodic	
Computation Formula	Weighted average for Rural and Urban households (weighted for population)	
Data Unit	Hours	
Interpretation	Higher value means better performance	
Data Caveats	Rural area values for Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Meghalaya, Mizoram and Nagaland were considered. Assam, Jharkhand and Tamil Nadu values are from CEA Annual Report (2019-2020)	

Theme	Social Justice
Sub-Theme	Securing Social Order for Promotion of Welfare
Indicator	Early Childhood Development Outcomes
Rationale	Measures governmental efforts in developing healthy and educated youth. Focus towards early childhood education and nutrition has been explored as a prominent low cost- high impact state intervention. This acts as an equaliser for ascribed traits, tool for social mobility and contributor to long-term development
Constitutional Provision	<i>State List</i> - Public health and sanitation; hospitals and dispensaries. <i>Concurrent List</i> - Education; (transferred item) <i>Directive Principles of State Policy</i> - Provision for early childhood care and education to children below the age of six years
Data Source	National Family Health Survey-5
Publisher	Ministry of Health and Family Welfare, Government of India
Year	2019-21
Data Periodicity	Quinquennial
Computation Formula	-
Data Unit	Index value
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Securing Social Order for Promotion of Welfare
Indicator	Learning Achievements
Rationale	Measures the focus in creating a robust education system. The National Achievement Survey paints a comprehensive understanding of the educational outcomes. Despite enhancing school infrastructure, pupil-teacher ratio and other improvements, states struggle with dropouts. In this environment, evaluating learning outcomes act as a good measure of educational achievements made by the state
Constitutional Provision	<i>Fundamental Rights</i> - Right to education.—The State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may, by law, determine <i>Concurrent List</i> - Education; (transferred item)
Data Source	National Achievement Survey
Publisher	Department of School Education and Literacy
Year	2021
Data Periodicity	Non-periodic
Computation Formula	Directly from data source
Data Unit	Percentage (%)
Interpretation	Higher value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Securing Social Order for Promotion of Welfare
Indicator	Land Degradation
Rationale	Measures the extent of land degradation in the State. Mindless sanction of developmental projects, poor public transportation options, promotion of detrimental agricultural practices, etc. worsen the rate of land degradation
Constitutional Provision	<i>Directive Principles of State Policy</i> - Protection and improvement of environment and safeguarding of forests and wild life <i>Twelfth Schedule</i> - Urban forestry, protection of the environment and promotion of ecological aspects <i>Fundamental Duties</i> - to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures
Data Source	Desertification and Land Degradation Atlas of India, ISRO
Publisher	Indian Space Research Organisation
Year	2021
Data Periodicity	Non-periodic
Computation Formula	Directly from data source
Data Unit	Percentage (%)
Interpretation	Higher value means better performance Lower value means better performance
Data Caveats	-

Theme	Social Justice
Sub-Theme	Securing Social Order for Promotion of Welfare
Indicator	Premature Mortality
Rationale	Measures the proportion people who do not meet the average life expectancy of India. This acts as a direct indication of access to affordable, corruption-free healthcare infrastructure and indirectly addresses the working and living conditions that exacerbate premature deaths
Constitutional Provision	<i>State List</i> - Public health and sanitation; hospitals and dispensaries
Data Source	Civil Registration System - Vital Statistics
Publisher	Office of Registrar General & Census Commissioner
Year	2020
Data Periodicity	Annual
Computation Formula	Deaths of people below the average life expectancy (69 years) / total number of deaths in the country
Data Unit	Percentage (%)
Interpretation	Lower value means better performance
Data Caveats	Values of Jharkhand and Maharashtra has been imputed using data from SRS 2019 data points. Average of Mizoram, Arunachal Pradesh, Nagaland, Meghalaya and Tripura has been assigned to Sikkim.

Introduction

Composite Index provides a common basis for comparing numerous entities based on a variety of distinct indicators, each measuring different aspects. It is a complex task which involves several alternatives and possibilities that affect the quality and reliability of the results. PAI 2022 utilises a total of 22 indicators grouped into the sub-themes – Revenues of State, Social Security and Social Insurance, Control of Material Resources, Securing Social Order for Promotion of Welfare, and Rule of Law encompassing the Economic Justice, Social Justice and Political Justice – all of these outlined in the Constitution of India.

The PAI 2022 Governance model follows the Multi Criteria Decision Making (MCDM) methodology of Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) to rank States in terms of their performance in Governance indicators grouped across various sub-themes and themes. This method also uses the Mahalanobis Distance as a distance separation measure from the Positive Ideal Solution (PIS) and Negative Ideal Solution (NIS) which the authors feel is the first of its kind when it comes to measuring governance parameters. This method does not give any weightages to the indicators and avoids any kind of human bias associated with composite indexing.

Keywords

Multi Criteria Decision Making, Technique for Order of Preference by Similarity to Ideal Situation, Euclidean Distance, Mahalanobis Distance

Computing the Composite Index

The steps involved in the computation of the PAI 2022 are mentioned below.

Step 1: Constitution of the decision matrix. The decision matrix is represented in the form of

$$V = (V_{ij})_{m \times n}$$

where,

$$i=1,2 \dots m \\ j=1,2 \dots n$$

Step 2: Specify the impacts of the indicators as positive or negative. That is, if a higher value of the indicator indicates better performance then the impact for the indicator will be positive and if a higher value of the indicator indicates poor performance then the impact for the indicator is negative.

Step 3: Determination of positive ideal solution (PIS) and negative ideal solution (NIS): The positive and negative ideal solution are determined as follows:

$$A^+ = \{ \vartheta_1^+, \vartheta_2^+, \dots, \dots, \vartheta_m^+ \} \\ = \{ (\max_i, \vartheta_{ij} / j \in B), (\min_i, \vartheta_{ij} / j \in C) \} \\ A^- = \{ \vartheta_1^-, \vartheta_2^-, \dots, \dots, \vartheta_n^- \} \\ = \{ (\min_i, \vartheta_{ij} / j \in B), (\max_i, \vartheta_{ij} / j \in C) \}$$

Step 4: Computation of distance separation measure from the positive and negative ideal solution.

Once the positive and negative ideal solution are identified, it is appropriate to use a distance separation measure. The Euclidean distance used in various other variations of TOPSIS methodology is insufficient in terms of inquiring into the relationship between different indicators in the MCDM problem and including them in the decision making process. To overcome this drawback, the PAI 2022 analysis used the Mahalanobis distance in computing the deviations from the ideal solutions. The Mahalanobis distance was preferred over the Euclidean distance since it removes several limitations of the latter since:

- It accounts for the scaling of the coordinate axes
- It accounts for the correlation between the variables by using the covariance matrix

The Mahalanobis distance is computed from the ideal separation values for each solution set as follows:

$$D^2 = (x-m)^T * C^{-1} * (x-m)$$

where,

- D^2 - is the square of Mahalanobis distance
- x - is the vector of observation of the row (State) in the decision matrix
- m - is the vector of the positive ideal solution and negative ideal solution of each column/indicator in the decision matrix
- C^{-1} - is the inverse covariance matrix of the decision matrix

Step 5: The TOPSIS score, i.e. the relative closeness to the ideal solution (RCi) is computed using the formula:

RCi = Distance to Negative Ideal Solution / Distance to Positive Ideal Solution + Distance to Negative Ideal Solution

$$RCi = (S_-) / (S_+ + S_-)$$

The RCi value ranges between 0 and 1. Closer the RCi value to 1, greater the absolute proximity to the ideal solution.

The process of computing the RCi is carried out from the indicators to sub-theme until the theme level – Economic Justice, Social Justice and Political Justice scores are obtained. The theme level scores are averaged to compute the PAI 2022 score for each State.

Introduction

PAI 2022, in addition to the governance model presents a new facet aimed at showcasing people's opinions and their response to the policies of the government. An analysis of social media posts with geotags from within India helped in realising this objective. Among popular social media platforms, Twitter was selected on account of logistical feasibility. The opinion and the sentiment are taken as a combination from the views expressed via tweets. Appropriately, Natural Language Processing techniques were used to extract sentiments and aggregate opinions to generate insights for 13 themes of interest.

Data Collection

Twitter makes available public data generated from April 2006 onwards, via the Twitter API (Application Programming Interface) at three levels of access, namely Essential, Elevated and Academic Research in the increasing degree of their superiority. Using the Elevated access, up to two million tweets can be downloaded per month. Tweets were extracted using relevant keywords defining each theme. Themes in line with List II items in the Seventh Schedule of the Constitution of India were identified and a bag-of-words was subjectively curated for each theme, invoking polarising phraseology. Each tweet, along with its metadata forms a data point, where the metadata comprises vital elements like the tweet creation time, geo location, language of the tweet, the number of likes, the number of retweets, the number of replies, and the number of quotes, which can be decisively used to determine the appeal of a tweet.

Data Cleaning

Tweets taken as raw text contain a host of elements that could prove detrimental to the model's performance. Hence, it is vital to clean the data so as to make it model appropriate. The following Table describes the data cleaning processes undertaken to generate the cleaned tweets.

Step	Type of Action	Specifics
1	Generic	Lower casing of the raw text.
2	Deletion	Removal of '#', '@', URLs, HTML tags, emojis and foreign characters outside of the English alphabet.
3	Replacement	Replacement of '&' symbol with 'and'.

Data Pre-processing

The following steps were undertaken in pre-processing the data:

- *Stop word removal* - Words like "the", "a", "to" etc., are relatively less significant compared to important nouns, adjectives and verbs contained in a text. Hence, removing these words helps in reducing the model's execution time without significantly hampering its performance.
- *Lemmatisation* - Reducing words to its base forms helps in the retention of the required context and the elimination of unnecessary noise. This helps in significantly reducing the model's execution time.

- *Vectorisation* - Models cannot process plain text. Hence, the text must be converted to a numerical representation that suits the model.

The following combination of processes helps in generating numerical representation of the tweets:

- *Generation of GloVe Vectors* - GloVe stands for Global Vectors for Word Representation. It is an unsupervised learning algorithm that yields vector representation of words. The model is trained on a corpus containing word-word co-occurrence statistics, sourced globally. It effectively captures the inherent linear substructures by analysing multiple word-word mappings, thereby providing accurate vector representations of words. Word vectors that have similar meanings and contexts are closer while words that are opiate in terms of their contexts appear farther.
- *Weighing the GloVe vectors with Term Frequency Inverse Document Frequency (TF-IDF) scores* It helps in gauging the importance of a word with respect to a tweet. Weighing the GloVe vectors with the TF-IDF scores assigns more prominence to relatively important words.
- *Generating a consolidated vector per tweet from the vectors of its encompassing words* - Since every tweet is taken as a data point, it is proper to have one vector representation per tweet. Vectors of words from each tweet are averaged to form this consolidated vector.

Sentiment Analysis

The objective of Sentiment Analysis is to identify the sentiment governing each tweet. The tags, “Strong Positive”, “Weak Positive”, “Neutral”, “Weak Negative”, and “Strong Negative” effectively capture the sentiment of a tweet at the appropriate granularity, thus defining the structure of our model’s result. This objective was achieved through a combination of results from two models, namely VADER (A popular rule- based method), and RNN (Recurrent Neural Network, a Machine Learning based algorithm).

The following sub-sections entail the various aspects of Sentiment Analysis for PAI 2022.

Valence Aware Dictionary and sEntiment Reasoner (VADER) -

VADER is a rule-based Sentiment Analysis model available via the NLTK library. It analyses text and yields a real number between -1 and 1 that indicates the sentiment of the text. It uses a dictionary to generate sentiment scores from lexical representations. Words with a high degree of positive connotation receive a stronger positive score, while words with a high degree of negative connotation receive a stronger negative score. It has high precision, and does not require training data. However, it suffers from low recall as the number of rules needed to account for the variety in writing styles becomes impractical. Therefore, it is necessary to also consider methods that better account for the non-uniform nature of the data.

Recurrent Neural Network (RNN)

Neural Networks are a subset of Machine Learning algorithms that transform themselves based on the data they encounter. They try to mimic the working of the human brain, albeit at a rudimentary level. They comprise of nodes called neurons - modelled after the human neuron - that activate or stay inactive based on the result of the activation function defining them. These neurons are interconnected across multiple layers to form Deep Neural Networks . Recurrent Neural Networks are Deep Neural Networks adapted to handle sequential data. Tweets form sequential structures, thus making Recurrent Neural Networks appropriate for the current use case.

The following points detail the process of building the model:

- *Modelling the result to suit the objective -*
The objective of this model is to generate a sentiment score per tweet, which has been accomplished by representing the problem statement as a ten-class classification problem, where the classes are integers ranging from 1 through 10. Strong negative sentiments garner a score closer to 1 and strong positive sentiments garner a score closer to 10. The scores obtained are scaled between -1 and 1 to make them proportionate to the scores obtained from VADER.

- *Defining the training data -*
Since this is a supervised model, existing labelled datasets were explored for their suitability to make the model compatible to the current use case. The Stanford Treebank dataset and the Amazon Reviews dataset , and a combination of the two were found to be most appropriate to experiment with the training of the model. The tree structure of the Stanford Treebank dataset helps the model to understand a word taken individually and the effect of its context when the remaining words in the sentence are added in succession. This helps in accounting for elements such as sarcasm, albeit at a rudimentary level. The Amazon Review dataset provides variety in writing styles. Following variations were considered and the model’s performance was evaluated (20% of the data was split for testing):

Dataset	Dataset Size	Model Accuracy
Stanford Treebank + Amazon Reviews	~ 5,00,000	~27%
Amazon Reviews	~ 3,00,000	~22%
Stanford Treebank	2,15,154	48.6%

Among the three variations, using the Stanford Treebank dataset alone yielded an accuracy score of 48.6% which is reasonable for a ten class classification problem. The following tenets rationalise the selection of Stanford Treebank dataset:

- Probability of choosing a random outcome among 2 outcomes is 50%. Likewise, the probability of choosing a random outcome among 10 outcomes is 10%.
- A good accuracy for a Sentiment Analysis model aiming at two- class classification, say a model trained on the Sentiment-140 dataset, is ~85%, which is 35% higher than choosing a random outcome.
- Since the probability of choosing a random outcome in a ten-class classification is 10%, RNN trained using the Stanford Treebank, with 48.6% accuracy, has a 38.6% higher chance of picking the correct class than a random selection. Hence, it can be argued that this model performs better than a model whose accuracy is 85% for a two class classification problem.

A trained RNN was used to generate sentiment scores for all of the 13 themes. While RNN accounts for the variety in data, its rule-based counterpart VADER is more accurate at score estimation.

Model specifications and hyper-parameters

Generating a composite sentiment score - To assuage the shortcomings of the individual methods, the results of the two models were averaged to generate a composite score, as one model's shortcoming is the other model's strength. This emulates an effect of counterbalancing the result.

Specification	Details
Layer 1 (Input layer)	Embedding layer with 100 nodes, to account for 100 dimensional input vectors.
Layer 2	Bidirectional LSTM layer of 256 nodes, with a maximum sequence length of 200, a dropout of 0.2 and a recurrent dropout of 0.2.
Layer 3	Dense layer with 512 nodes, with a ReLU activation function.
Layer 4	Dropout layer with 512 nodes, with a dropout value of 0.5.
Layer 5 (Output layer)	Dense layer with 10 nodes, with a Softmax activation function.
Optimiser	Adam
Loss function	Categorical Cross-Entropy
Epochs	25
Batch size	500
Maximum sequence length	200

The model partly derives inspiration from the project, deepSentiment¹⁵

Mapping scores to classes - As mentioned earlier, the objective of Sentiment Analysis is to map a tweet to its sentiment class. To avoid bias, the interval size of each class is taken to be uniform. The interval size is calculated as:

$$\frac{(maximum\ score(s)-minimum\ score(s))}{5}$$

The class intervals are defined from Strong Negative to Strong Positive, at successive addition of the interval size, starting from the lowest sentiment score obtained.

Verification of results against samples taken from 13 themes - Strong misclassifications are detrimental to the analysis. A tweet having a strong positive connotation should not be classified as a strong negative and a tweet having a strong negative connotation should not be classified as a strong positive. To verify that such misclassifications are minimal, a corpus containing a random selection of tweets from the 13 sample datasets, each of a statistically significant size - 272 - was labelled for sentiment classes by colleagues at PAC. Through the processes discussed earlier, composite sentiment scores and sentiment classifications were generated for each of these 13 sample datasets. The classes labelled by the model were evaluated against the classes manually assigned, and it was verified that the probability of strong negatives being classified as strong positives and vice-versa are contained below 5%.

Opinion Mining

The objective of opinion mining is to identify prominent narratives emerging from the corpus that can help generate qualitative insights. This is realised by identifying narratives bolstered by coherence and size.

Hierarchical Density-Based Spatial Clustering of Applications with Noise (HDBSCAN) - Due

to the unlabeled nature of data, HDBSCAN, which is an unsupervised density-based clustering algorithm was found to be the most suitable, since it employs density-based clustering which avoids implicit and explicit assumptions about the nature of the data and shapes the clusters based on the data. Additionally, its hierarchical nature captures nested relationships in the data.

Methodology for each of the 13 themes -

- *Data Pre-processing* - Tweets are cleaned and vectorised using the procedures described in the Data Pre-processing section.
- *Eliminate unwanted dimensions* - High dimensional vectors significantly affect the performance of Machine Learning algorithms. Hence, Principal Component Analysis was used for dimensionality reduction, retaining 80% of the variance.
- *Perform level-one clustering* - HDBSCAN was configured to prioritise high coherence in the clusters. This process yielded few clusters that had true coherent narratives, several clusters that contained tweets with nearly identical content (flagged as motivated campaigns), and a large sparse cluster labelled as noise. It must be noted that although the sparse noise cluster represents tweets of varying opinions, the tweets themselves are important and not merely noisy data points.
- *Perform level-two clustering* - Since most of the non-noise clusters in level-one clustering contained tweets indicating towards motivated campaigns, HDBSCAN was employed on the noise cluster from level-one with its configuration prioritising cluster size over coherence, thereby alleviating the biases that could have occurred because of them.

- *Identify prominent topics of clusters* - In coherent clusters from level-one clustering that didn't indicate a motivated campaign, a random selection of 50 tweets was considered for each such cluster. The generic opinion emerging from this selection was determined based on the domain knowledge. In clusters from level-two clustering, factors such as the number of likes and retweets that indicate the support for a tweet, in tandem with domain knowledge, were considered to identify the most prominent opinions.

The Table below summarises the methodological development for Opinion Mining:

Method	Details
Finding the most prominent sentence in a tweet by ranking them on the basis of word frequencies of important words (words that do not belong to the set of stop words).	It did not prove useful for tweets containing a single sentence. It was difficult to discern the aggregated opinion of a collective of tweets.
Latent Dirichlet Allocation	Although it provided a solution to map a collective of tweets to an opinion, the representation of the opinion in terms of a jumbled set of words only proved useful to indicate a broad topic, not in capturing the nuances that govern an opinion.
Aspect mining	Aspects, in the form of important words, did not yield to easy interpretation.
K-Means clustering	It assumes the spherical nature of the data, and performs poorly when the number of dimensions is higher than 10, which was the case at present.
Agglomerative and Graph based clustering models	Although relevant, HDBSCAN better suited the use case as it did not make implicit or explicit assumptions on the nature of the data and also captured nested structures inherent to the data.
Restricted Boltzmann Machine (RBM)	RBM maps the distribution of the dataset. Each neuron in the output layer represented a narrative. RBM was tested over a range of hyper-parameters. In each iteration of testing, several neurons showed very similar output values, thus lending them to be simultaneously active or inactive. The output of the narrative extraction was a set of prominent hashtags for each narrative, which provided a limited context for the analysis. The idea of reducing each tweet to its important keywords based on TF-IDF score was explored. Since IDF penalises words that occur across multiple tweets, important issues that many tweets referenced, would also be penalised. Hence, this did not seem viable to the current use case.

Leveraging the Results of Sentiment Analysis and Opinion Mining

The results of Sentiment Analysis and Opinion Mining factored in tandem paint a vivid picture of people's perception than either of them taken independently. To identify the burning issues pertaining to a theme, the sentiment classifications were analysed by proportion, State-wise. The States yielding the highest proportions of Strong Positive and Strong Negative tweets were considered and the major opinions prevalent in these states, as evident from the opinion mining results, were analysed. An objective comparison of the results of Sentiment Analysis and Opinion Mining against factual information of the corresponding theme enables the generation of valuable insights.

The Table below summarises the methodological development for Sentiment Analysis:

Method	Comments/Observations
Linear Support Vector Classifier trained on movie reviews.	Model yielded high accuracy but had a tendency to over fit on the movie review data that it was trained on, thus leading to a high number of misclassifications in the sets extracted for PAI 2022.
Naive Bayes	Although the model showed promising performance on the training data, it fell short in correctly classifying sentences involving sarcasm.
Decision Trees	It yielded a very low accuracy score when tested on datasets extracted for PAI 2022.

References

- ¹ Gelbukh, A. (2005). Natural language processing. In Fifth International Conference on Hybrid Intelligent Systems (HIS'05) (pp. 1 pp.-).
- ² Twitter. (n.d.). Twitter API documentation | docs | twitter developer platform. Twitter. Retrieved from <https://developer.twitter.com/en/docs/twitter-api>
- ³ Stemming and lemmatization. (n.d.). Retrieved from <https://nlp.stanford.edu/IR-book/html/htmledition/stemming-and-lemmatization-1.html>
- ⁴ Pennington, J., Socher, R., and Manning, C. 2014. Glove: Global vectors for word representation. In Proceedings of the 2014 conference on empirical methods in natural language processing (EMNLP) (pp. 1532–1543).
- ⁵ School of Computer Science and Engineering, Sammut, C., Technology, F. of I., & Webb, G. I. (1970, January 1). TF-IDF.

- SpringerLink. Retrieved from https://link.springer.com/referenceworkentry/10.1007/978-0-387-30164-8_832
- ⁶ Hutto, C., & Gilbert, E. (2014). Vader: A parsimonious rule-based model for sentiment analysis of social media text. In Proceedings of the international AAAI conference on web and social media (pp. 216–225).
 - ⁷ Sherstinsky, A. (2021, January 31). Fundamentals of Recurrent Neural Network (RNN) and long short-term memory (LSTM) network. arXiv.org. Retrieved from <https://arxiv.org/abs/1808.03314>
 - ⁸ Mitchell, T., & Mitchell, T. (1997). Machine learning. (Vol. 1) McGraw-hill New York.
 - ⁹ Loper, E., & Bird, S. (2002). Nltk: The natural language toolkit. arXiv preprint cs/0205028.
 - ¹⁰ Buckland, M., & Gey, F. (1994). The relationship between recall and precision. Journal of the American society for information science, 45(1), 12–19.
 - ¹¹ LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep learning. nature, 521(7553), 436–444.
 - ¹² Recursive deep models for semantic compositionality over a sentiment treebank. Deeply Moving: Deep Learning for Sentiment Analysis. (n.d.). Retrieved from <https://nlp.stanford.edu/sentiment/code.html>
 - ¹³ Project, U. C. S. D. C. S. E. R. (n.d.). Amazon Review Data (2018). Amazon review data. Retrieved from <https://nijianmo.github.io/amazon/index.html>
 - ¹⁴ Recursive deep models for semantic compositionality over a sentiment treebank. (n.d.). Retrieved from <https://nlp.stanford.edu/sentiment/treebank.html>
 - ¹⁵ Prajwal / deepsentiment · GITLAB. GitLab. (n.d.). Retrieved from <https://gitlab.com/praj88/deepsentiment>
 - ¹⁶ Pedregosa, F., Varoquaux, G., Gramfort, A., Michel, V., Thirion, B., Grisel, O., Blondel, M., Prettenhofer, P., Weiss, R., Dubourg, V., & others (2011). Scikit-learn: Machine learning in Python. the Journal of machine Learning research, 12, 2825–2830.

- ¹⁷ Linear Support Vector Classification. scikit. (n.d.). Retrieved from <https://scikit-learn.org/stable/modules/generated/sklearn.svm.SVC.html>
- ¹⁸ The HDBSCAN Clustering library. The hdbscan Clustering Library - hdbscan 0.8.1 documentation. (n.d.). Retrieved from <https://hdbscan.readthedocs.io/en/latest/index.html>
- ¹⁹ Blei, D., Ng, A., and Jordan, M. 2003. Latent dirichlet allocation. Journal of machine Learning research, 3(Jan), p.993–1022.
- ²⁰ Likas, A., Vlassis, N., & Verbeek, J. (2003). The global k-means clustering algorithm. Pattern recognition, 36(2), 451–461.
- ²¹ Wang, K., Zhang, J., Li, D., Zhang, X., & Guo, T. (2008). Adaptive affinity propagation clustering. arXiv preprint arXiv:0805.1096.
- ²² Derpanis, K. 2005. Mean shift clustering. Lecture Notes, 32.
- ²³ Verma, D., and Meila, M. 2003. A comparison of spectral clustering algorithms. University of Washington Tech Rep UWCSE030501, 1, p.1–18.
- ²⁴ Raksha, P. S. (2020). Computational model for online social discourse. Shodhganga@INFLIBNET: Computational Model for Online Social Discourse. Retrieved from <https://shodhganga.inflibnet.ac.in/jspui/handle/10603/349829>

PAI 2022 State Codes

Category	Code	State/UT Name
Large State	AP	Andhra Pradesh
Small State	AR	Arunachal Pradesh
Large State	AS	Assam
Large State	BR	Bihar
Large State	CG	Chhattisgarh
Small State	GA	Goa
Large State	GJ	Gujarat
Large State	HR	Haryana
Small State	HP	Himachal Pradesh
Large State	JH	Jharkhand
Large State	KA	Karnataka
Large State	KL	Kerala
Large State	MP	Madhya Pradesh
Large State	MH	Maharashtra
Small State	MN	Manipur
Small State	ML	Meghalaya
Small State	MZ	Mizoram
Small State	NL	Nagaland
Large State	OR	Odisha
Large State	PB	Punjab
Large State	RJ	Rajasthan
Small State	SK	Sikkim
Large State	TN	Tamil Nadu
Large State	TL	Telangana
Small State	TR	Tripura
Large State	UP	Uttar Pradesh
Small State	UK	Uttarakhand
Large State	WB	West Bengal

Economic Justice

Large States

Rank	States	Revenues of State	States	Social Security and Social Insurance	States	Theme Level Index
1	HR	0.6018	KA	0.6198	CG	0.8303
2	CG	0.5842	TN	0.5780	HR	0.8000
3	OR	0.5753	CG	0.5656	KA	0.7900
4	KA	0.5058	AP	0.5630	OR	0.6903
5	AS	0.4934	HR	0.5557	AS	0.6069
6	KL	0.4612	MP	0.5337	TL	0.6068
7	UP	0.4538	TL	0.5336	AP	0.5851
8	RJ	0.4490	BR	0.5282	TN	0.5823
9	TL	0.4446	OR	0.5112	MP	0.5731
10	MH	0.4276	JH	0.5099	JH	0.5109
11	MP	0.4232	GJ	0.5071	UP	0.4972
12	JH	0.4092	AS	0.4985	KL	0.4953
13	AP	0.4050	UP	0.4628	BR	0.4549
14	TN	0.3926	KL	0.4550	RJ	0.4440
15	PB	0.3847	WB	0.4439	GJ	0.4154
16	BR	0.3473	RJ	0.4240	MH	0.4027
17	GJ	0.3464	MH	0.4065	PB	0.3343
18	WB	0.2169	PB	0.3872	WB	0.1798



Political Justice



Large States	Rank	States	Rule of Law	States	Theme Level Index
	1	TN	0.875	TN	0.875
	2	KL	0.797	KL	0.797
	3	MP	0.734	MP	0.734
	4	RJ	0.724	RJ	0.724
	5	UP	0.682	UP	0.682
	6	AP	0.657	AP	0.657
	7	GJ	0.641	GJ	0.641
	8	KA	0.639	KA	0.639
	9	PB	0.616	PB	0.616
	10	CG	0.609	CG	0.609
	11	MH	0.597	MH	0.597
	12	BR	0.589	BR	0.589
	13	OR	0.571	OR	0.571
	14	AS	0.528	AS	0.528
	15	WB	0.522	WB	0.522
	16	HR	0.521	HR	0.521
	17	TL	0.464	TL	0.464
	18	JH	0.457	JH	0.457



Social Justice



Large States	Rank	States	Control of Material Resources	States	Securing Social Order for Promotion of Welfare	States	Theme Level Index
	1	PB	0.7962	KL	0.6711	PB	0.9162
	2	GJ	0.6693	HR	0.6362	HR	0.7636
	3	HR	0.6634	PB	0.6339	KL	0.7079
	4	KL	0.6306	WB	0.5512	GJ	0.5859
	5	AP	0.6100	RJ	0.5217	WB	0.5693
	6	CG	0.5961	AS	0.5132	TN	0.5429
	7	TN	0.5745	TN	0.4980	AP	0.5353
	8	TL	0.5614	MP	0.4852	RJ	0.4895
	9	WB	0.5560	UP	0.4780	CG	0.4518
	10	KA	0.5225	BR	0.4630	KA	0.4361
	11	RJ	0.5105	KA	0.4579	MP	0.4229
	12	MP	0.4841	AP	0.4520	TL	0.3901
	13	OR	0.4741	GJ	0.4495	UP	0.3810
	14	MH	0.4632	OR	0.4428	AS	0.3722
	15	UP	0.4479	MH	0.4213	OR	0.3625
	16	BR	0.4159	CG	0.3687	BR	0.3390
	17	JH	0.3609	TL	0.2912	MH	0.3250
	18	AS	0.3149	JH	0.2881	JH	0.0926



Economic Justice

Small States	Rank	States		States		States	Theme Level Index
			Revenues of State		Social Security and Social Insurance		
	1	AR	0.694	SK	0.897	SK	0.612
	2	GA	0.562	TR	0.645	AR	0.532
	3	ML	0.452	ML	0.628	GA	0.519
	4	MZ	0.391	MZ	0.627	ML	0.485
	5	HP	0.364	HP	0.595	MZ	0.428
	6	NL	0.327	MN	0.575	HP	0.368
	7	SK	0.322	GA	0.568	TR	0.314
	8	UK	0.285	NL	0.501	MN	0.279
	9	MN	0.283	AR	0.479	NL	0.231
	10	TR	0.208	UK	0.389	UK	0.093



Political Justice

Small States	Rank	Rule of Law		Theme Level Index	
		States		States	
	1	UK	0.615	UK	0.615
	2	NL	0.594	NL	0.594
	3	MZ	0.562	MZ	0.562
	4	SK	0.548	SK	0.548
	5	HP	0.496	HP	0.496
	6	TR	0.488	TR	0.488
	7	ML	0.487	ML	0.487
	8	MN	0.434	MN	0.434
	9	AR	0.429	AR	0.429
	10	GA	0.380	GA	0.380



Social Justice

Small States	Rank	Control of Material Resources		Securing Social Order for Promotion of Welfare	
		States		States	
	1	GA	0.686	UK	0.641
	2	SK	0.638	HP	0.617
	3	UK	0.564	AR	0.516
	4	ML	0.552	MN	0.500
	5	MZ	0.537	SK	0.428
	6	HP	0.492	MZ	0.418
	7	AR	0.431	TR	0.415
	8	NL	0.382	GA	0.393
	9	MN	0.342	NL	0.362
	10	TR	0.330	ML	0.349

Additional Insights

The qualitative insights drawn in the chapter titled 'Narratives of Justice' were culled out using a selection of Natural Language Processing algorithms. The detailed approach is outlined in the Annexure on 'Model and Methodology for Sentiment Analysis and Opinion Mining'. The research design was afflicted by some limitations despite concerted efforts to overcome them. Therefore, the interpretation of results and their validity, is subjected to the following caveats:

Digital divide and locational biases

Access to digital media is socially stratified along rural-urban, intra-regional and inter-State identities. According to the Telephone Regularity Authority of India (TRAII), at the end of December 2021, there were 37 internet subscribers per 100 rural population vis-à-vis 104 such subscribers per 100 urban population. These statistics additionally vary drastically across States; for example, the percentage of internet subscribers in Chhattisgarh ranges in single digits -7 per 100 population- while the corresponding figure for Andhra Pradesh indicates near universal coverage.

Demographic peculiarities of social media usage

Access to digital media and social media is socially stratified along male-female and age-disaggregated cohorts as well. 33.3% of Indian women were reported to have ever used the internet

in the National Family Health Survey-5 (NFHS-5, 2019-21) against 57.1% of Indian men. This gap consequently engenders a divide in social media usage. Further, younger cohorts are conjectured to be more likely to interact on social media than older cohorts. While data pertaining to demography-disaggregated user profiles are not publicly available, informal estimates indicate that a little over 55% of Twitter users were 18-34 years of age, as of 2021 (Statista, 2022)

Inter-State disparities in the popularity of Twitter

Twitter's user base is not only comparatively restricted, it also varies spatially across the States in India. In the dataset extracted for PAI 2022, on an average, fewer tweets were mapped to North-East Indian States for select indicators. The minimum corpus of tweets qualified for analysis was capped at 30, in line with t-test stipulations. States for which extracted tweets numbered fewer than 30 were disqualified from analysis; such States were highlighted in the maps in the chapter on 'Narratives of Justice' using a '#'

Choice of social media platform

The study extracted opinions in the form of tweets from Twitter. Among major social media platforms, Twitter has a comparatively lower user base of 1.75 crores than its contemporaries WhatsApp (53 crores), Facebook (41 crores) and Instagram (21 crores) (Ministry of Electronics &

Information Technology, 2021). The user privacy policy of WhatsApp, Facebook and Instagram rendered extraction logistically unfeasible. Twitter, on the other hand, is public by default, making tweets visible unless users turn their privacy settings private. These considerations rendered Twitter the most attractive choice in PAI 2022's Narrative Policy Framework (NPF)

The role of subjectivity

Domain knowledge was emphasised in the selection of topics for analysis, temporal boundaries and keywords for extraction. Topics that mapped to the State List in the Seventh Schedule of the Constitution formed the first base for identification, subsequent to which, specific topics and keywords were identified on the basis of their subjectively-adjudged potential for generating polarising views. Potential pitfalls of using subjectively-identified keywords are as follows:

- Highly local styles of referencing could be missed
- Indirect references could also be missed
- Emotional valence of certain themes may have been determined by the keywords, thereby affecting the sentiment classification of tweets. For example, 'roads' are cognitively closely associated with accidents, injuries and deaths, assigning an inherently negative connotation to the topic

Geo-tagging errors

While an attempt was made to capture the universe of tweets available, inadvertent biases or errors might have crept in on account of geo-tagging peculiarities. The four-point polygon used by Twitter is only an estimate of a region. Therefore, errors due to misclassification are estimated to have cascaded through further steps in data processing.

Algorithmic fit for detection of linguistic modalities and localised styles of writing

While multiple methods were tried to mitigate errors in classification and clustering of tweets on the basis of their sentiment, the NPF in PAI 2022 mobilised a combination of Valence Aware Dictionary and sEntiment Reasoner (VADER) and Recurrent Neural Network (RNN) with Hierarchical Density-Based Spatial Clustering of Applications with Noise (HDBSCAN) for desired results. These approaches however are limited by the following considerations:

- **Inability to detect sarcasm, spam, propaganda, sponsored trolls/posters, activity by bots, multiple negations and fake news** – Content fraught with deliberate disinformation or inadvertent misinformation are difficult for machines to analyse. Such phenomenon may deceive machines as they are embedded in real-world knowledge and are highly context-specific, culture-specific and topic-specific making it impossible to mimic (Maynard & Greenwood, 2014). The same shortcoming could have potentially led to misclassification in the dataset

as well. For example, a user in Meghalaya tweeted "I miss Bangalore traffic". Although the machine classified this as 'neutral', this appears to be a sarcastic retort indicating that the traffic in the State compares unfavourably to the city in question

- **Challenge of code-mixing and regional nuances of language-**

Twitter is available for users in seven Indian languages- Hindi, Urdu, Marathi, Bengali, Tamil, Kannada and Gujarati; other languages in India are not supported by the interface. As a result, multilingual users in under-resourced settings often deploy code-mixing where they switch their utterance into another language, like English (Chakravarthi et al., 2022). However, most algorithms currently do not support such multilingual embeddings. Consequently, words outside the scope of GloVe are assigned random vectors, affecting sentiment analysis results. Further, the NPF is trained on the Stanford Treebank dataset on movie reviews; the choice of dataset -although informed by checks on the model's performance- might have not been the best fit for capturing subject-specificities and regional linguistic nuances

- **Inability to silo tweets directed at States alone-** The NPF in PAI 2022 strived to use tweet-informed sentiment analysis as a litmus test for State governments. However, exhaustively tracking all aspects concerning the State alone was found to be logistically unfeasible.

There were numerous tweets directed at the Centre and not the States. As a result, public sentiment in the identified States were not solely a function of State Governments' policy decisions but of Central Government's as well.

Contagion of negative feelings

Some studies indicate that anger, complaints, dissatisfaction have higher contagion than positive-leaning feelings such as joy on social media platforms (Fan et al., 2016). Some studies also conceptualise social media platforms as 'complaint channels' (Clark, 2013). Inherently, therefore, the analysis could have a tendency for negativity.

Important features relating to the tweet extraction exercise						
Themes	Sub-themes	Topics	Number of Tweets Extracted	Temporal Boundary		Rationale for Boundary
				Start Date	End Date	
Economic Justice 	Revenues of State	Budgets	5551	February, 2022	April, 2022	The range maps to the budget announcements, speeches and discussions for the Financial Year 2022-23
		Fuel	58851	January, 2018	February, 2022	The range encompasses the various waves of COVID-19 and captures related public sentiment
	Social Security and Social Insurance	Employment	50209	March, 2020	February, 2022	The range encompasses the various waves of COVID-19 and captures related public sentiment
		Agriculture	18969	January, 2018	February, 2022	Agriculture is a persistent governance service delivery item. The boundary encapsulates a wide range of policy decisions and differential outcomes gendered by COVID-19
Political Justice 	Rule of Law	Elections	161060	January, 2017	January, 2022	A five-year lapse would have ideally seen a full range of Lok Sabha, Assembly and Local Body elections
		Law and Order	58851	January, 2018	February, 2022	Maintenance of law and order is a persistent governance service delivery item. The boundary encapsulates a wide range of policy decisions and differential outcomes gendered by COVID-19
Social Justice 	Control of Material Resources	Electricity	65741	January, 2018	February, 2022	Electricity is a persistent governance service delivery item. The boundary encapsulates a wide range of policy decisions and differential outcomes gendered by COVID-19
		Roads	164556	January, 2017	February, 2022	Roads and their maintenance is a persistent governance service delivery item. The boundary encapsulates a wide range of policy decisions and differential outcomes gendered by COVID-19
	Securing Social Order for Promotion of Welfare	Education	201755	March, 2020	March, 2022	The range encompasses the various waves of COVID-19 and captures related public sentiment
		Vaccination Drive	191679	January, 2021	December, 2021	The country started its vaccination drive in January, 2021 and set December, 2021 as the target for achieving full vaccination

Annexures

Delta Analysis - Indicators and Sources

The Greek letter 'Δ' or delta has been abstracted in mathematics as being connotative of change. Along a similar vein of thought, Delta Analysis approximates change by comparing values for a single parameter on two equal time intervals and vice-versa. Delta Analysis was undertaken in PAI 2022 to approximate change in the governance indicators identified. The change (Δ) was calculated using logarithmic differences. Logarithmic differences are symmetrical in nature, with values in opposing directions being the additive inverse of each other.

The following formula was used to calculate logarithmic differences-

[Natural Log (Value of the Parameter along Final Data Point)] – [Natural Log (Value of the Parameter along Beginning Data Point)]

The computation approach at the indicator-level follows the same methodology as the PAI 2022 model. Index generation too followed the Multi Criteria Decision Method (MCDM) approach propounded in the PAI 2022 model.

As the current schema for ranking governance across States is not comparable to previous editions of PAI, the analysis undertaken quantifies the delta between select indicators on the basis of availability of temporal data, from within the framework of PAI 2022.

 Political Justice	Sub-Theme	Indicators	Final Data Point			Beginning Data Point			Data Caveats for Beginning Data Point
	 Rule of Law	Police Efficiency	National Crime Records Bureau	Ministry of Home Affairs, Government of India	2020	National Crime Records Bureau	Ministry of Home Affairs, Government of India	2016	
		Undertrial Population in Prisons	National Crime Records Bureau	Ministry of Home Affairs, Government of India	2020	National Crime Records Bureau	Ministry of Home Affairs, Government of India	2016	For Goa and Manipur, in the absence of data, values have been imputed using MICE with Random Forest
		Crime Rate	National Crime Records Bureau	Ministry of Home Affairs, Government of India	2020	National Crime Records Bureau	Ministry of Home Affairs, Government of India	2016	

Annexures

Delta Analysis - Indicators and Sources



Economic Justice

Sub-Theme	Indicators	Final Data Point			Beginning Data Point			Data Caveats for Beginning Data Point
		Data Source	Publisher/Patron	Year	Data Source	Publisher/Patron	Year	
 Revenues of State	Public Expenditure on Development	State Finances: A Study of Budgets	Reserve Bank of India	2019-20	State Finances: A Study of Budgets	Reserve Bank of India	2019-20	Latest reported Actual Accounts (2015-16) were used for calculations instead of Budgeted or Revised Estimates
	Own Source Revenue Mobilisation	State Finances: A Study of Budgets	Reserve Bank of India	2019-20	State Finances: A Study of Budgets	Reserve Bank of India	2019-20	Latest reported Actual Accounts (2015-16) were used for calculations instead of Budgeted or Revised Estimates
 Social Security and Social Insurance	Unemployment Rate	Periodic Labour Force Survey	National Statistical Office, Ministry of Statistics and Programme Implementation	2020-21	Periodic Labour Force Survey	National Statistical Office, Ministry of Statistics and Programme Implementation	2017-18	
	Gender Contrasted Worker Population Ratio	Periodic Labour Force Survey	National Statistical Office, Ministry of Statistics and Programme Implementation	2020-21	Periodic Labour Force Survey	National Statistical Office, Ministry of Statistics and Programme Implementation	2017-18	
	Standard of living of MGNREGS workers	Gazette Notification	Ministry of Rural Development	2020-21	Periodic Labour Force Survey	Ministry of Rural Development	2018	
		Handbook of Statistics on Indian Economy	Reserve Bank of India	2011-12				
	Gini Index	Periodic Labour Force Survey	National Statistical Office, Ministry of Statistics and Programme Implementation	2021-22	Periodic Labour Force Survey	National Statistical Office, Ministry of Statistics and Programme Implementation	2021-22	Despite only a 1-year gap between the selected points for delta analysis, as opposed to the minimum 3-years gap in case of other indicators, the analysis was retained to shed light on insights relating to COVID-19
	Coverage of Social Safety Net	National Social Assistance Programme	Ministry of Rural Development	2022	Lok Sabha Unstarred Question No. 3716	Ministry of Rural Development	2016-17	
		National Sample Survey 76th Round, Persons with Disabilities	National Statistical Office, Ministry of Statistics and Programme Implementation	2018				
		Census of India	Office of the Registrar General & Census Commissioner, India	2011				

Sub-Theme	Indicators	Final Data Point			Beginning Data Point			Data Caveats for Beginning Data Point
		Data Source	Publisher/Patron	Year	Data Source	Publisher/Patron	Year	
Control of Material Resources	Households with improved sanitation services	National Family Health Survey-5	Ministry of Health and Family Welfare, Government of India	2019-21	National Family Health Survey-4	Ministry of Health and Family Welfare, Government of India	2015-16	
	Households with improved drinking water sources	National Family Health Survey-5	Ministry of Health and Family Welfare, Government of India	2019-21	National Family Health Survey-4	Ministry of Health and Family Welfare, Government of India	2015-16	
	Access to Clean Cooking Fuel	National Family Health Survey-5	Ministry of Health and Family Welfare, Government of India	2019-21	National Family Health Survey-4	Ministry of Health and Family Welfare, Government of India	2015-16	
	Trade and Logistics Ecosystem	LEADS Index report	Ministry of Health and Family Welfare, Government of India	2021	LEADS Index report	Ministry of Health and Family Welfare, Government of India	2018	For Arunachal Pradesh and Sikkim, in the absence of data for 2018, values have been imputed using MICE with Random Forest
Securing Social Order for promotion of Welfare	Premature Mortality	Civil Registration System - Vital Statistics	Office of Registrar General & Census Commissioner	2020	Civil Registration System - Vital Statistics	Office of Registrar General & Census Commissioner	2016	For Goa, in the absence of data from Civil Registration System (CRS), 2016, values from Sample Registration System (SRS), 2017 had been imputed For Arunachal Pradesh, Manipur, Meghalaya, Sikkim and Tripura, in the absence of data for 2016-17, values have been imputed using MICE with Random Forest
	Learning Achievements	National Achievement Survey	Department of School Education and Literacy	2021	National Achievement Survey	Department of School Education and Literacy	2017	
	Land Degradation	Desertification and Land Degradation Atlas of India, ISRO	Indian Space Research Organisation	2018-19	Desertification and Land Degradation Atlas of India, ISRO	Indian Space Research Organisation	2011-13	



Economic Justice

Large States	Revenues of State			Social Security and Social Insurance			Theme Level Index
	Rank	States		States		States	
	1	AS	1.000	BR	0.664	AS	0.782
	2	CG	0.725	OR	0.654	CG	0.608
	3	MH	0.689	GJ	0.622	OR	0.607
	4	WB	0.662	MP	0.609	MH	0.575
	5	PB	0.523	AP	0.576	WB	0.560
	6	JH	0.488	TL	0.554	TL	0.558
	7	TL	0.453	RJ	0.538	JH	0.551
	8	UP	0.425	JH	0.530	GJ	0.523
	9	KA	0.417	UP	0.519	AP	0.522
	10	OR	0.367	AS	0.508	MP	0.517
	11	TN	0.363	KA	0.508	BR	0.511
	12	RJ	0.355	HR	0.502	UP	0.504
	13	AP	0.338	CG	0.468	RJ	0.489
	14	MP	0.261	WB	0.457	KA	0.486
	15	GJ	0.248	MH	0.457	HR	0.388
	16	HR	0.228	TN	0.442	TN	0.378
	17	KL	0.196	KL	0.375	PB	0.253
	18	BR	0.133	PB	0.239	KL	0.214



Political Justice



Large States	Rank	States	Rule of Law	States	Theme Level Index
	1	UP	0.813	UP	0.813
	2	GJ	0.779	GJ	0.779
	3	KA	0.649	KA	0.649
	4	AS	0.606	AS	0.606
	5	KL	0.585	KL	0.585
	6	BR	0.575	BR	0.575
	7	WB	0.572	WB	0.572
	8	OR	0.563	OR	0.563
	9	HR	0.520	HR	0.520
	10	MH	0.516	MH	0.516
	11	AP	0.514	AP	0.514
	12	TL	0.487	TL	0.487
	13	PB	0.476	PB	0.476
	14	TN	0.416	TN	0.416
	15	JH	0.407	JH	0.407
	16	MP	0.395	MP	0.395
	17	RJ	0.364	RJ	0.364
	18	CG	0.339	CG	0.339



Social Justice



Large States	Rank	States	Control of Material Resources
	1	AP	0.596
	2	TL	0.547
	3	BR	0.518
	4	JH	0.503
	5	OR	0.444
	6	AS	0.391
	7	CG	0.391
	8	UP	0.354
	9	RJ	0.352
	10	MP	0.339
	11	KA	0.325
	12	WB	0.268
	13	TN	0.257
	14	GJ	0.214
	15	MH	0.204
	16	HR	0.163
	17	KL	0.144
	18	PB	0.034



States	Securing Social Order for Promotion of Welfare	States	Theme Level Index
HR	0.643	OR	0.729
UP	0.616	UP	0.708
WB	0.612	AP	0.643
MP	0.566	MP	0.624
OR	0.566	JH	0.622
RJ	0.545	WB	0.619
GJ	0.543	RJ	0.606
PB	0.538	HR	0.563
TN	0.537	TL	0.533
KA	0.498	CG	0.506
JH	0.472	KA	0.504
MH	0.464	TN	0.500
CG	0.460	BR	0.491
AP	0.444	GJ	0.470
AS	0.398	AS	0.417
TL	0.389	MH	0.332
BR	0.373	PB	0.323
KL	0.361	KL	0.122



Economic Justice

Small States	Rank	States	 Revenues of State	States	 Social Security and Social Insurance	States	Theme Level Index
	1	AR	1.000	ML	0.775	NL	0.795
	2	NL	0.803	NL	0.748	ML	0.740
	3	MZ	0.724	SK	0.724	AR	0.524
	4	ML	0.703	GA	0.669	MZ	0.469
	5	HP	0.481	HP	0.656	SK	0.435
	6	MN	0.440	MN	0.652	GA	0.370
	7	GA	0.437	MZ	0.624	HP	0.367
	8	UK	0.393	TR	0.606	MN	0.331
	9	SK	0.314	UK	0.595	UK	0.182
	10	TR	0.203	AR	0.580	TR	0.087



Political Justice

Small States	Rule of Law			
	Rank	States	Rule of Law	Theme Level Index
	1	NL	0.664	NL 0.664
	2	UK	0.589	UK 0.589
	3	MN	0.557	MN 0.557
	4	GA	0.547	GA 0.547
	5	AR	0.527	AR 0.527
	6	ML	0.520	ML 0.520
	7	SK	0.501	SK 0.501
	8	HP	0.380	HP 0.380
	9	TR	0.359	TR 0.359
	10	MZ	0.296	MZ 0.296



Social Justice

Small States	Control of Material Resources			
	Rank	States	Control of Material Resources	Theme Level Index
	1	MN	0.854	MN 1.000
	2	ML	0.571	AR 0.437
	3	AR	0.498	TR 0.435
	4	TR	0.469	SK 0.427
	5	HP	0.439	GA 0.404
	6	UK	0.409	ML 0.336
	7	NL	0.408	HP 0.335
	8	MZ	0.352	NL 0.277
	9	GA	0.283	UK 0.251
	10	SK	0.281	MZ 0.198

Coverage for PAI 2021



Social Media Coverage for PAI 2021



[Click to read further](#)



Public Affairs Index 2021

Recognising the central role of States in India as platforms of development action, the emphasis of **Public Affairs Index 2022 (PAI 2022)** is to evaluate governance in the sub-national units in India. In assessing governance, the Constitutionally rooted conception of Justice was operationalised through **three Themes, five Sub-themes and 22 indicators**; that quantitatively measure **Social, Economic and Political Justice** in the States of India.

PAI 2022 is a conscious effort to present a scientifically sound and methodologically rigorous data-based framework to measure the quality of governance in the states of India and rank them.



No 15, KIADB Industrial Area
Bommasandra- Jigani Link Road
Bangalore 560105 India
Phone +91 (0) 80 278 399 18/19/20

pec@pacindia.org
www.pacindia.org



Conceptualised & Designed by
Public Affairs Foundation
www.pafglobal.org

Rs 800/-

© 2022 Public Affairs Centre