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**NATURAL CALAMITY AND PARTISAN POLITICS:
POLITICS MATTERS, EVIDENCE FROM THE INDIAN
STATES**

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Abstract

The effective allocation of funds for ecological concerns must be tailored to meet specific ecological requirements for achieving development objectives. Given the fiscal responsibility of individual states in addressing environmental issues, it is imperative to allocate funds to states for ecological concerns in a manner that is both effective and efficient. This paper aims to investigate the allocation of funds for ecological concerns, particularly focusing on drought relief efforts, and to assess the impact of political alignment between individual states and the central government on this allocation process. Partisan politics often lead to inefficient allocation of funds through favouritism, posing a significant challenge, especially in assisting populations affected by natural disasters like drought, thus impeding the development process. This inequitable allocation disproportionately affects economically disadvantaged states, exacerbating their development challenges. This panel study highlights the discernible impact of the political alignment between individual states and the central government, the composition of parliamentary members, and the nature of political parties in power at both state and central levels on the allocation of funds during natural disasters, with a specific focus on drought relief efforts. These findings underscore the need to depoliticize the allocation process to ensure more equitable and efficient distribution of resources for addressing ecological concerns, particularly during periods of acute need.

Keywords: *Political Concentration, Partisan Politics, Fund Transfers, Natural Calamities*



INTRODUCTION

India, renowned as the world's largest democracy, showcases remarkable economic growth achieved in recent decades, reflecting its intricate social and political landscape. At the heart of India's development lies its democratic framework, enriched by quasi-federalism. This unique blend shapes India's governance distinctively. The nation's federalism, rooted in its constitution, establishes the Union of States and demarcates legislative, administrative, and executive responsibilities between states and the central government, forming the bedrock of its federal system.

This power distribution is structured into three lists: the Union List, the State List, and the Concurrent List, delineating legislative authority and ensuring systematic governance. Article 282 of the Indian Constitution safeguards states' financial autonomy, allowing them to allocate resources for public expenditure, reflecting India's commitment to decentralization and recognizing state diversity. Revenue allocation in India is overseen by the Finance Commission, ensuring equitable distribution based on state needs. This promotes fiscal federalism and resource sharing for national development. In disaster management, the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) provide crucial financial support during crises, aiding effective response and impact mitigation.

Despite the intricate design of India's federal system, significant disparities persist among its states, rooted in differences in revenue generation capacity and expenditure patterns. While federal systems in countries like the United States, the European Union, Australia, and Canada have achieved a higher degree of uniformity, India grapples with pronounced regional imbalances.

Political factors significantly influence the perpetuation of these disparities. Partisan politics, with its inherent bias and favouritism, often contributes to the unequal distribution of resources and opportunities among states. These disparities are further compounded by complex factors such as historical legacies, socio-economic disparities, and geographical variations. Addressing these imbalances through remedial measures may face political feasibility challenges due to the significant differences in states' needs and capacities. Political organizations wield considerable power in influencing resource allocation and fiscal transfers, playing a central role in determining funding priorities and policy decisions. This political interplay is integral to India's federal landscape.

However, despite noting these regional imbalances, India's journey as the world's largest democracy is characterized by remarkable economic growth and a diverse social and political landscape. Its democratic framework, enriched by quasi-federalism, is underpinned by the Indian Constitution, emphasizing the Union of States and the separation of powers. The careful division of authority through the Union List, State List, and Concurrent List ensures orderly and conflict-free governance. Article 282 empowers states with financial autonomy, reflecting India's commitment to decentralization and recognizing state diversity. The Finance Commission plays a crucial role in revenue allocation, emphasizing equitable resource distribution. During natural disasters, the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) provide essential financial support, safeguarding citizens' well-being. Despite these commendable mechanisms, regional disparities persist, challenging the principle of equal treatment among states. Political organizations play a crucial role in addressing these imbalances, influencing resource allocation, fiscal transfers, and policy decisions.

Table 1: Population Share and Income Share

	Population Share (1991)	Income Share (1991)	Population Share (2001)	Income Share (2001)	Population Share (2011)	Income Share (2011)
Andhra Pradesh	0.08	0.04	0.05	0.04	0.06	0.04
Bihar	0.11	0.02	0.1	0.02	0	0.02
Gujarat	0.05	0.07	0.06	0.08	0.07	0.1

Haryana	0.02	0.1	0.02	0.1	0.03	0.1
Himachal Pradesh	0.01	0.08	0.01	0.09	0.01	0.09
Karnataka	0.06	0.07	0.06	0.07	0.07	0.07
Kerala	0.04	0.08	0.03	0.08	0.03	0.09
Madhya Pradesh	0.08	0.06	0.07	0.05	0.08	0.04
Maharashtra	0.1	0.11	0.11	0.09	0.12	0.1
Odisha	0.04	0.05	0.04	0.04	0.05	0.05
Punjab	0.03	0.11	0.03	0.1	0.02	0.08
Rajasthan	0.06	0.04	0.07	0.05	0.08	0.05
Tamil Nadu	0.07	0.07	0.07	0.08	0.08	0.09
Uttar Pradesh	0.18	0.05	0.19	0.04	0.21	0.03
West Bengal	0.09	0.06	0.09	0.06	0.09	0.05

Source: Census India 1991, 2001 and 2011 for Population, Handbook for Indian States, Reserve Bank of India for Per Capita GSDP

Table 1 provides a comparative analysis of income and population shares among Indian states. One notable finding is the stark contrast between Uttar Pradesh and Kerala. Despite Uttar Pradesh's substantial population share (21 percent), its income share is only 3 percent, while Kerala, with a population representing just 3 percent, commands an 8 percent income share (2011 data). This disparity underscores significant regional inequalities within India.

In light of these disparities, fair fund distribution is crucial, especially in natural disaster contexts. Natural disasters have long-lasting economic repercussions, as noted by Von Peter *et al* (2012), necessitating collaborative efforts between state and central authorities for effective crisis management. The central question is whether the central government adequately fulfills its role in assisting during crises.

This issue touches on equity, disaster management, and governance principles, requiring a detailed exploration of fund allocation, political dynamics, and disaster response. Given India's challenges with regional imbalances and disaster relief, a comprehensive examination of these complexities is essential.

The Regional Disparities Conundrum

India's diverse topography and socio-economic landscape have given rise to significant regional disparities, a conundrum that has persisted over the years. The contrasting fortunes of states like Uttar Pradesh and Kerala serve as emblematic examples of the disparities that exist within the country. Uttar

Pradesh, with its colossal population share, lags significantly behind in terms of income share, painting a picture of economic inequality. In contrast, Kerala with a relatively smaller population share, enjoys a more substantial share of the national income.

The underlying causes of these disparities are multifarious. Factors such as historical legacies, economic development trajectories, resource endowments, and policy interventions have all played a role in shaping these divergent outcomes. While addressing these disparities is a formidable challenge, it is a fundamental imperative for achieving inclusive growth and equitable development across the nation.

Natural Disasters and Their Far-Reaching Impact

Natural disasters represent a daunting challenge for any nation, and India is no exception. These catastrophic events, ranging from droughts and floods to earthquakes and cyclones, can wreak havoc on lives, livelihoods, and infrastructure. Yet, their impact extends beyond immediate human suffering and destruction; they cast a long shadow on economic growth. The research conducted by Von Peter *et al* (2012) underscores the enduring repercussions of natural disasters on economic growth. Such crises disrupt economic activities, damage critical infrastructure, and erode the productive capacity of affected regions. The consequences are not limited to the short term, they have a lasting influence on a nation's economic trajectory. During times of such

crises, the need for effective disaster management and resource allocation becomes acutely apparent. The collaborative efforts of state and central authorities are instrumental in responding to the multifaceted challenges posed by natural disasters. The timely provision of financial support and resources is essential for mitigating the impact of disasters and facilitating the recovery process.

The Role of the Central Government

In the face of such challenges, the central government plays a pivotal role in disaster management and relief efforts. It is entrusted with the responsibility of providing necessary assistance to states grappling with the aftermath of natural disasters. The equitable allocation of resources and funds becomes a matter of profound significance. However, the central government's performance in fulfilling this role raises pertinent questions. Does it ensure a fair and impartial distribution of resources, or does political alignment and other factors skew this allocation? These questions are at the heart of the matter, as they pertain to principles of governance, justice, and disaster response effectiveness.

The Intersection of Politics and Disaster Relief

The role of politics in the allocation of funds during natural disasters cannot be underestimated. Political considerations often influence resource distribution, and this influence can manifest in various ways. The alignment between the state government and the central government, the presence of Members of Parliament, and the relative clout of states in the larger political landscape all factor into these dynamics. One key issue that emerges is whether political alignment between a state government and the central government results in a more favourable allocation of funds. Does the distribution of resources become skewed in favour of states with political affiliations that align with the ruling party or coalition at the centre? These questions challenge the notion of impartiality and equity in resource allocation.

The Impact of Fund Allocation on Disaster Management

How funds are allocated during times of crisis holds significant consequences for disaster management. An inequitable distribution of resources can

exacerbate the challenges faced by states struggling to respond to natural disasters. It can lead to delays in relief efforts, inadequate support for affected populations, and a protracted recovery process.

The implications are profound, as the allocation of funds directly impacts the ability of states to effectively manage disasters and safeguard the well-being of their citizens. As such, this issue transcends mere economic or political considerations; it is fundamentally about human welfare and the nation's capacity to respond to crises. The complexity of this issue necessitates a comprehensive examination that spans multiple dimensions. It calls for a thorough analysis of the mechanisms involved in the fund. This paper makes an effort to address the research question of "How does political alignment between individual states and the central government impact the allocation of funds for ecological concerns, specifically drought relief efforts, and what are the implications of partisan politics on the equitable distribution of resources?". Aligning with these research questions, this paper aims to examine the patterns of fund allocation for drought relief efforts among states with varying degrees of political alignment with the central government and assess the extent to which partisan politics influence the allocation process, focusing on potential favouritism and distribution of funds for drought relief efforts. In doing so, the paper will follow a structured outline encompassing several key sections. These include a literature review to contextualize the discussion within the existing body of knowledge on partisan politics, natural disasters, and fund allocation. The methodology section will detail the data collection process, variables, and analytical techniques employed to investigate the research questions. Subsequently, the findings section will present empirical results regarding the patterns of fund allocation and the influence of partisan politics. Finally, the conclusion will summarize the key findings, offer insights into policy implications, and suggest directions for future research.

Partisan Politics: Natural Disaster, Drought and Financial Assistant

Normative theories of fiscal federalism, as advanced by scholars such as Musgrave (1959, 1983) and Oates (1972), underscore the significance of just and

efficient transfers between governments. These transfers play a pivotal role in ensuring the provision of essential services and differentiated public goods, aligning with the fundamental principles of fiscal federalism. The central government, through mechanisms like central transfers and tax sharing, holds the potential to stimulate state growth, a phenomenon often influenced by political concentration and communication dynamics, as posited by Blanchard and Shleifer (2001). However, the interplay between party politics and these resource-sharing mechanisms remains a subject of ongoing debate.

Empirical evidence drawn from the Brazilian context, as explored by scholars like Soares and Neiva (2023) and Brollo and Nannicini (2012), highlights the substantial impact of political considerations on the distribution of resources at the state level. Gordin (2004) emphasizes the role of political identity in shaping power allocation within the framework of federalism, shedding light on the complex dynamics at play. Husted and Nickerson (2014) find that political engagement is a determining factor in granting disaster aid, a phenomenon observed within the United States. The research presented by Grossman (1994) suggests that political considerations exert a significant influence on the allocation of federal grants. Party affiliations and political identities are identified as factors that positively impact the per capita grants allocated to states. Nevertheless, Khemani (2003) counters this perspective by underlining the constraints imposed by constitutional provisions on political policy activity.

Dahlberg and Johansson (2002) reveal that grants can serve as tools to secure votes, being strategically allocated to attract swing voters rather than being exclusively channelled to politically aligned constituencies. Within the realm of emergency management, Garrett and Sobel (2003) unearth the political motivations behind fund allocation for disaster management. Their findings indicate that resources allocated by the Federal Emergency Management Agency (FEMA) are guided by political considerations. Parida (2016) extends this argument to the Indian context, demonstrating a correlation between flood damage and political alignment, with

losses minimized in states favoured by the central government.

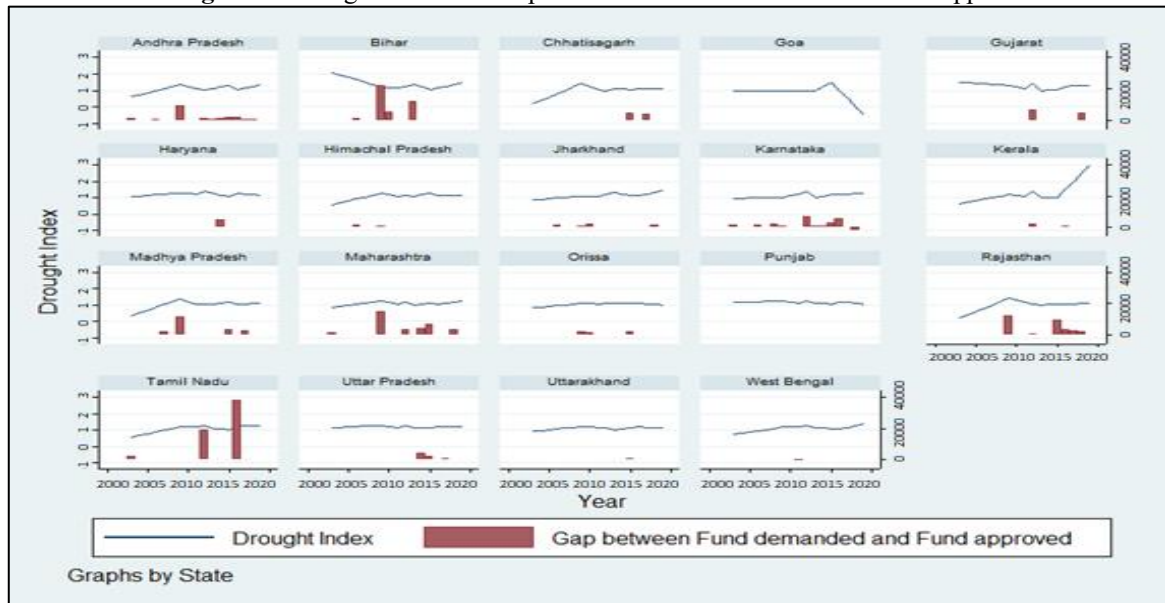
Similarly, Pattanayak and Kumar (2022) establish a link between political alignment and fund allocation in India, affirming the role of political dynamics in resource distribution. The issue of political favouritism in fund allocation, especially in the context of drought relief programs, continues to be a subject of extensive debate, as evidenced by studies like those conducted by Munemo (2008), Bastos and Miller (2013), Bobonis *et al* (2022) and Boffa *et al.* (2023). A recent study by Tarquinio (2020) also finds the impact of political motives on the relief fund allocation for southern Indian states.

This work contributes to the ongoing discourse on political favouritism in the allocation of funds for drought relief, offering insights within the unique context of India.

Drought and Fund allocation for Indian states

The escalating prevalence of drought in India, aggravated by the effects of global warming, has imposed a pressing demand for efficient drought relief measures. Drought is a multifaceted phenomenon, subject to two distinct definitions: meteorologists frame it as the absence of rainfall, while agriculturists perceive it as a dearth of soil moisture, which detrimentally affects crop productivity. Both of these perspectives are taken into consideration in the declaration of drought. States declare a drought when the total rainfall during June and July falls below 50 percent of the normal levels, leading to adverse effects on sowing areas, vegetation, and soil moisture¹. Significantly, recent years have witnessed regions that historically did not experience drought now facing mild to severe drought conditions, as documented by Gautam and Bana (2014). This shift in the drought landscape underscores the critical importance of allocating funds effectively to combat this growing natural disaster.

Within this context, the present study aspires to introduce new and insightful perspectives on the mechanisms governing the allocation of funds for drought relief in India. It takes into account the evolving nature of drought risk in the country and seeks to address the multifaceted challenges associated with this evolving crisis.

Figure 1: Drought Index and Gap between Fund Demanded and Fund Approved

Note: The drought index is constructed based on the methodology used by Yu and Babcock (2010), utilizing temperature and rainfall data from the India Meteorological Department. The methodology will be discussed in detail in the next section. The data for funds demanded and funds approved for drought relief are sourced from the Lok Sabha question-and-answer information.

Source: Author's Compilation (<https://agricoop.nic.in/sites/default/files/Manual%20Drought%202016.pdf>)

Figure 1 visually depicts the dynamics of drought occurrences and the disparities between the financial requests made by states and the actual allocations provided by the central government. Notably, certain states, such as Tamil Nadu, exhibit substantial differences, while others, like Jharkhand and Uttar Pradesh, manifest relatively minor variances. This pattern implies that specific states receive funding that falls short of their initial requests. These observations naturally prompt pertinent questions: Why do particular states receive less funding than their originally requested amounts, and to what extent does political alignment influence the allocation of these funds? This research endeavor seeks to explore and address these inquiries, with the overarching goal of shedding light on the intricate factors that drive the resource allocation process during times of environmental and agricultural distress. Through this comprehensive investigation, we aim to make a meaningful contribution to the deeper comprehension of the mechanisms that underpin the distribution of resources when confronted with adversity.

DATA AND METHODOLOGY

To analyze the political relationship between the state and the central government, researchers have utilized the co-partisanship variable, which is essentially a binary indicator representing whether the Chief Minister of a state belongs to the same political party or alliance that is in power at the central level (as seen in Parida, 2016 and Pattanayak and Kumar, 2022). In addition to this co-partisanship variable, the affiliation of Members of Parliament to the political party or alliance in power at the central level also holds significant importance, particularly in terms of bargaining power with the central government.

To capture this dynamic, the ratio of Members of Parliament from a state who belong to the ruling party or alliance at the central level, compared to the total number of Members of Parliament in that state, is employed to assess the centre-state relationship. Furthermore, the stability of state governments plays a pivotal role in this context. The nature of state governments, whether they are coalition governments or single-party majority governments, can have

distinct interactions with the central government. Therefore, to gauge the stability of state governments and the degree of coalition within a state, an index like the Herfindahl-Hirschman Index (HHI) is employed. This index helps in understanding the distribution of political power within the state assembly, shedding light on the strength and influence of the ruling party in the state.

$$HHI_{it} = \sum_{k=0}^n (S_{kit})^2$$

S_{kit} = Seat share of party k in power in state 'i' at year 't'

HHI_{it} = Herfindahl-Hirschman Index¹ for state 'i' at year 't'

The higher the HHI, the higher be political concentration which means a lesser number of political parties are forming the government.

To undertake an analysis of financial assistance allocated to states, the focal point of examination is the disparity between the funds solicited by states for mitigating drought, a form of natural catastrophe, and the actual disbursements provided by the central government. In addition to this central variable, several other crucial factors are integrated into the analytical framework to ensure a comprehensive assessment. Notably, variables such as per capita Gross State Domestic Product (GSDP) and a binary proxy for political instability, as indicated by changes in Chief Ministerial leadership, are introduced to capture their potential effects on the analysis.

Recognizing that the quantum of funds requested and sanctioned for drought relief by the central government may be contingent upon the prevalence of drought within a specific state, the inclusion of a control variable is imperative. This control variable is manifested in the ratio of districts declared as drought-affected to the total number of districts within a state. A robust panel data analysis approach is adopted for this research endeavor, and model selection is meticulously guided by statistical tests, encompassing

the Hausman test, joint testing, and the Breusch-Pagan Multiplier (BP-LM) test. The methodological rigor of the selected model ensures the soundness and reliability of the analysis.

$$\begin{aligned} \text{Gap}_{it} = & \beta_0 + \beta_1 \times (\text{HHI})_{it} + \beta_2 * (\text{MPshare})_{it} \\ & + \beta_3 \times (\text{MPshare})_{it} \times \text{CI}_{it} + \beta_4 \\ & \times \text{CI}_{it} + \beta_5 \times \text{DI}_{it} + \beta_6 \times X_{it} + u_i \\ & + \varepsilon_{it} \end{aligned}$$

Where 'i' represents the state and 't' represents the year.

Gap_{it} = Gap between fund demanded by state 'i' for drought and the actual fund provided by center at year 't'.

HHI_{it} = Political Concentration Index for state 'i' at year 't'.

CI_{it} = Co-partisan index, 1 if CM of the state belongs to the either party or alliance governing at the centre otherwise 0 for state 'i' at year 't'.

The drought index (DI_{it}) is constructed based on the methodology used by Yu and Babcock (2010),

$$\text{DI}_{it} = -[\max(0, \text{MTD}_{it}) \times \max(0, \text{TRD}_{it})]$$

Where MTD is a mean temperature deviation and TRD is a total rainfall deviation for state 'i' at year 't' from their long-term values.

$$\text{MP share}_{it} = \frac{\text{Number of Members of Parliament from a given state belongs to a party or alliance ruling at center}_{it}}{\text{Total number of Members of Parliament in the given states}_{it}}$$

Vector X represents the control variables - per capita GSDP, political instability (number of CM in year, change in CM)

u_i and ε_{it} represents within entity error term and overall error term respectively.

The data required for the HHI and Mshare calculation is taken from the Election Commission of India¹. Loksabha questions-answer², Minister of Agriculture and Farmers Welfare³, Department

¹ Measures the market concentration to identify the market competitiveness, here to measure the political competitiveness

of Agriculture, Cooperation and Farmers Welfare, Government of India provide the information related to the funds demanded and funds provided for drought. The data related to GSDP, per capita GSDP is extracted from the Reserve Bank of India⁴ (Handbook of

Statistics on Indian States). The data related to the temperature and rainfall is extracted from the India Meteorological Department. Table 2 summarizes the methods and data sources used to construct the variables for state 'i' at year 't'.

Table 2: Summarizing the methodology for variable construction

Variables	Approach	Source
Gap_{it}	Gap = Fund demanded for drought _{it} – Actual funds provided by center _{it}	Lok Sabha questions-answer (http://164.100.47.194/Loksabha/Questions/Qtextsearch.aspx) Minister of Agriculture and Farmers Welfare ⁵ , Department of Agriculture, Cooperation and Farmers Welfare, Government of India (https://agricoop.nic.in/en)
HHI_{it}	$HHI_{it} = \sum_{k=0}^n (S_{kit})^2$ S _k = Seat share of party k in power HHI = Herfindahl– Hirschman Index	Election Commission of India (https://eci.gov.in/files/category/64-statistical-report/)
mpshare_{it}	MP share _{it} = Number of Members of Parliament from a given state belongs to a party or alliance ruling Total number of Members of Parliament in the given state	Election Commission of India (https://eci.gov.in/files/category/64-statistical-report/)
CI_{it}	Co-partisan index, 1 if CM of state ('i') belongs to either party or alliance governing at the center otherwise 0 at year 't'	Election Commission of India (https://eci.gov.in/files/category/64-statistical-report/)
DI_{it}	$DI_{it} = -[\max(0, MTD_{it}) \times \max(0, TRD_{it})]$ Where MTD is a mean temperature deviation and TRD is a total rainfall deviation for state 'i' at year 't' from their long-term values.	India Meteorological Department
Number of CM in year_{it}	Total number of Chief Minister that takes chief ministerial oath in a given year ('t') in a given state ('i')	Election Commission of India (https://eci.gov.in/files/category/64-statistical-report/)
Change in CM_{it}	Dummy variable where it is 1 when Chief Minister gets changed and otherwise zero	Election Commission of India (https://eci.gov.in/files/category/64-statistical-report/)
Per capita GSDP_{it}	Per capita GSDP _{it} = $\frac{GSDP_{it}}{Total\ Population_{it}}$	Handbook of Statistics on Indian States, Reserve Bank of India

Source: Author's Compilation

²<https://eci.gov.in/files/category/64-statistical-report/>

²<http://164.100.47.194/Loksabha/Questions/Qtextsearch.aspx>

³<https://agricoop.nic.in/en>

⁴<https://rbi.org.in/Scripts/AnnualPublications.aspx%3Fhead%3DHandbook%20of%20Statistics%20on%20India%20States>

⁵<https://agricoop.nic.in/en>

FINDINGS

Table 3 presents the descriptive statistics for key variables used in the analysis. The table includes the number of observations (Obs), mean, standard deviation (Std. Dev.), minimum (Min), and maximum (Max) values for each variable. The variables examined include Gap, representing the disparity in fund allocation for drought relief; HHI, measuring the political concentration among different states; mpshare,

indicating the share of a member of parliament elected in a state that belongs to a party ruling in a centre; CI, capturing the level of political alignment between states and the central government; DI, drought index; Number of CM in year, reflecting changes in state leadership over the study period; Change in CM, indicating shifts in political leadership within states; and Per capita GSDP, representing the economic performance of states as measured by Gross State Domestic Product per capita.

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Gap	64	4132.76	6178.56	-1978.88	37816.72
HHI	323	0.304	0.146	0.066	1
mpshare	320	0.483	0.338	0	1
CI	323	0.452	0.498	0	1
DI	229	0.250	0.224	0	1
Number of CM in year	323	1.303	0.499	1	3
Change in CM	323	0.269	0.44	0	1
Per capita GSDP	279	40669.04	23885.83	7148.54	154025

Source: Author's Compilation

Table 4 provides the findings resulting from our panel data analysis. The selection of a random effects model, as revealed by both the Hausman test and the Breusch-

Pagan Lagrange Multiplier (BP-LM) test across all model variations, underscores the appropriateness of this modeling choice.

Table 4: Results

Gap	Model one	Model two	Model three	Model four
Mpshare*CI	13163.54*** (4801.3)	13502.9*** (4886.67)	10441.94*** (4017.1)	10651.64*** (4077.29)
Mpshare	-11049.7*** (3328.38)	-11169.7*** (3355.59)	-10226.4*** (2879.65)	-10329.7*** (2896.75)
CI	-7195.7*** (2691.47)	-7046.05 (4050.48)	-5651.81** (2504.17)	-5337.89 (3572.76)
HHI	-3187.42 (4546.27)	-2601.09 (11253.21)	-1605.41 (4146.28)	-470.831 (9802.80)
HHI*CI	-	-950.17 (12541.05)	-	-1459.29 (10679.52)
DI	5523.98*** (2031.46)	5562.59*** (2050.32)	5215.53*** (1741.75)	5226.784*** (1755.07)
Constant	7408.07** (3568.96)	7216.08 (4790.02)	8442.96*** (2648.34)	8130.33** (3691.68)
Wald chi2	26.28***	26.64***	23.60***	23.81***
Hausman Test	4.12	3.27	3.61	2.90
BP LM test for Random Effect	6.34***	6.30***	7.47***	7.46***
Control Variable	Yes	Yes	No	No

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Author's Compilation

Within models that lack the interaction term between the Herfindahl-Hirschman Index (HHI) and the Co-partisan index (CI), most variables demonstrate statistical significance, except HHI. In contrast, models incorporating the interaction term between HHI and CI reveal that all variables, excluding HHI and CI, exhibit statistical significance. Of particular note are the negative coefficients for the variables Mpshare and CI, signifying the presence of partisan politics in our studied context. This suggests that states where the Chief Minister belongs to the same alliance or party as the central government generally experience a smaller gap between requested and allocated funds.

Additionally, the variable Mpshare is found to exert a negative influence on the gap, suggesting that an increase in the number of Members of Parliament belonging to the party in power at the central level is associated with a reduction in the funding gap. Interestingly, the interaction term Mpshare×CI exhibits a positive sign, indicating that the advantages of having a greater number of Members of Parliament from the central ruling party or alliance are offset in states where the Chief Minister shares political alignment.

These results imply that two distinct channels for negotiating funds exist: one from the state government to the central government and the other from Members of Parliament to the central government.

Based on the results from table 4, table 5 summarizes the preferences of the central government in allocating the drought relief fund based on different scenarios related to the alignment of political parties at both the state and central levels, as well as the number of Members of Parliament (MPs) from each state. When the ruling party at the state level aligns with the party in power at the central government and the state has a high number of MPs, it is considered the most preferable scenario for the central government. In situations where the ruling party is the same at both levels but the state has a low number of MPs, it is still considered preferable for the central government. Conversely, when the ruling party differs between the state and central levels but the state has a high number of MPs, it is also classified as preferable, albeit to a lesser extent. Finally, states where there is no alignment between the ruling parties at both levels and the state has a low number of MPs are considered the least preferable for the central government.

Table 5: Centre's Preferences

Centre's preference	Same Party at State and Centre	High number of MPs
Most Preferable State	Yes	Yes
Preferable States	Yes	No
Preferable States	No	Yes
Least Preferable States	No	No

Source: Author's Compilation

CONCLUSION

The allocation of funds for ecological concerns in India is a vital component in achieving development goals. These funds must be distributed following the actual ecological needs of the regions. The disparities between the funds requested by states and the amounts approved by the central government must be minimized to ensure effective resource allocation. Furthermore, it is essential to insulate this process from the influence of partisan politics, which tends to prioritize favouritism over efficient distribution. This paper makes an effort to analyze the impact of favouritism empirically by employing the co-partisan index. Additionally, it also introduces a new approach to understanding favouritism by

considering political concentration measured by the HHI index as well as the share of members of parliament who belong to the party that is ruling in the centre. This approach is relatively unexplored in existing literature.

The consequences of inefficient fund allocation during natural disasters, particularly events like drought, are deeply unjust and have far-reaching implications for the affected population. This study underscores the significant impact of the political relationship between states and the central government on the allocation of funds during such crises. Political affiliations, as exemplified by the co-partisanship variable, play a substantial role in determining the degree of disparity between funds requested and those approved. The presence and alignment of Members of Parliament also

influence the allocation, and states without political alignment with the central government may find themselves inadequately equipped to respond to natural disasters.

In light of these findings, a comprehensive investigation into the role of partisan politics in the management of funds during natural disasters is imperative. This inquiry holds the key to a deeper understanding of India's resilience in the face of natural calamities and the promotion of equitable and efficient disaster relief efforts. It is vital to address these challenges and ensure a just and effective response to the ecological and environmental issues that continue to impact the nation.

The approach of identifying the favouritism between the centre and state adopted in this paper offers valuable insights for future investigations into the impact of favouritism on diverse socio-economic development indicators. Furthermore, this study uses the difference between fund demand by the state and funds approved by the Center for Drought Relief to understand the impact of favouritism in fund allocation. However, states may overestimate the costs of drought, thereby potentially affecting the analysis.

This limitation underscores the need for estimating the actual cost of drought and subsequently comparing it with the funds approved by the centre to mitigate bias. Addressing this limitation represents a future scope for extending this research.

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