

# Caste-based Inequities in MGNREGA Implementation: Precision Policy Advisory for Participatory Planning Processes

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# Importance of MGNREGS

- Largest public works scheme in the world
- 132.4 million active workers
- Wage employment to unskilled workers
- Creation of assets:
  - NRM (Natural Resource Management) assets
    - Irrigation like rainwater harvesting plants, farm ponds,
    - Pastureland redevelopment
  - Other assets
    - Agricultural land leveling,
    - Drought proofing
    - Cattle sheds



# Context about MGNREGS

- Backed by MGNREGA 2005 gives legal guarantee to provide 100 days of employment to each household
- Beneficiaries have a right to demand work and it is mandatory for the administration to provide employment or compensate with unemployment allowance.
- Measurement of MGNREGS performance is complex.

## Utilization issue

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- Limited by fund allocation
- Lesser funds allocated than required

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## Extensive management

- Measured in terms of number of households given employment

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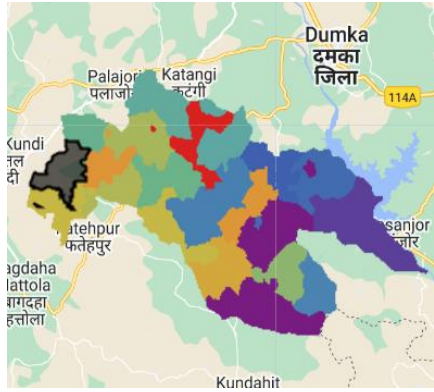
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# Is MGNREGS allocation fair? Preliminary view

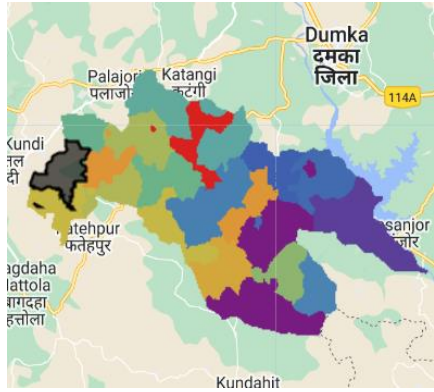


1. 0 2500 5000

Average annual wage expenditure  
normalized by household count

- But MGNREGS is a demand-driven scheme.
- Is it an appropriate metric to assess inequality in MGNREGS allocation?

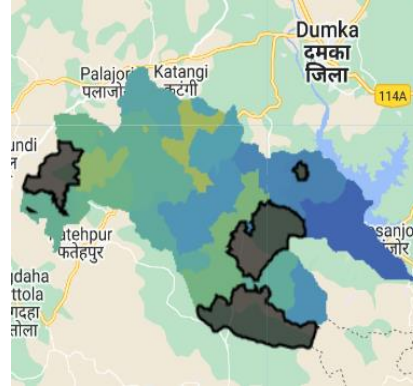
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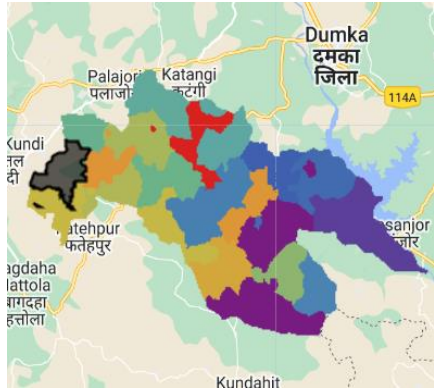


2. 0 7500 15000

Average annual wage expenditure normalized by recorded demand

- Do beneficiary raise demand as per their need?
- Does MIS record all demand?

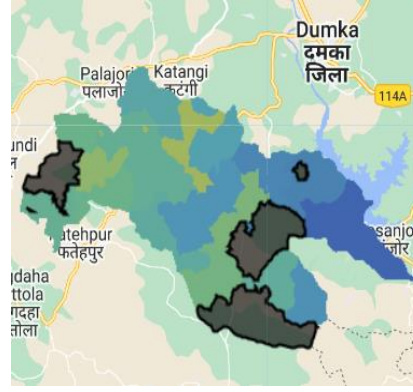
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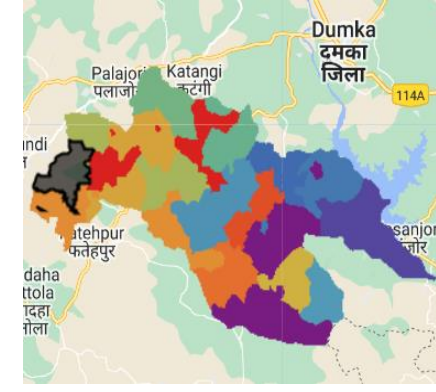
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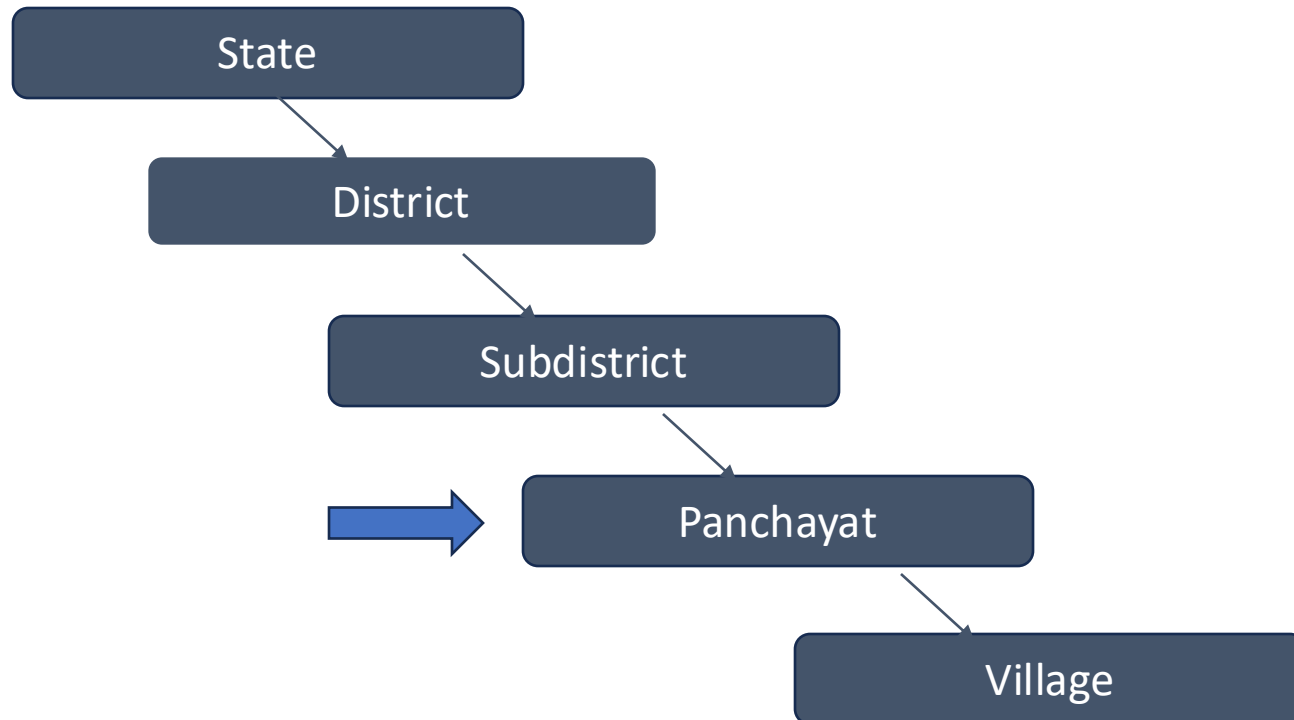
Average annual wage expenditure normalized by predicted demand

- MGNREGS expenditure normalized by demand predicted [using a model trained on drivers of MGNREGS demand] appears different for different panchayats.
- What is the extent of disparity?
- What could be the reason for this disparity?

Can data analysis help understand the process causing disparity and help with precise policy recommendation?

# Panchayat

- Elected local administrative body
- Responsible for planning economic development and social justice for rural area
- Group of villages – the smallest administrative unit in rural India
- Panchayat is the smallest administrative unit for fund allocation



# Research Questions

What is the extent of inequity?

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Between panchayats in each state

Extensive management   Intensive management   Utilization

Between panchayats in each district

Extensive management   Intensive management   Utilization

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Between panchayats in each state

Extensive management   Intensive management   Utilization

Between panchayats in each district

Extensive management   Intensive management   Utilization

Within a panchayat

Extensive management   Intensive management

# Hypothesis selection

## Test for equality

$H_0$ : Allocation<sub>t</sub> = Allocation<sub>c</sub>

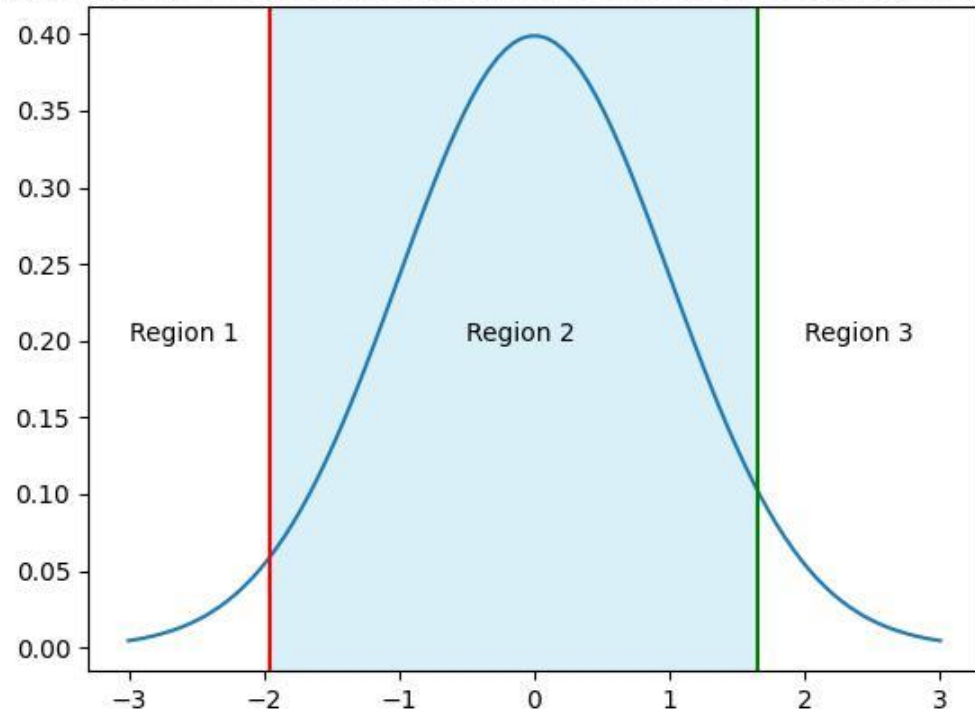
$H_a$ : Allocation<sub>t</sub>  $\neq$  Allocation<sub>c</sub>

## Test for equity

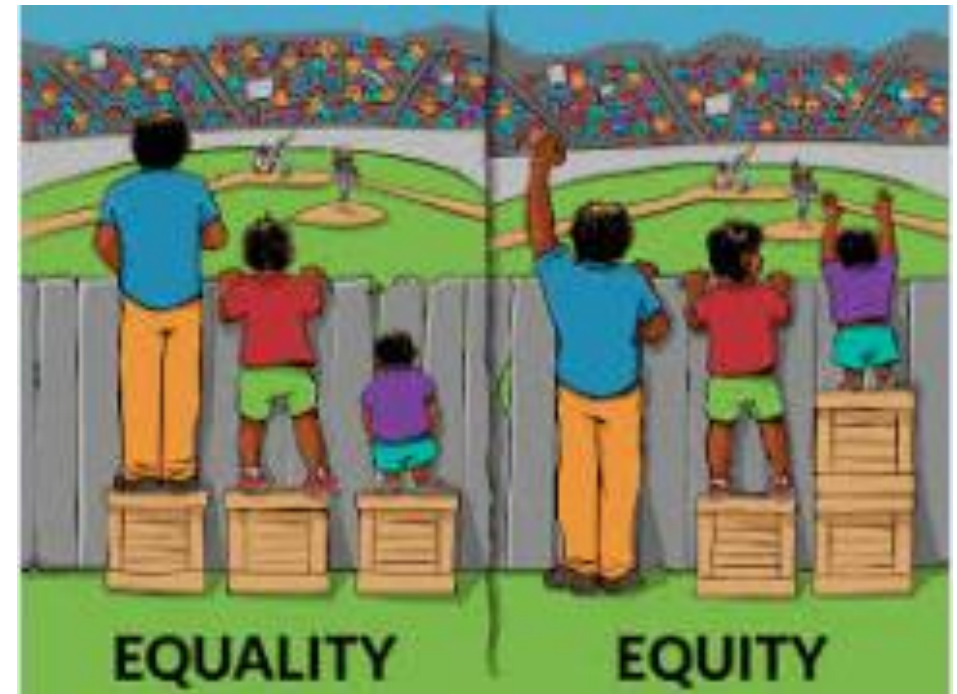
$H_0$ : Allocation<sub>t</sub>  $\leq$  Allocation<sub>c</sub>

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Difference in resource allocation between treated & control panchayats



## Fair allocation from equality perspective



# Hypothesis selection

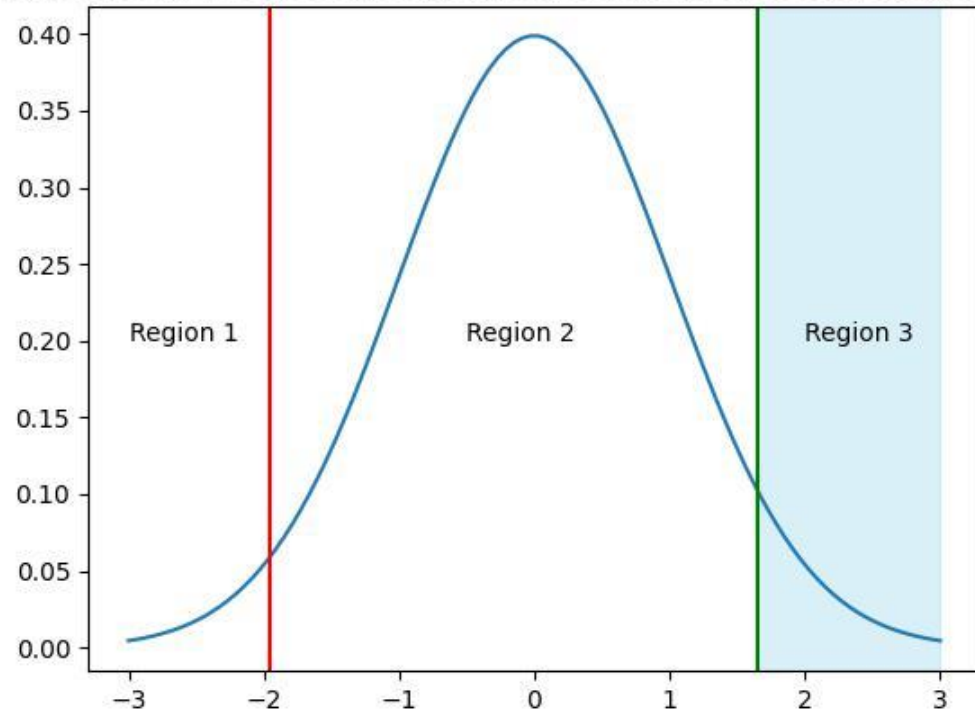
## Test for equality

$H_0$ : Allocation<sub>t</sub> = Allocation<sub>c</sub>  
 $H_a$ : Allocation<sub>t</sub> ≠ Allocation<sub>c</sub>

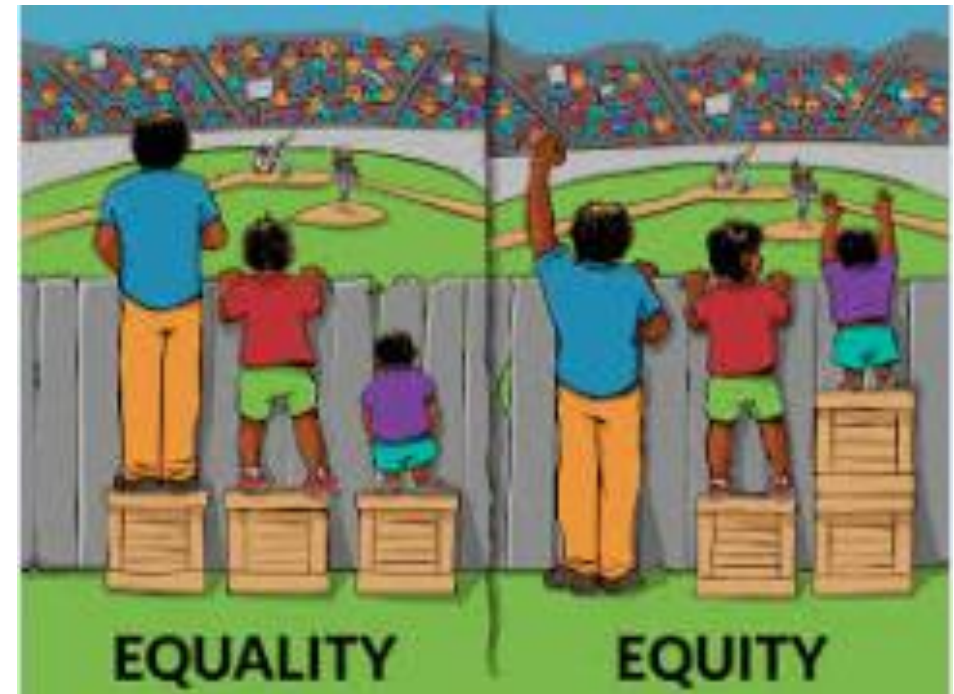
## Test for equity

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Difference in resource allocation between treated & control panchayats



## Fair allocation from equity perspective

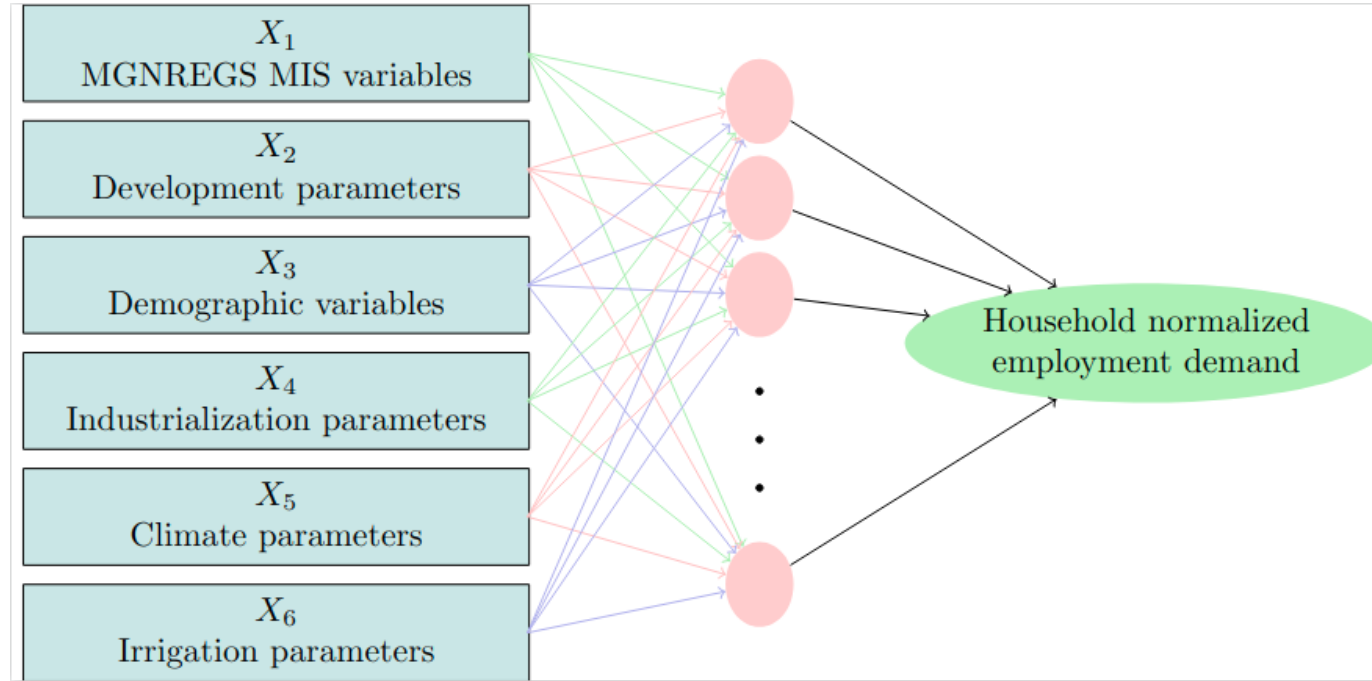


# Prediction of Demand

Identify well-performing panchayats

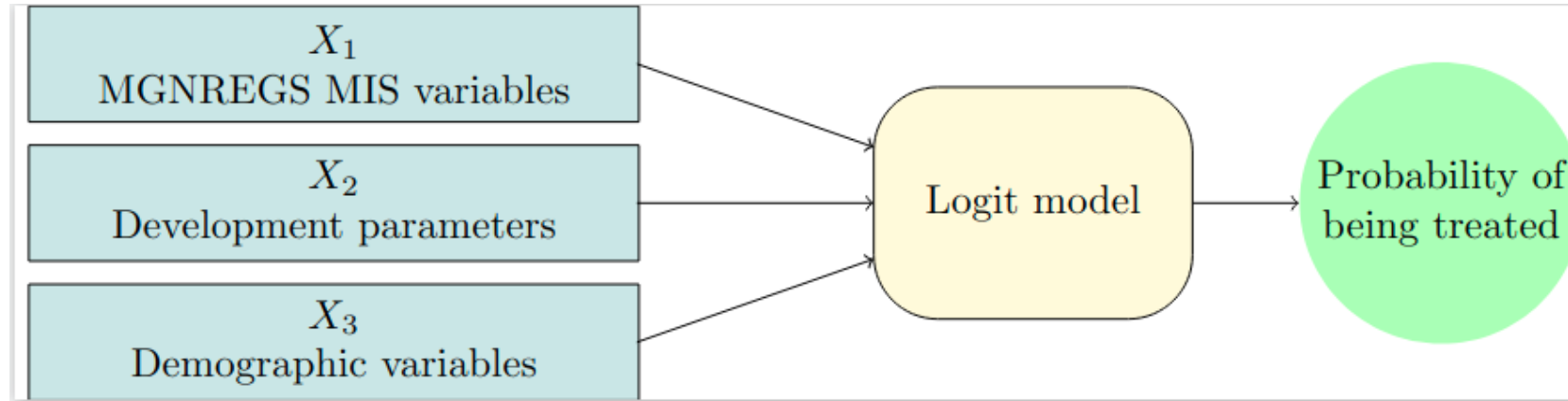
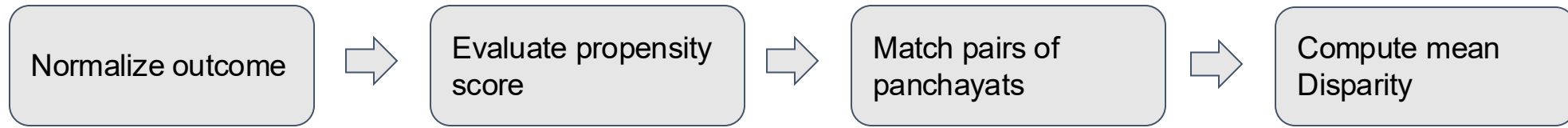


Train demand model



Training well-performing panchayats	Overall	Significant SC population panchayats	Significant ST population panchayats	General panchayats
Train normalized RMSE	0.13	0.09	0.05	0.13
Test normalized RMSE	0.15	0.15	0.10	0.19

# Treatment effect: Across panchayat equity assessment



# Treatment effect: Within panchayat equity assessment

MGNREGS allocation to SC/ST castes

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Predicted demand for SC/ST castes

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MGNREGS allocation to other castes

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Predicted demand for other castes

# State-level inequity index

What is the extent of inequity?

Between panchayats in each state

Extensive management   Intensive management   Utilization

Between panchayats in each district

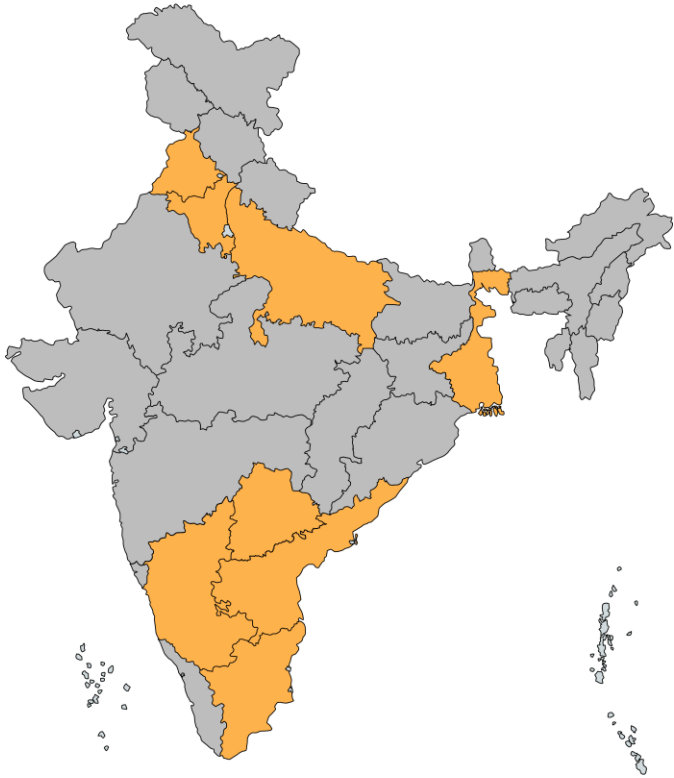
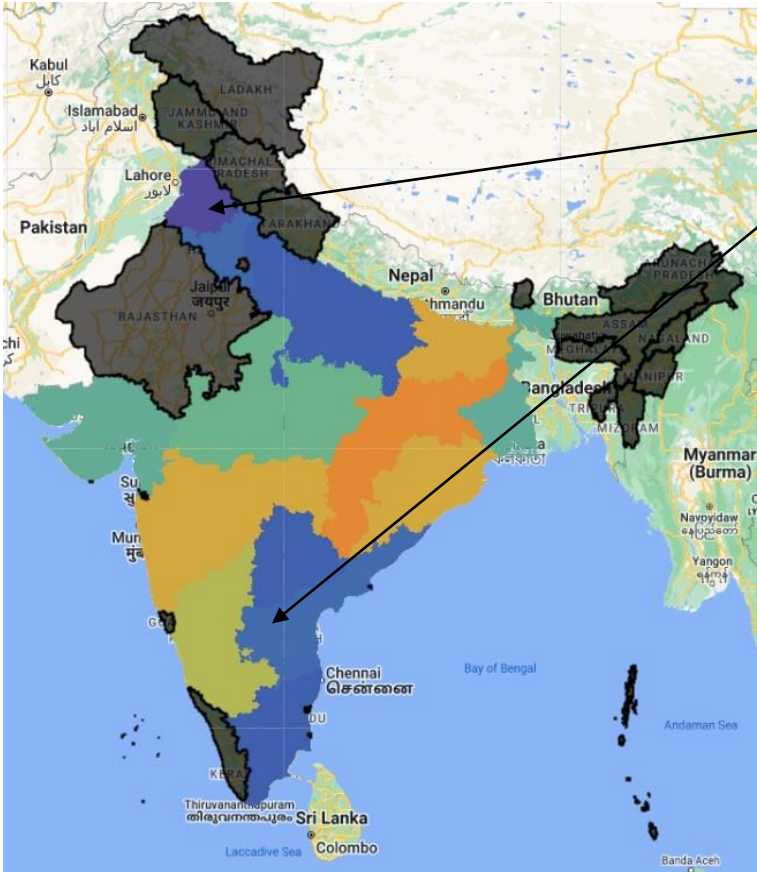
Extensive management   Intensive management   Utilization

Within a panchayat

Extensive management   Intensive management

# State-level SC inequity index

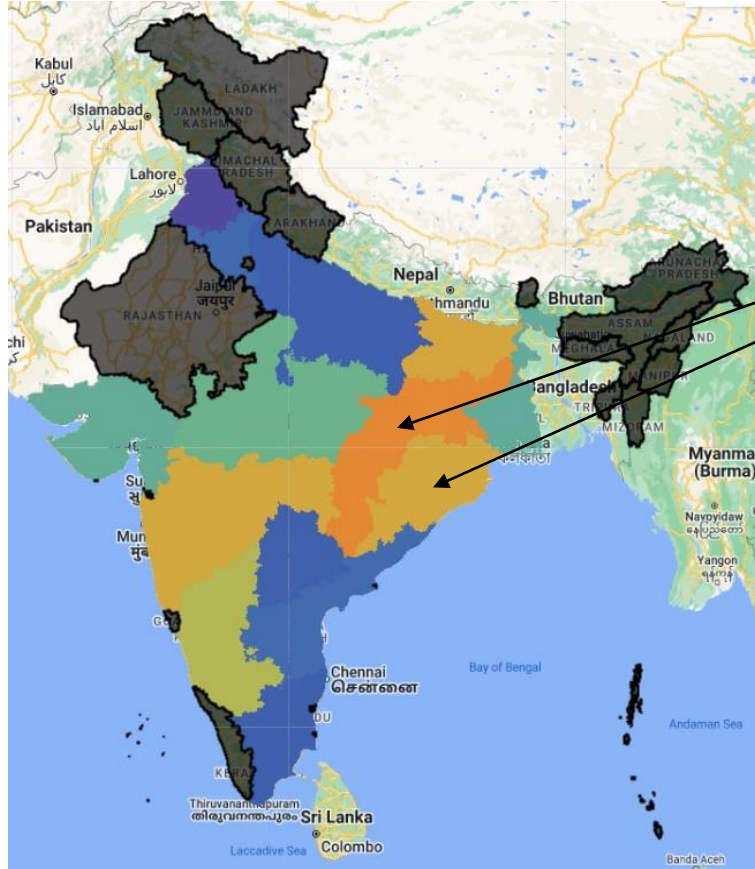
- Lower inequity towards Scheduled Castes in states with more than mean number of Significant SC population panchayats



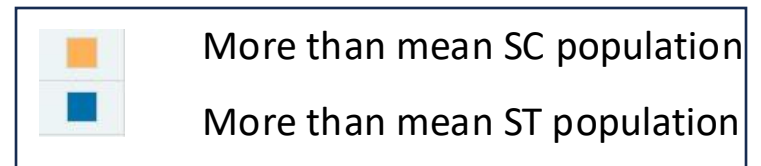
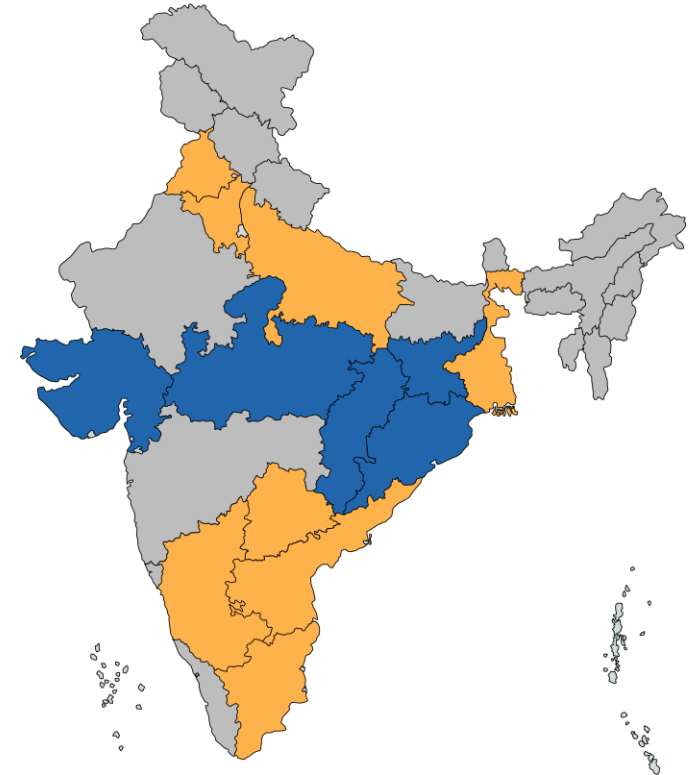
More than mean SC population



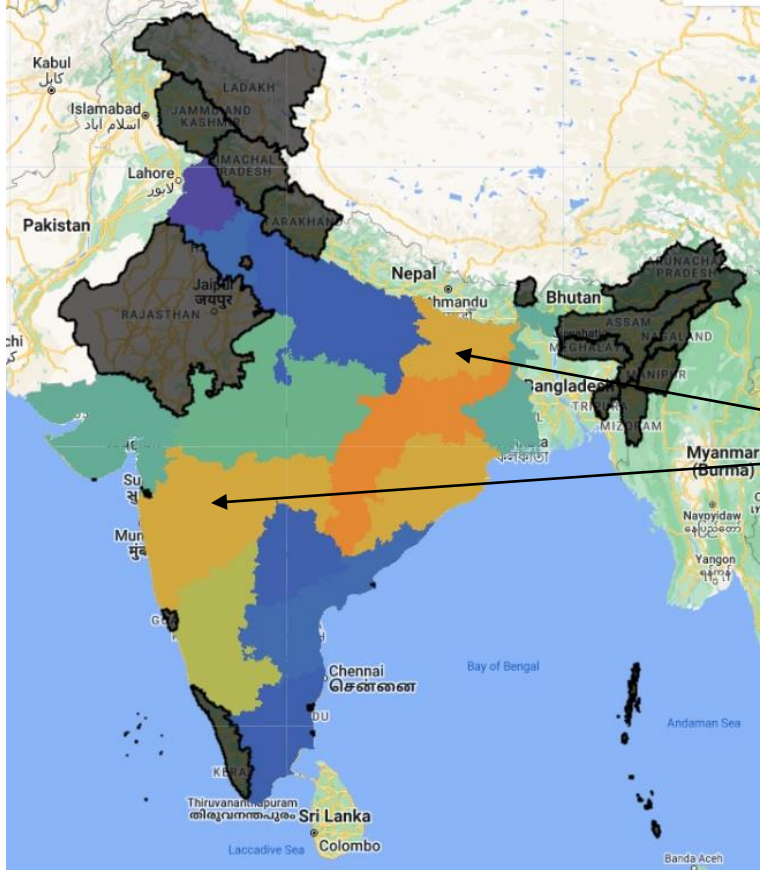
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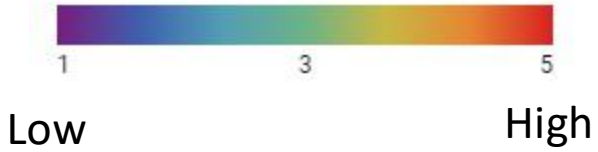
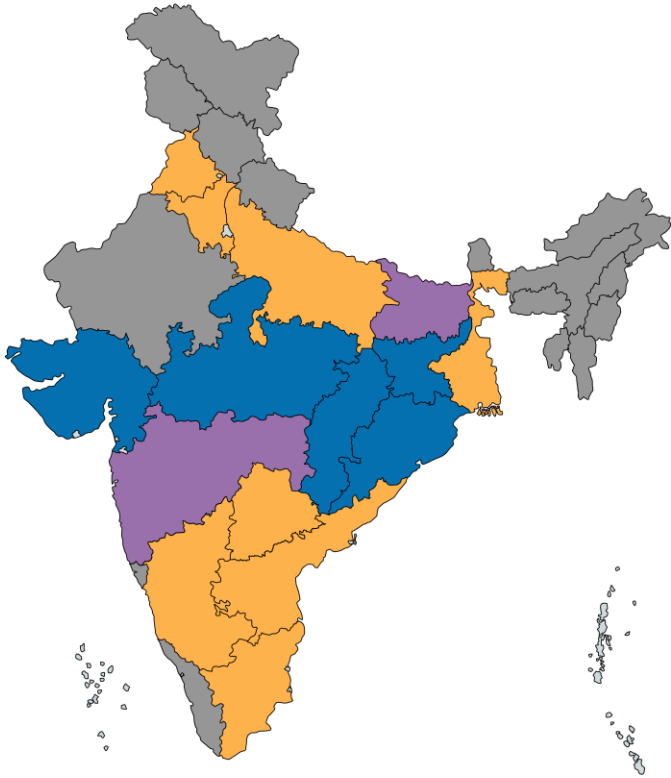
- Lower inequity towards Scheduled Castes in states with more than mean number of Significant SC population panchayats
- Higher inequity towards Scheduled Castes in states with more than mean number of Significant ST population panchayats

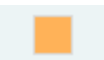





# State-level SC inequity index

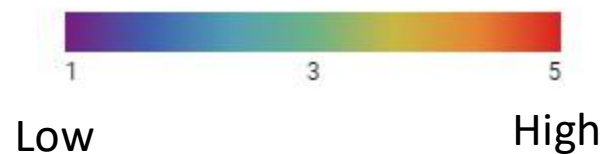
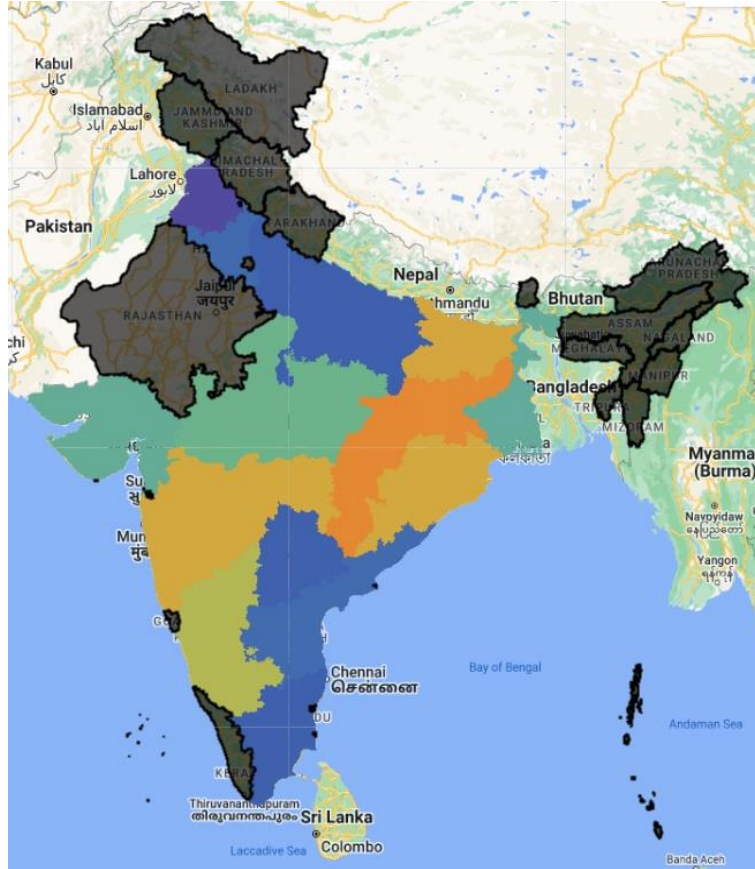


- Lower inequity towards Scheduled Castes in states with more than mean number of Significant SC population panchayats
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- Very high inequity towards Scheduled Castes in other states



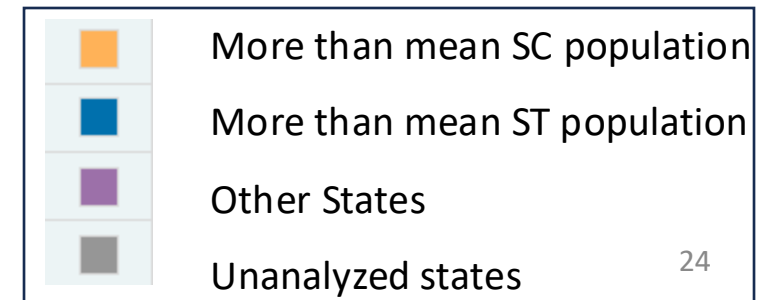
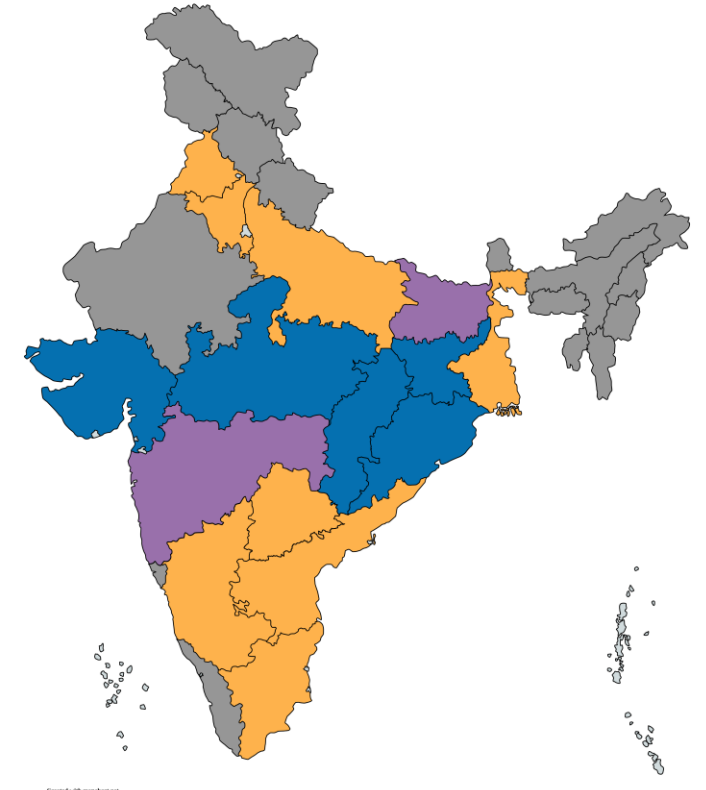
	More than mean SC population
	More than mean ST population
	Other States
	Unanalyzed states

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The data analysis could point out relationships like increased political influence of scheduled castes in the states with higher SC population.



# District-level inequity index

What is the extent of inequity?

Between panchayats in each state

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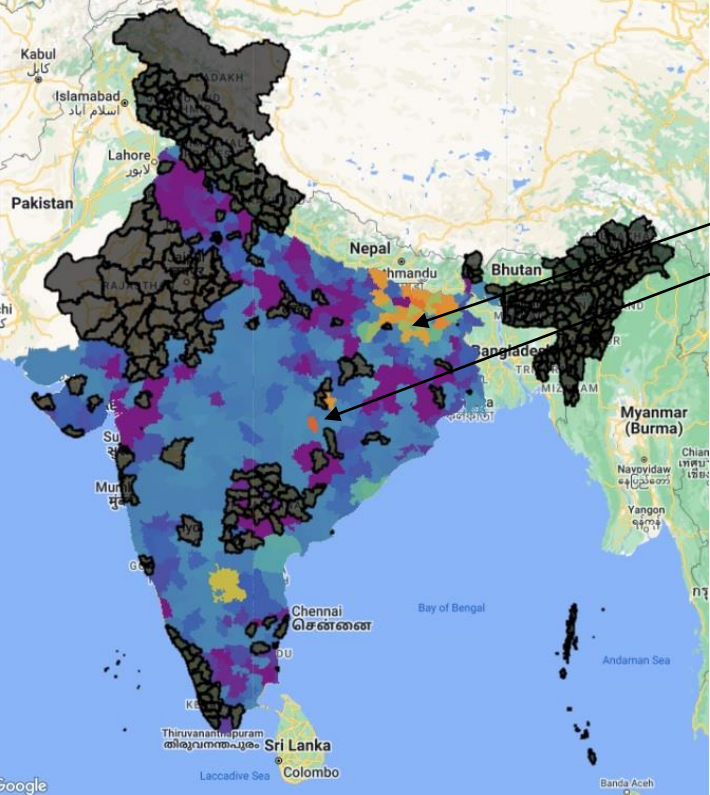
Between panchayats in each district

Extensive management   Intensive management   Utilization

Within a panchayat

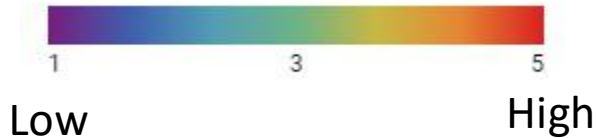
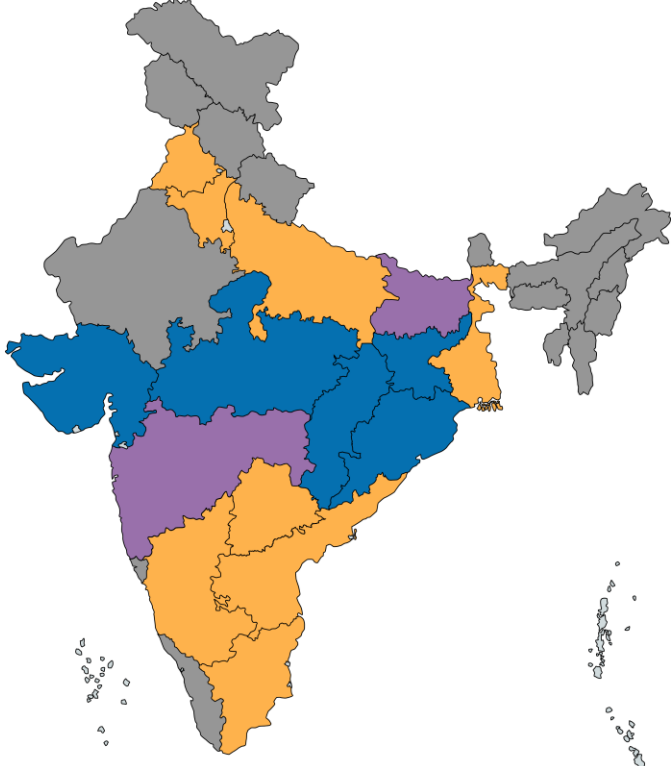
Extensive management   Intensive management

# District-level SC inequity index



Higher inequity towards panchayats with significant population of scheduled castes in several districts in Bihar and Chhattisgarh.

It can help identify districts in need to improve administrative processes.



	More than mean SC population
	More than mean ST population
	Other States
	Unanalyzed states

# Panchayat-level inequity index

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Between panchayats in each state

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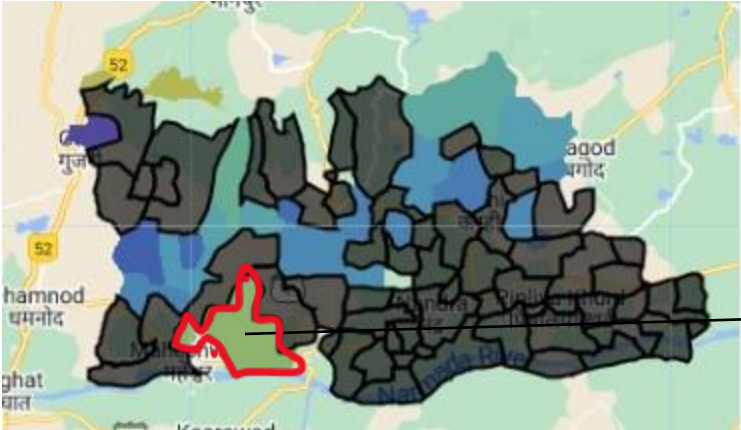
Between panchayats in each district

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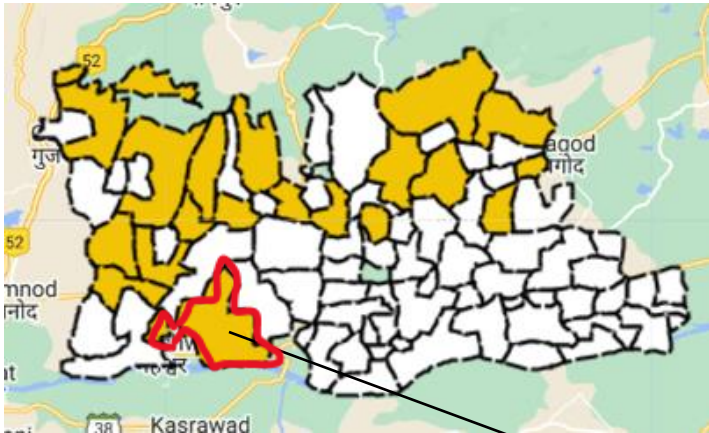
Within a panchayat

Extensive management   Intensive management

# Panchayat-level inequity index (Maheshwar block, West Nimar district, Madhya Pradesh)



Panchayats with higher inequity.



Segregated significant ST population villages



ST Inequity Index



Low

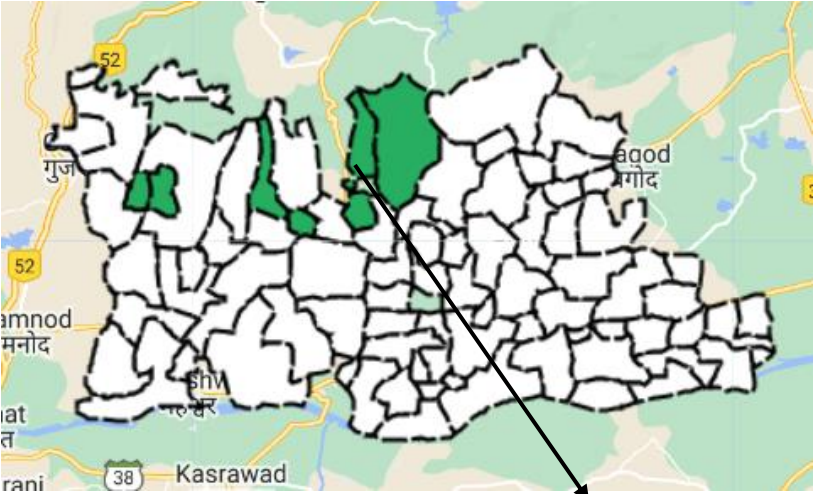
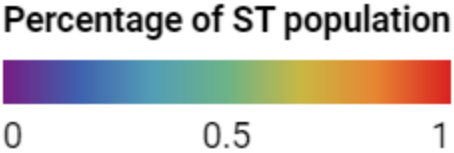
High

Percentage of ST population

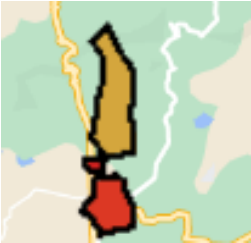


Ladvi panchayat possible elite capture?

# Panchayat Categories (Maheshwar, West Nimar, Madhya Pradesh)

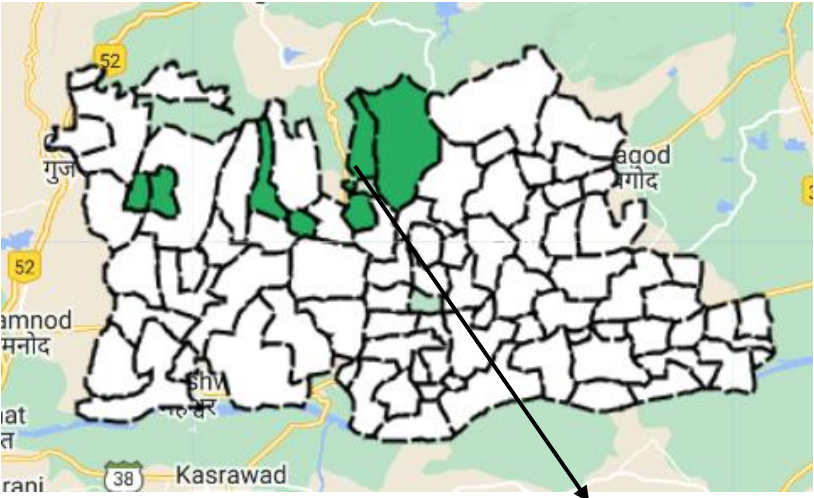
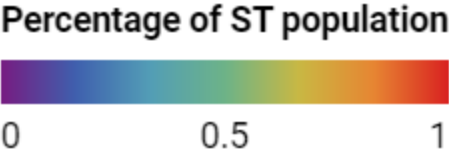


**Bhaklay**  
Consolidated  
significant  
ST population villages

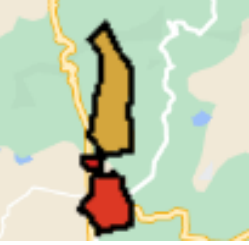


Significant ST population in all  
villages

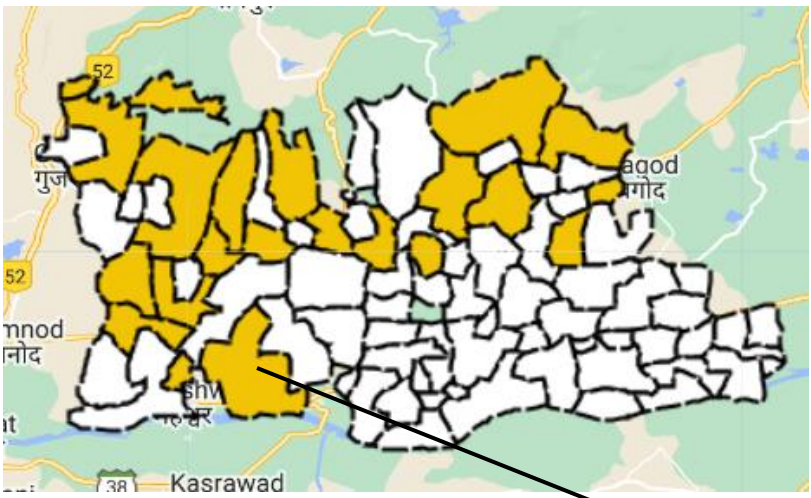
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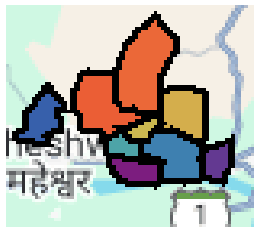
**Bhaklay**  
Consolidated significant ST population villages



Significant ST population in all villages

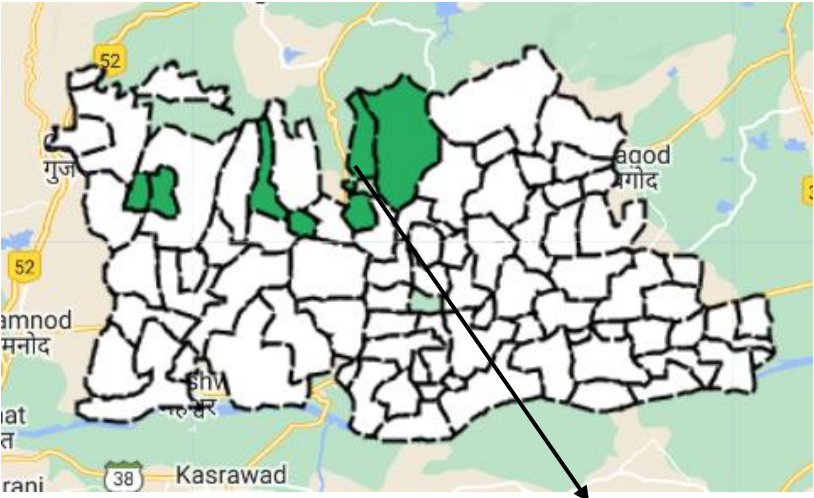
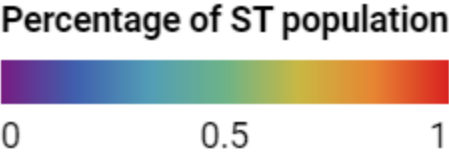


**Ladvi**  
Segregated significant ST population villages

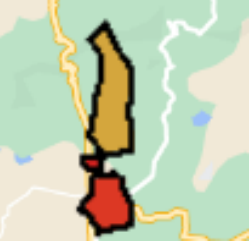


Significant ST population in some villages

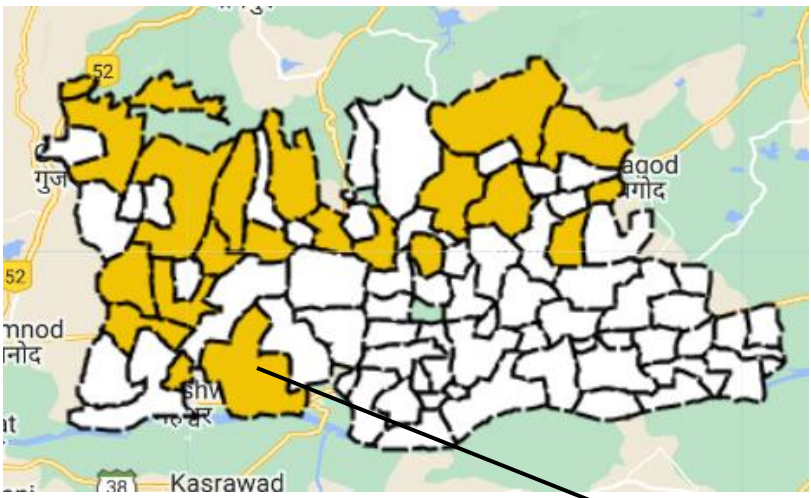
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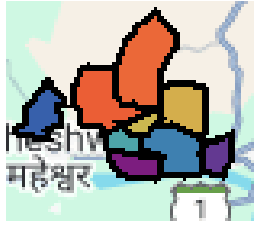
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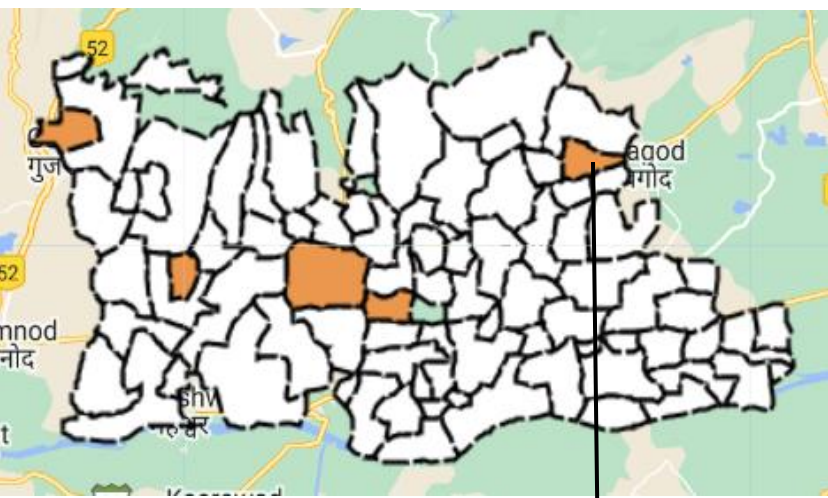
Significant ST population in all villages



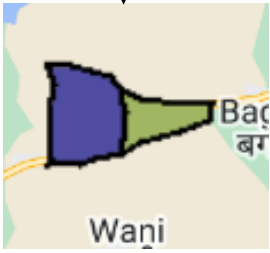
**Ladvi**  
Segregated significant ST population villages



Significant ST population in some villages



**Ghatyabedi**  
Mixed ST population villages

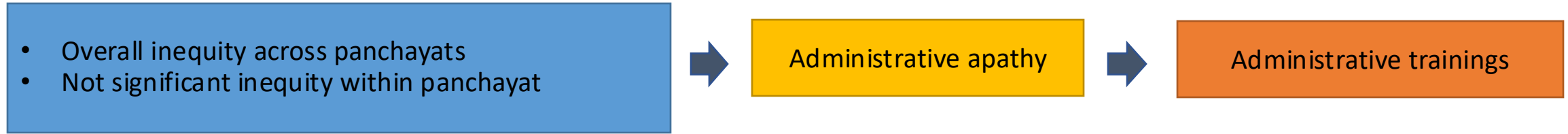


Both ST and other caste population in all villages

# Pattern descriptions

Pattern	Details
Overall	Refers to all metrics (extensive management across, intensive management across, utilization across, extensive management within, intensive management within)
Across	Refers to extensive management across, intensive management across
Within	Refers to extensive management within, intensive management within
Insignificant/Not significant inequity	Refers to small positive value for metrics

# Pattern --> Precise policy action (Panchayat level)



Administration seems to fall short in meeting its responsibility to distribute funds between panchayats.



Administration seems to allocate funds equitably but Mukhiya/local elite seems to exclude SC/ST from the benefits.

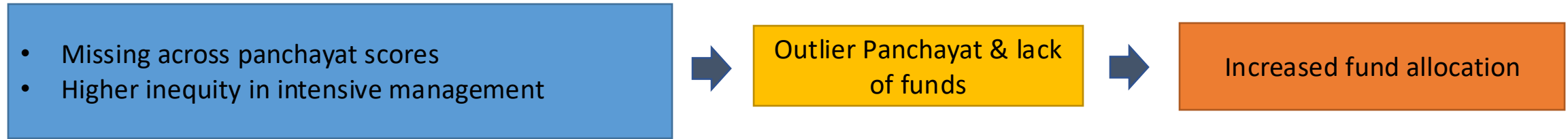


Administration seems willing to allocate funds equitably but appears to be short of funds.

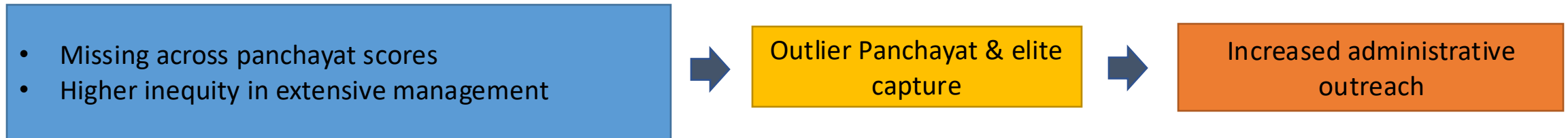


There is inequity both across and within panchayats. The limited funds allocated to panchayats with significant SC/ST populations are further directed to upper castes within those panchayats by the Mukhiya.

# Pattern --> Precise policy action (Panchayat level)



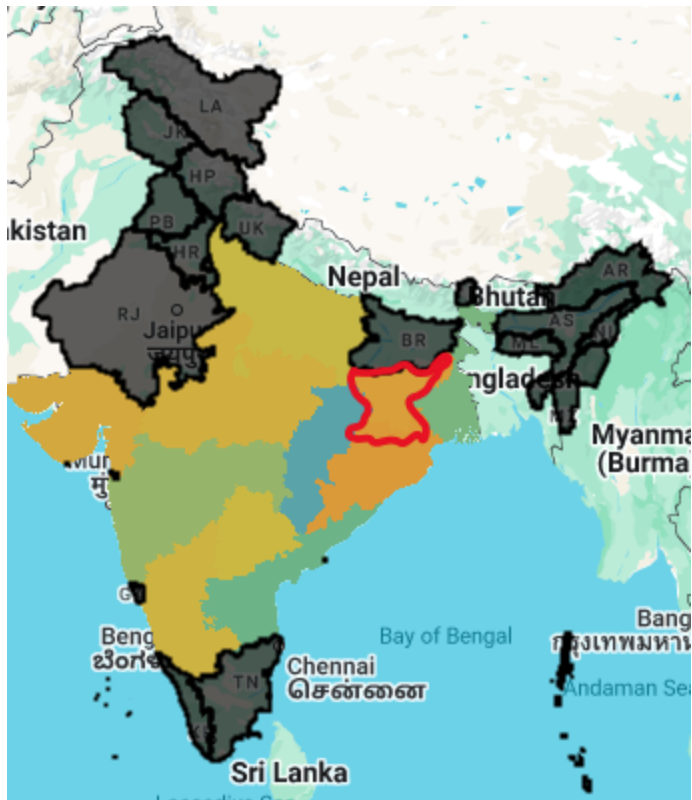
Missing across panchayat scores indicate absence of a comparable panchayat which is prevalent in tribal regions. Equitable allocation to ST Households but insufficient person days of work allocation indicates willingness to give work to ST households but limitations due to lack of funds.



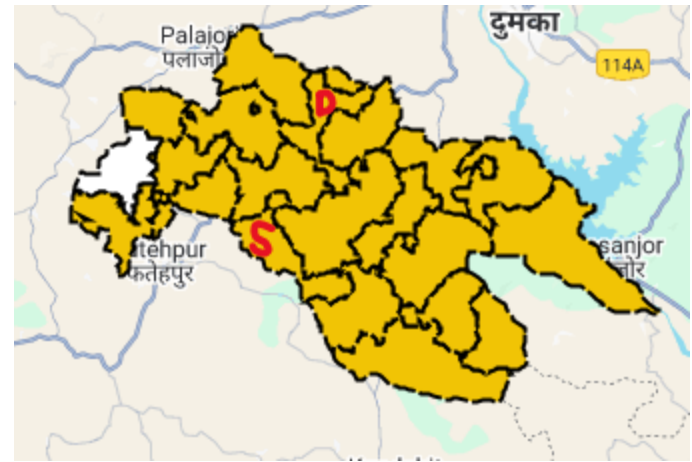
Missing across panchayat scores indicate absence of a comparable panchayat which is prevalent in tribal regions. Lower allocation to ST Households indicate elite capture.

# Criteria for Site selection for Field Visits

ST Inequity Index



Selection of Dumka district due to presence of field partners



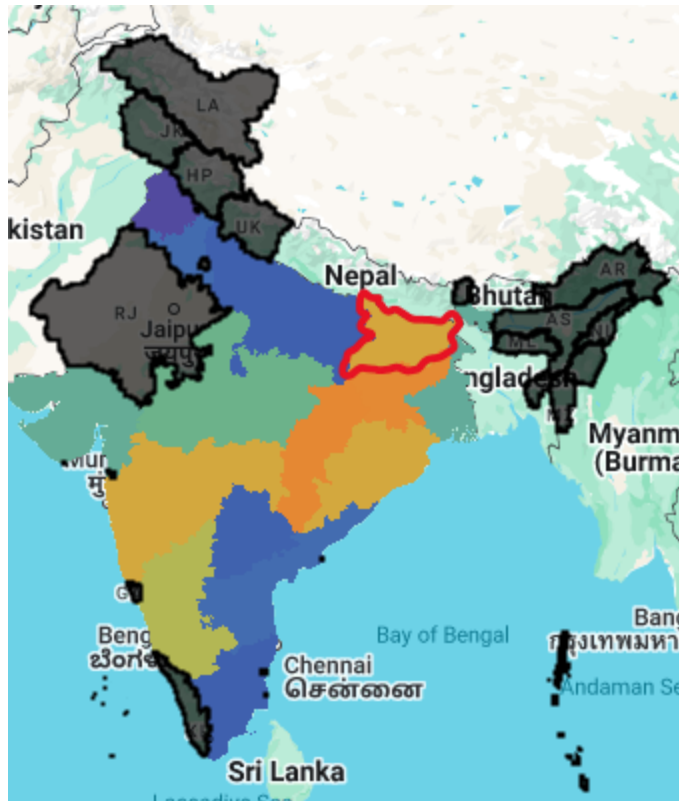
- Panchayat Categories**
- Consolidated Significant SC population villages
  - Segregated SC population villages
  - Mixed SC population villages
  - Consolidated Significant ST population villages
  - Segregated ST population villages
  - Mixed ST population villages
  - Others
  - Unknown Category



Low High

# Criteria for Site selection for Field Visits

## SC Inequity Index

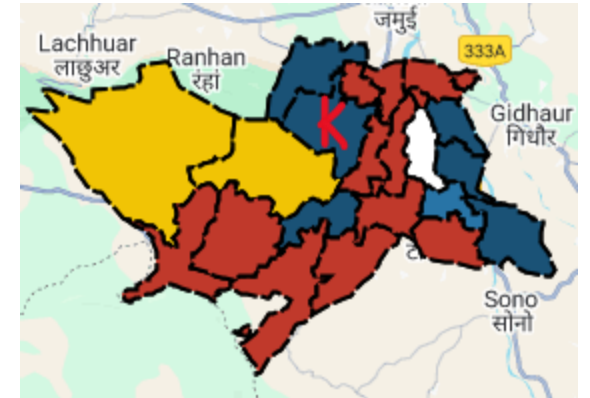
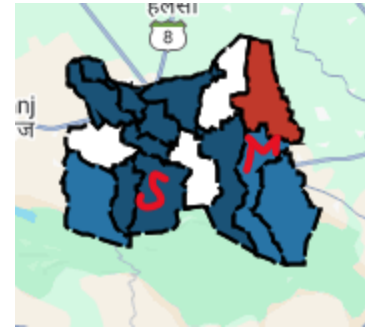


Low

High



Selection of  
Jamui district  
due to presence  
of field partners



## Panchayat Categories

- Consolidated Significant SC population villages
- Segregated SC population villages
- Mixed SC population villages
- Consolidated Significant ST population villages
- Segregated ST population villages
- Mixed ST population villages
- Others
- Unknown Category



## Segregated significant ST population villages

- Dhobna Harinbahal, Dumka
- Lack of funds since despite the willingness to employ ST households sufficient person days of employment cannot be generated.
- Limited by access to digital technologies, which also results in delayed payments.
- Stronger community coordination
- More individual assets rather than community assets

- Missing across panchayat scores
- Higher inequity in intensive management



Outlier panchayat & lack of funds



Increased fund allocation

Missing across panchayat scores indicate absence of a comparable panchayat which is prevalent in tribal regions. Equitable allocation to ST Households but insufficient person days of work allocation indicates willingness to give work to ST households but limitations due to lack of funds.



## Segregated significant ST population villages

- Sanpchala, Dumka
- Elite Capture as lower number of ST households are given employment.
- Limited by complex guidelines and Mukhiya's discretion to approve assets for the families capable of providing initial funding
- Lack of prioritization based on need
- More individual assets rather than community assets

- Missing across panchayat scores
- Higher inequity in extensive management



Outlier Panchayat & elite capture



Increased administrative outreach

Missing across panchayat scores indicate absence of a comparable panchayat which is prevalent in tribal regions. Lower allocation to ST Households indicate elite capture.

# Segregated Significant SC population villages

- Sabal-bigha, Sikandra, Jamui
- Elite capture as the funds allocated by administration are not reaching the intended scheduled caste beneficiaries.
- Lack of digital literacy amongst beneficiaries further increase inequity.
- Upper caste Mukhiya: influential and capable to navigate through processes leading to discretionary practices and inequity towards SC.
- Lack of similar level of awareness in marginalized castes.



- Not significant inequity across panchayats
- Overall inequity within panchayat



Local elite capture



Increased administrative outreach & oversight

Administration seems to allocate funds equitably but Mukhiya/local elite seems to exclude SC/ST from the benefits.

# Conclusion

## Processes causing inequity

Complex guidelines

Mukhiya's discretion

Administrative ignorance

Local elite capture

Structural constraints

Digitization

Delayed payments

Communities marginalized especially on historical caste lines are impacted most significantly due to these aspects, even beyond any active discrimination

Solution: Accountable, transparent, and inclusive planning process

# Conclusion

To support marginalized communities, need accountable, transparent, and inclusive planning processes

Accountable, transparent, and inclusive planning process can be achieved through

Stronger participatory practices

Active participation of women and marginalized

Simplified administrative processes

Structural reforms to address the constraints

Improved digital access and literacy

Timely fund disbursement

Data analysis



Identification of process causing disparity



Precise policy recommendation