

Disability at the Intersections: Age-Standardised Patterns of Caste, Gender and Rural–Urban Inequalities in India

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Abstract

Background

In a developing country like India, where the socioeconomic outcomes are influenced by the entrenched social hierarchies of the caste system and male dominance, generating systematic evidence on disability prevalence disaggregated by social group, gender, age and geography is highly essential. There is a lack of country-wide studies that focus on the intersection of sub-group identities and disability prevalence.

Method

Using the latest Census data, this paper maps the geographic distribution of disability prevalence across Indian states and social groups. The paper examines how caste, gender, age, and rural-urban residence jointly pattern that distribution. Using 2011 Indian Census data, age-standardised disability prevalence (ASDP) was calculated by direct standardisation with the WHO World Standard Population, expressed per 100,000 population, and compared across states and union territories, social groups, gender, rural-urban residence, disability type, and five life-course age bands.

Results

National ASDP was 2,385 per 100,000, with substantial state-level variation (range: 1,191–3,635). Fourteen of 35 states and union territories exceeded the national average, led by Sikkim, Jammu & Kashmir, and Odisha. Scheduled Caste populations recorded the highest ASDP of any social group (2,717), exceeding the national average in 22 of 32 states, a markedly higher share than Scheduled Tribe (13 of 30) or non-SC/ST populations (10 of 35), and this disadvantage held across rural and urban geography and both sexes. Disability prevalence rose sharply with age across all groups; Scheduled Tribe populations recorded the lowest prevalence of any social group through working age but the steepest escalation and highest prevalence by advanced old age (rural ST ratio of oldest-to-youngest ASDP: 8.4, versus 5.9 for SC and 5.7 for non-SC/ST). Rural areas recorded higher ASDP than urban areas nationally and across all social groups.

Conclusion

Disability in India is patterned by caste, gender, and geography rather than randomly distributed. Scheduled Caste populations face the highest disability burden across nearly every dimension examined. Also, the study identifies a striking Scheduled Tribe age paradox: a low disability prevalence in the working-age population compared to other social groups, but the highest prevalence among the tribal elderly, especially rural tribal women. Gender and geography shift in relative importance across the

life course rather than acting as fixed risk factors. These findings support the case for spatially and socially disaggregated disability data to inform targeted policy design.

1. Introduction

India ratified the first United Nations Convention on the Rights of Persons with disabilities (UNCRPD)[1], the first human rights treaty of the twenty-first century in 2007. This ratification became a domestic legal force through the Rights with Disabilities Act (RPWD), 2016 and the Mental Health Care Act, 2017. The RPWD Act aims at ensuring the dignity and autonomy of Persons with Disabilities insisting equal opportunity and prohibits any discrimination on disability grounds. In doing so, it marks a decisive conceptual shift, from disability understood as an object of charity to disability understood as a matter of human rights. Most crucially, the act places disability within a wider set of identities by recognising disability as one of the main dimensions of human diversity, which is inseparable from gender, caste, ethnicity, religion and other forms of socio-demographic attributes.

The legislative framing of the disability is consistent with various bodies of scholarship considering it as a biopsychosocial phenomenon. This framing recognises disability as an interaction between an individual's underlying health condition and the environmental and personal context in which that condition is experienced (World Health Organization, 2001). Two people with an identical impairment may experience radically different disabilities depending on where they live, which caste they were born into, their gender, and their access to material and social resources. A disabled person from a materially disadvantaged household may lack access to health services, quality education or employment opportunities that a disabled person from a privileged household takes for granted. Persons with disabilities (PwD) cannot, therefore, be treated as a homogeneous category for policy purposes. Identifying which sub-populations face compounded risk of exclusion, and which require urgent intervention, is especially important in a middle-income country such as India, where the public budget allocated to disability remains limited (Loeb, 2013). Disaggregated evidence of this kind supports both preventive action and the equitable, cost-effective targeting of services.

A substantial literature has established that social group identity, gender and geography each independently shape health outcomes in India (Nayar, 2007; Borooah, 2004; Balarajan et al., 2011), although this literature has rarely examined how these dimensions combine (Pal, 2011; Addlakha, 2013). Scheduled Castes (SC), also known as Dalits, occupy the lowest position in the caste hierarchy. Similarly, Scheduled Tribes (ST) are geographically isolated indigenous populations whose social and economic outcomes are, on most measures, comparably poor (Nayar, 2007). These socially oppressed groups, generally exposed to poor living conditions, lower education, lower nutrition and limited access to health care, have poor health outcomes compared to non-SC/ST, including higher infant and child mortality, high childhood anemia and higher maternal mortality rate and other maternal health outcomes (Bhat, 2002; Nayar, 2007; Patel et al., 2018; Vart et al., 2015). Similarly, the state of Kerala, widely acclaimed as an outlier for India's health status, is also characterised by worse health outcomes for lower caste women compared to those in the upper strata, which indicates that disadvantages in caste are not just a

proxy for state-level, rather persist in a context where general health infrastructure is strong (Mohindra et al., 2006).

Gender operates as a second, partially independent axis of disadvantage. In a society with strong son preference, girls face discrimination in intra-household resource allocation from a very young age: relative to boys, girls are breastfed for shorter periods, achieve lower immunisation coverage, and are less likely to receive an adequate diet (Borooah, 2004; Fledderjohann et al., 2014); some evidence further suggests girls receive less medical attention even in the period preceding death (Asfaw et al., 2007). Women of older age report worse self-rated health and poorer cognitive function than men in comparable circumstances (Bora & Saikia, 2015; Oksuzyan et al., 2018). It is greatly suggestive of gender disadvantages in health not confined to childhood but recurs, in altered form, across the life course.

Geographical context compounds both these dynamics. India's majority population is rural and has inadequate access to basic infrastructure for treating common, preventable conditions. The National Sample Survey (NSS) data from 2017 depict a stark divide; 94 percent of the urban residents can access outpatient facilities compared to the 54 percent in the rural areas of India (Dilip et al., 2019). Among the elderly, rural-urban differentials in both access to and utilisation of healthcare persist and consistently favour urban residents (Banerjee, 2021). This pattern is driven by chronic under-investment in rural health infrastructure, an inadequate rural health workforce, and the reluctance of medical professionals to accept postings outside urban centres, which together produce high rates of absenteeism in rural facilities (Balarajan et al., 2011; Thayyil & Jeeja, 2013).

What has been largely missing from this literature is an analysis that considers social group, gender, age and geography simultaneously, rather than as separate and additive risk factors. Existing national-level studies of disability prevalence in India have tended to examine these dimensions individually or in partial combination (Pal, 2011; Roy, 2021; Saikia et al., 2016; Velayutham et al., 2016). This is a significant gap, because the logic of intersectionality — the idea that overlapping systems of disadvantage interact to produce experiences of marginalisation that cannot be reduced to any single axis. It suggests that the disability burden facing, for instance, a rural Scheduled Caste woman is unlikely to be adequately captured by summing the separate disadvantages of being rural, being SC, and being female (Pal, 2011; Addlakha, 2013; Kothari et al., 2020). Recent work situating disability at the intersection of caste and gender in the Indian economy has argued precisely that caste and gender should be treated as structuring principles of disabled people's lives, not incidental correlates of it (Addlakha, 2013). Ageing literature has the stance that both gender and rural residence are independently shaping the disability risks of older adults in India, with a marked rural-urban gap which is attributable to differential education and household wealth (Nayar et al., 2017).

This attempts to respond to that gap. Using the most recent nationally representative data available, the 2011 Census, we examine the pattern of disability prevalence in India along the intersecting axes of social group, gender and rural-urban residence, and across the life course. In doing so, we aim to move beyond a simple accounting of disability's uneven distribution toward a more structural account of how

caste, gender and geography combine to produce that distribution, thereby contributing an evidence base for more precisely targeted, and more genuinely inclusive, disability policy. According to the 2011 Census, India's population comprises approximately 27 million persons with disabilities, unevenly distributed among SC and ST communities, women, and rural populations. The paper is organised as follows: we first describe our data and analytical approach; we then present results on the scale, geography, type and life-course pattern of disability in India; we discuss the substantive and policy implications of these findings; and we close by reflecting on the study's limitations and its contribution to India's evolving disability policy architecture.

2. Data and Methods

The decennial census in India conducted by the Office of the Registrar General and Census Commissioner uses the extended de facto canvasser method. The census collects a range of demographic and socioeconomic information on households and individuals across all the states and union territories. The Government of India postponed the 2021 Census due to the COVID-19 pandemic and related administrative constraints. Hence, the 2011 census is the most recent available census data in India. Disability was recorded through the household schedule questionnaire, which included three of the twenty-nine questions on the presence and type of disability (Registrar General of India, 2011a). Compared with the 2001 Census, the 2011 Census added three new disability categories of mental retardation (the term used as per the census definition), mental illness and 'any other' disability to the pre-existing categories of seeing, hearing, speech, movement and multiple disability. Enumerators were trained to probe these sensitive questions by building rapport with respondents and assuring them of the confidentiality of the data collected (Registrar General of India, 2011b).

This study draws on two publicly available aggregate census table series[2]. The C-20 tables report the disabled population by type of disability, age and sex, disaggregated by social group (SC, ST and general population) and by rural-urban residence, at the district level. The C-14 tables report the total population in five-year age bands by residence and sex, similarly, disaggregated by social group, at the district level. During the 2011 census, both Andhra Pradesh and Jammu and Kashmir were enumerated as single states. Hence, the data does not account for the later bifurcation of these states, and the results reflect the administrative boundaries of these states before the bifurcation.

3. Analytical approach

Comparing the health outcomes across populations with different age structures necessitates techniques that adjust for these structural differences. Disability prevalence is highly age-dependent, as many disabling health conditions become more prevalent with age. Thus, the crude disability rates can be inaccurate to compare the disability prevalence rates among the different social groups across Indian states. Thus, to address this issue, we employed the direct standardisation technique to compute age-standardised disability prevalence (ASDP), defined as the weighted average of age-specific disability rates, with weights drawn from a standard reference population (Lafortune & Balestat, 2007). We used

the World Health Organization's World Standard Population, constructed to approximate the world's population structure over the period 2000–2025 (Ahmad et al., 2001). ASDP is expressed per 100,000 population throughout this paper. In addition to ASDP, we examined age-specific disability rates across five broad age bands — 0–19, 20–59, 60–69, 70–79 and 80 and above — chosen to capture meaningful life-course transitions between childhood, working age, early old age and advanced old age, disaggregated throughout by social group, gender and rural-urban residence.

3. Results

3.1 The scale and distribution of disability in India

According to the 2011 Census, India comprises 26,814,994 persons with disabilities, of whom 69 per cent reside in rural areas (Table 1). In absolute numbers, disabled individuals are more numerous among males than females and more numerous among the non-SC/ST population than among SC or ST populations. This pattern, on its face, might suggest that disability disadvantage is concentrated among the numerical majority. However, age-standardisation challenges this impression. The national ASDP is 2,385 per 100,000 population. The rural ASDP rate (2,436) is slightly higher than the urban rate (2,269). Most importantly, when disability rates are adjusted for age structure, the ranking of social groups reverses. Non-SC/ST populations, the largest group in absolute terms, record an ASDP (2,318) below the national average in both rural and urban areas and for both genders. Scheduled Castes, by contrast, record the highest ASDP of any social group (2,717), followed by Scheduled Tribes (2,426), and this ordering holds consistently across rural and urban geography and across gender (Table 2). Males record a higher disability rate than females across every social group and every geographical stratum — a pattern to which we return in the Discussion.

Table 1
Absolute numbers of persons with disabilities in India, 2011, by gender, geographical location, age and social group. Figures in parentheses denote row percentages.

Geographical location	Male	Female	Total
Rural	10,410,559 (69.46)	8,225,799 (69.55)	1,8636,358 (69.50)
Urban	4,578,034 (30.54)	3,600,602 (30.45)	8,178,636 (30.50)
Age			
0–19	4,383,060 (29.24)	3,481,576 (29.44)	7,864,636 (29.33)
20–59	7,815,380 (52.14)	5,620,563 (47.53)	13,435,943 (50.11)
60+	2,713,995 (18.11)	2,662,624 (22.51)	5,376,619 (20.05)
Age not stated	76,158 (0.51)	6,1638 (0.52)	13,7796 (0.51)
Social Group			
Scheduled Caste	2,770,592 (18.48)	2,156,841 (18.24)	4,927,433 (18.38)
Scheduled Tribe	1,144,627 (7.64)	996,136 (8.42)	2,140,763 (7.98)
Non SC/ST	11,073,374 (73.88)	8,673,424 (73.34)	19,746,798 (73.64)
Total	14,988,593 (100)	1,182,6401 (100)	26,814,994 (100)

Source: Authors' calculations from the 2011 Indian Census (C-14 and C-20 tables).

Table 2
Age-standardised disability prevalence (ASDP, per 100,000 population) by social group, geographical location and gender, India, 2011.

Social Group	Location	Total	Male	Female
SC	Rural	2,750	3,020	2,467
	Urban	2,591	2,842	2,329
	All India	2,717	2,982	2,439
ST	Rural	2,434	2,585	2,280
	Urban	2,319	2,512	2,123
	All India	2,426	2,582	2,268
Non-SC/ST	Rural	2,365	2,595	2,125
	Urban	2,227	2,404	2,035
	All India	2,318	2,528	2,096
All groups	Rural	2,436	2,665	2,198
	Urban	2,269	2,455	2,070
	All India	2,385	2,599	2,160

Source: Authors' calculations from the 2011 Indian Census.

3.2 The geography of risk: state-level variation

Disability risk varies substantially across India's states and union territories, and this variation cuts across the country's conventional regional divides. Of 35 states and union territories, 14 record ASDP above the national average of 2,385 per 100,000. Sikkim, Jammu & Kashmir and Odisha report the highest overall rates, while Tamil Nadu, Mizoram and Meghalaya report the lowest among the states (Table 3). Among union territories, Daman & Diu records the lowest rate and Chandigarh the highest. Across all states and union territories, ASDP ranges almost threefold, from 1,191 to 3,635 per 100,000; the male range is 1,206 to 3,599, and the female range is 1,163 to 3,682. The disability prevalence ranges from 1530 to 4178 per 100,000 in rural India and 1059 to 2774 per 100,000 in urban India (Table given in the appendix).

This variation is patterned differently across social groups. Among SC populations, 22 of 32 states and union territories with recorded SC residents exceed the national average with Sikkim, Chhattisgarh and Odisha recording the highest SC-specific rates and Mizoram, Tamil Nadu and Manipur the lowest. The SC ASDP ranges from 1,047 to 4,643 across states. Among ST populations, only 13 of 30 states exceed the national average, with the highest rates recorded in Jammu & Kashmir, Sikkim and Rajasthan, and the lowest in Tamil Nadu, Tripura and Gujarat. Among non-SC/ST populations, only 10 of 35 states exceed

the average, with the highest rates again in Sikkim, Jammu & Kashmir and Odisha, and the lowest in Mizoram, Tamil Nadu and Nagaland. Notably, Sikkim is an outlier in reporting elevated rates across SC, ST, and non-SC/ST populations alike. It suggests that state-level factors operate on the general population independently of social group identity. Additionally, Tamil Nadu shows the reverse pattern with comparatively low rates across all social groups.

Table 3

Snapshot of state-level age-standardised disability prevalence (ASDP, per 100,000 population): highest- and lowest-ranked states overall and by social group, India, 2011.

Ranking	Overall	SC	ST	Non-SC/ST
Highest (1st–3rd)	Sikkim, Jammu and Kashmir, Odisha	Sikkim, Chhattisgarh, Odisha	Jammu and Kashmir, Sikkim, Rajasthan	Sikkim, Jammu and Kashmir, Odisha
Lowest (1st–3rd)	Tamil Nadu, Mizoram, Meghalaya	Mizoram, Tamil Nadu, Manipur	Tamil Nadu, Tripura, Gujarat	Mizoram, Tamil Nadu, Nagaland
Range (min–max)	1,637–3,635	1,047–4,643	1572–3382	1508–3714

Source: Authors' calculations from the 2011 Indian Census.

3.3 What kind of disability? Type distribution and its implications

The distribution of disability types is neither uniform nor randomly distributed across social groups, gender, or geography, and this distribution carries direct implications for the design of rehabilitation and assistive-technology services (Table 4). Nationally, movement disability is the single most prevalent category (ASDP 503), ahead of seeing (464) and hearing (450); mental illness is the least prevalent (64). Movement disability is also the most amenable to prevention, since its major drivers, such as occupational injury (Edwards et al., 2022; Bodhare et al., 2011), road traffic accidents, stroke (Sharma et al., 2026), and arthritis (Bodhare et al., 2011) could be addressed through primary prevention and community-based rehabilitation (Ranga & Ranga, 2025). The gender gap in movement disability is the widest observed for any disability type. Males record an ASDP of 609 against 393 for females, a gap that could possibly be linked to differential occupational exposure. In construction, mining, and manufacturing, the male-dominated industries in India report markedly higher rates of non-fatal occupational injury, with approximately 87% of all reported workplace injuries faced by men (Rajak & Chattopadhyay, 2026). Speech disability is more prevalent in urban than rural settings across every social group examined a pattern that may partly reflect differential access to clinical diagnosis rather than differential true prevalence, consistent with National Sample Survey findings that urban areas show higher identification rates for other diagnosis-dependent disability categories such as mental retardation (MoSPI, 2021), and with plausibly the broader concentration of specialist services, including speech therapy, in urban centres (Roy, 2021).

Non-SC/ST populations show disproportionately higher rates of speech disability, mental retardation and mental illness relative to SC and ST populations, a pattern that most plausibly reflects greater awareness of these conditions and easier access to clinical diagnosis among better-resourced populations, rather than genuinely lower prevalence among SC and ST groups (Raghuvanshi et al., 2025). Multiple disability is most prevalent among ST populations, while SC populations record the highest ASDP in seeing, hearing, movement and the residual 'any other' category. SC populations exceed ST populations across almost every disability type, the principal exception being multiple disabilities. A small number of further reversals occur at the level of specific sex-by-social-group comparisons – ST males exceed SC males in hearing-related disability, for instance, and ST females exceed SC females in movement and mental illness – but these do not disturb the overall pattern of SC disadvantage.

Table 4
Age-standardised disability prevalence (per 100,000 population) by disability type, gender, geographical location and social group, India, 2011.

Disability Type	Total	Male	Female	Rural	Urban	SC	ST	Non-SC/ST
In Seeing	464	473	453	476	434	547	512	443
In Hearing	450	465	435	442	465	472	470	445
In Speech	167	183	150	159	185	128	110	182
In Movement	503	609	393	549	406	581	574	481
Mental Retardation	122	136	106	121	123	122	100	124
Mental Illness	64	71	56	65	62	64	60	65
Any Other	419	454	383	409	441	592	357	389
Multiple Disability	196	207	184	215	154	211	243	189

Source: Authors' calculations from the 2011 Indian Census.

3.4 The life course of disability: age-specific analysis and the Scheduled Tribe paradox

Disability prevalence rises sharply and monotonically with age across every social group, gender and geographical stratum examined (Table 5); nationally, ASDP rises from 1,595 per 100,000 among the youngest age band to 8,408 among the oldest. The single most striking finding in this analysis, however, concerns the Scheduled Tribe population specifically. Up to age 59, ST populations record the lowest disability rates of any social group – lower than both SC and non-SC/ST populations, in both rural and urban areas. This pattern inverts sharply thereafter. By ages 60–69, rural ST prevalence (5,204) has already overtaken rural SC prevalence (5,023); by age 80 and above, rural ST prevalence reaches 11,578 per 100,000, the highest recorded for any social group in this study, compared with 10,140 for rural SC and 8,924 for rural non-SC/ST populations. The steepness of this escalation is captured by the ratio of oldest-age to youngest-age prevalence: in rural areas, this ratio is 8.4 for ST populations, compared with

5.9 for SC and 5.7 for non-SC/ST populations; in urban areas, the equivalent ratios are 4.9, 4.2 and 3.7, respectively. Rural ST women record the steepest trajectory of any subgroup in the dataset, rising from an ASDP of 1,303 in the youngest age band to 11,904 in the oldest — a more than ninefold increase.

A related, gendered reversal is evident across social groups. Among SC and non-SC/ST populations in both rural and urban areas, women record higher disability rates than men only in the oldest age band; at every younger age, men record higher rates. Among the ST population, rural women exceed rural men from age 70 onward, and urban ST women exceed urban ST men from age 80 onward. These reversals, considered alongside the ST paradox described above, indicate that gender and social group operate not as fixed, additive risk factors but as influences whose relative weight shifts across the life course.

Table 5
Age-specific disability prevalence (per 100,000 population) by social group, geographical location,
gender and age band, India, 2011.

		Age	0– 19	20– 59	60– 69	70– 79	80+
Social Group	Geographical Location						
SC	Rural	Males	1830	2912	5340	7792	9868
		Females	1595	2102	4719	7746	10389
		Total	1718	2515	5023	7769	10140
	Urban	Males	1880	2798	4776	6317	7465
		Females	1694	2103	3955	5872	7593
		Total	1791	2459	4356	6082	7537
	Total	Males	1841	2882	5227	7525	9405
		Females	1616	2102	4565	7372	9773
		Total	1733	2500	4889	7448	9600
ST	Rural	Males	1464	2256	5274	8402	11204
		Females	1303	1753	5140	8838	11904
		Total	1385	2004	5204	8632	11578
	Urban	Males	1658	2343	4571	6277	7715
		Females	1477	1826	3923	6131	7729
		Total	1570	2085	4230	6198	7723
	Total	Males	1482	2266	5218	8240	10903
		Females	1319	1761	5044	8619	11504
		Total	1402	2013	5126	8441	11225
Non Sc/ST	Rural	Males	1664	2500	4410	6405	8668
		Females	1431	1829	3888	6368	9158
		Total	1553	2170	4145	6387	8924
	Urban	Males	1746	2387	3697	4754	6055
		Females	1569	1893	3123	4509	6244
		Total	1663	2149	3413	4630	6159

All social groups	Total	Males	1690	2456	4167	5874	7839
		Females	1474	1853	3637	5755	8157
		Total	1588	2162	3900	5815	8008
	Rural	Males	1672	2548	4656	6794	9037
		Females	1446	1869	4160	6815	9555
		Total	1564	2214	4403	6804	9308
	Urban	Males	1762	2435	3826	4922	6212
		Females	1584	1917	3231	4673	6400
		Total	1677	2185	3530	4795	6316
	Total	Males	1697	2509	4406	6257	8226
		Females	1484	1886	3891	6186	8569
		Total	1595	2204	4145	6222	8408

Note: Table shows total (male + female) age-specific ASDP per 100,000 population, by social group and geography. Source: Authors' calculations from the 2011 Indian Census.

4. Discussion

4.1 Marginality compounds marginality: caste and disability

This study's central empirical finding can be stated plainly: Scheduled Caste populations record the highest age-standardised disability prevalence of any social group in India, and this disadvantage is neither an artefact of age structure — since ASDP is explicitly adjusted for this — nor reducible to geography, since it holds in both rural and urban settings. SC ASDP exceeds the national average in more than two-thirds of Indian states. This ratio is a far higher share than for ST or non-SC/ST populations, and SC populations exceed the national average across every age group and both sexes, in both rural and urban areas. This is consistent with earlier research indicating that severe disability is disproportionately concentrated among SC populations relative to upper-caste populations (Pal, 2011), and reflects a wider literature linking caste position to markedly worse outcomes across nearly every dimension of health that has been studied in India (Bhat, 2002; Nayar, 2007; Patel et al., 2018; Vart et al., 2015; Mohindra et al., 2006). Likewise, Scheduled Caste families face a material disadvantage with one disabled member in the household: lower economic and social resources constrain their capacity to provide adequate treatment or rehabilitation for disabled family members, particularly children (Mehrotra, 2006). The intersection of poor living conditions, constrained nutrition, limited educational and economic opportunity, and restricted access to assistive services and employment together

produces a cycle of vulnerability specific to disabled individuals from SC and ST communities (Pal, 2011).

This pattern is consistent with, though not identical to, the argument advanced in the emerging literature on caste and disability, which holds that caste functions as a structuring principle of disabled life in India in much the same way that it structures access to land, employment and social standing more broadly (Addlakha, 2013; Kothari et al., 2020). Where much of the existing disability literature has examined poverty, rural-urban difference, or caste as separate and additive explanatory factors, the pattern documented here — in which caste disadvantage in disability persists after controlling for age and holds across both rural and urban geography — suggests that caste operates as an independent structuring axis of disability risk, rather than merely a proxy for the rural, low-income status with which it is frequently correlated in India.

4.2 The tribal elderly: an invisible crisis

The Scheduled Tribe age paradox documented in this study — in which ST populations report the lowest disability prevalence of any social group through working age, only to record the highest prevalence of any group by advanced old age — is, to our knowledge, among the more striking findings to emerge from disaggregated analysis of Indian census disability data, and it warrants caution in interpretation as well as urgency in policy response. Because these data are cross-sectional, drawn from a single census, we observe different age cohorts of ST individuals at one point in time rather than the same individuals as they age; the pattern we describe could in principle reflect genuine within-cohort ageing effects, cohort differences in survival and reporting, or some combination of the two, and longitudinal data would be needed to adjudicate definitively between these explanations.

With that caveat stated, the pattern is at least consistent with two distinct explanatory accounts already present in the literature, and plausibly reflects both operating in sequence. A research on the tribal elderly in Telangana found that the functional limitations from disability among the older ST individuals are progressive with severe difficulty concentrated in mobility and household activities (Katta et al., 2017), consistent with a story in which accumulated occupational and physical strain, combined with limited access to geriatric healthcare in tribal areas, produces accelerating disability in old age. In this context, research using Longitudinal Ageing Study in India (LASI) data has found that ST populations aged 45 and above report lower functional limitations than non-tribal populations. Scholars attribute this pattern to greater physical and social activity among ST populations relative to other groups (Kumari et al., 2023). These two findings are not necessarily contradictory: the LASI finding may capture a genuine protective effect operating through the early-to-middle years of old age, consistent with the pattern in our data whereby ST disadvantage does not emerge until after age 59, while the Telangana finding may capture what happens once that protective effect is overwhelmed by accumulated physical decline in the absence of adequate geriatric care precisely the transition our data locate at ages 60 and above. Taken together, these findings point to the need for further, ideally longitudinal, investigation of the socioeconomic and health-system factors underlying this life-course reversal, and they identify the tribal elderly, rural tribal women in particular, who exhibit the single steepest age gradient of any subgroup

examined here — as a population whose needs have received markedly less policy attention than the scale of their disadvantage would warrant.

4.3 The persistence of a rural-urban gradient

More than two-thirds of India's disabled population lives in rural areas. The rural ASDP exceeds the urban ASDP nationally and within every social group examined. This gap is unlikely to be a purely demographic artefact, since it survives age standardisation; it more plausibly reflects the material conditions of rural disability. In many parts of rural India, disability continues to be interpreted through frameworks of karma and moral consequence, a framing that can license social exclusion and discrimination against disabled individuals rather than treating impairment as a matter for medical or social accommodation (Gupta et al., 2021; Gupta, 2011). Disabled individuals in rural areas are frequently excluded from public life and, in some documented cases, denied their rightful inheritance within the family (Janardhana et al., 2015). Where formal healthcare and rehabilitation infrastructure exists, it is often under-resourced, and accessing more specialised treatment in cities is financially prohibitive for the great majority of rural households (Gupta et al., 2021).

Against this backdrop, community-based rehabilitation (CBR) has demonstrated meaningful potential to shift attitudes and improve outcomes at the community level. In rural Uttar Pradesh, for instance, CBR initiatives were associated with greater participation of disabled individuals in community life, increased uptake of advanced medical rehabilitation outside the village, and — as a documented spillover benefit — higher rates of childhood immunisation in the surrounding population (Dalal, 2006). This suggests that well-designed CBR interventions may offer returns beyond disability-specific outcomes narrowly defined, and that scaling such models, adapted to the specific circumstances of tribal and other marginalised rural communities, represents a comparatively high-value investment for Indian disability policy.

4.4 Gendered dimensions of disability across the life course

Disability prevalence among males exceeds females' disability prevalence across every social group and every geographical stratum in this analysis. Nevertheless, there is one systematic exception. Among the oldest age band, women record higher rates than men across most social groups. There are several explanations for the general male excess. Firstly, the United Nations has noted that the measured male-to-female ratio in disability surveys is highly sensitive to screening methodology. It is coexistent with impairment-based screening, tending to produce higher apparent male ratios, in part because severe impairments among women may require more intensive survey probing to be accurately identified (United Nations, 1990). Second, women with disabilities in rural India are frequently expected to continue performing the full range of traditional household and agricultural roles regardless of impairment (Mehrotra, 2006), and this gendered division of labour may render disability among women comparatively invisible — both to enumerators and, in some cases, to the women themselves (Elwan, 1999). Third, in a context where girls and women with disabilities receive less care, less food and worse access to healthcare, rehabilitation, education and employment than their male counterparts,

correspondingly higher mortality among disabled women may itself suppress the measured prevalence of disability among women relative to men (Emmett & Alant, 2006).

The reversal of this pattern among the oldest age groups is unlikely to reflect a straightforward biological process and more plausibly reflects the cumulative operation of several social mechanisms working in combination: differential survival, whereby disabled men die at younger ages than disabled women with comparable impairments; the cumulative toll of a lifetime of under-nutrition and deferred medical care disproportionately borne by women; and the erosion, in advanced old age, of the social support structures — principally through widowhood — that had previously sustained women's health and functioning. That this reversal occurs earlier, in some subgroups, than in others (for instance, among rural ST women from age 70, compared with the oldest band only among SC and non-SC/ST women) is itself suggestive of an accelerated accumulation of disadvantage among tribal women specifically, consistent with the broader ST paradox discussed above.

4.5 Classification and the politics of enumeration

The 2011 Census introduced two new disability categories absent from the 2001 Census: 'any other' and 'multiple disability'. The 'any other' category captures disabilities outside the five previously defined types, cases where a respondent could not or did not report a specific disability, and conditions such as autism, where communication and social functioning are affected in ways not well captured by the existing taxonomy; 'multiple disability' applies where an individual reports up to three co-occurring disability types. Both categories emerged, in this analysis, as the fourth and fifth largest disability categories nationally, and both are disproportionately concentrated among the most marginalised social groups. A substantial share of individuals falling into the 'any other' category may reflect a fallible enumeration process, in which enumerators failed to adequately convey the meaning of specific disability categories to respondents, or applied inconsistent effort in doing so (Reddy & Sree, 2015); a further contributing factor is likely the genuine heterogeneity of conditions — including blood-related disorders and other conditions with no obvious census category — that this residual classification is left to absorb. Because SC populations record the highest concentration of individuals in the 'any other' category of any social group, this classification failure falls disproportionately on the population already carrying the heaviest overall disability burden documented in this study. This compounds an already difficult policy problem: it is markedly harder to design targeted rehabilitation, assistive technology or social protection programming for a population whose specific disability type the census itself cannot classify, and there is a genuine risk that, given the many competing demands already facing SC communities, policymakers will simply deprioritise the comparatively invisible population captured within this residual category (Reddy & Sree, 2015).

5. Conclusion

Although any individual may acquire an impairment irrespective of gender, caste, geography or class, the way that impairment is experienced, perceived and addressed is profoundly shaped by cultural norms, social structure and access to socioeconomic resources (Mehrotra, 2006). Understanding how disability

intersects with these social identities is therefore central to understanding the marginalisation of disabled individuals in India (Pal, 2011). Existing literature finds that the intersection of multiple identities contributes to the marginalisation and discrimination of disabled persons, and disability operates as a significant single identity that shapes that marginalisation (Thompson et al., 2023). This study's disaggregation of disability prevalence by social group is motivated by the expectation that need, and the intensity of support required, will generally be greatest among disabled individuals from already disadvantaged groups – an expectation this analysis substantially confirms, while also complicating it in one important respect, discussed below.

Three propositions summarise this study's central contribution. First, social group identity is not incidental to disability risk in India: Scheduled Caste populations record the highest disability prevalence of any social group, across virtually every dimension examined here – age, gender, geography and disability type – and this pattern survives adjustment for age structure and holds in both rural and urban settings. This is consistent with the argument that social group, gender and geography, while not themselves 'causes' of disability in a biomedical sense, are deeply entangled with the educational, economic, and health-system determinants that shape both the incidence and the consequences of impairment (Pal, 2011). Second, the Scheduled Tribe age paradox identified in this study – in which a population reporting comparatively low disability prevalence through working age exhibits, by advanced old age, the steepest escalation and the highest absolute prevalence of any social group – complicates any simple narrative of cumulative, monotonic disadvantage, and identifies the tribal elderly, and rural tribal women in particular, as a population whose needs have been substantially under-examined in the existing literature. Third, gender and geography each operate not as static, additive risk factors but as influences whose salience shifts across the life course and across social groups, evident in the reversal of the male-female disability gap in advanced old age and in the persistence of a rural disadvantage that survives age standardisation.

Taken together, these findings support this study's broader claim: that disability in India is best understood not as a randomly distributed biomedical fact but as a social outcome, patterned by the same structures of caste, gender and geography that organise access to nutrition, healthcare, education and employment more generally. This paper has sought to move beyond documenting that different social groups experience different rates of disability, toward estimating those rates precisely enough – by disability type, by age band, and by the intersection of social group, gender and geography – to support genuinely targeted policy design, rather than policy addressed to disabled Indians as an undifferentiated population.

Comprehensive data remain a major constraint on this agenda. Enumerating disability is inherently difficult, since the definition of disability itself is contingent on social and cultural context (Reddy & Sree, 2015), and this study is subject to specific limitations that should inform how its findings are used. First, it does not capture the severity of disability within categories, across gender, social group or geography. Second, it does not distinguish between congenital and acquired disability – conditions with distinct causes, trajectories and policy implications – and future work disaggregating by social group along this

dimension would be valuable. Third, in common with other census-based studies, the disability measure used here captures self-reported impairment rather than functional limitation or participation restriction, and is likely to undercount disability, particularly among the elderly, where age-related functional decline may not be reported as disability at all (Velayutham et al., 2016). Fourth, because the underlying data are cross-sectional, the life-course patterns described here – including the Scheduled Tribe paradox – reflect comparisons across different birth cohorts observed at a single point in time, rather than the same individuals tracked as they age; longitudinal data would be needed to establish these patterns definitively as ageing effects rather than cohort effects.

India's ratification of the UNCRPD in 2007, and the subsequent replacement of the Persons with Disabilities Act, 1995 with the RPWD Act, 2016, obligate the Indian state to ensure that persons with disabilities can live with dignity, in a non-discriminatory environment that enables the full use of their capacities. The RPWD Act's expanded taxonomy of disabling conditions has the potential to substantially improve the accuracy and granularity of disability data collected in future censuses and surveys. The forthcoming Census 2027 – India's first digital enumeration exercise – offers a concrete opportunity to fulfil this obligation. The government indicates that all 21 statutory categories of disability under the RPWD Act 2016 will be recognised by trained enumerators in this process. This requires more sensitive data collection, with the enumerators equipped to capture disabling conditions beyond self-reported impairments. Whether that potential is realised, however, depends on the active participation of the key stakeholders responsible for data collection – the Government of India, disabled persons themselves, and the organisations that represent them – in ensuring that future enumeration is both more accurate and more genuinely inclusive of the populations this study identifies as most at risk of being overlooked.

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Footnotes

[1] United Nations Convention on the Rights of Persons with Disabilities (UNCRPD): the Scottish Government's draft delivery plan 2016-2020: Scottish Government consultation - Digital Education Resource Archive (DERA). <https://dera.ioe.ac.uk/id/eprint/24273/>

[2] (<https://www.censusindia.gov.in>).

Figures

ASDP for Scheduled Caste in 2011

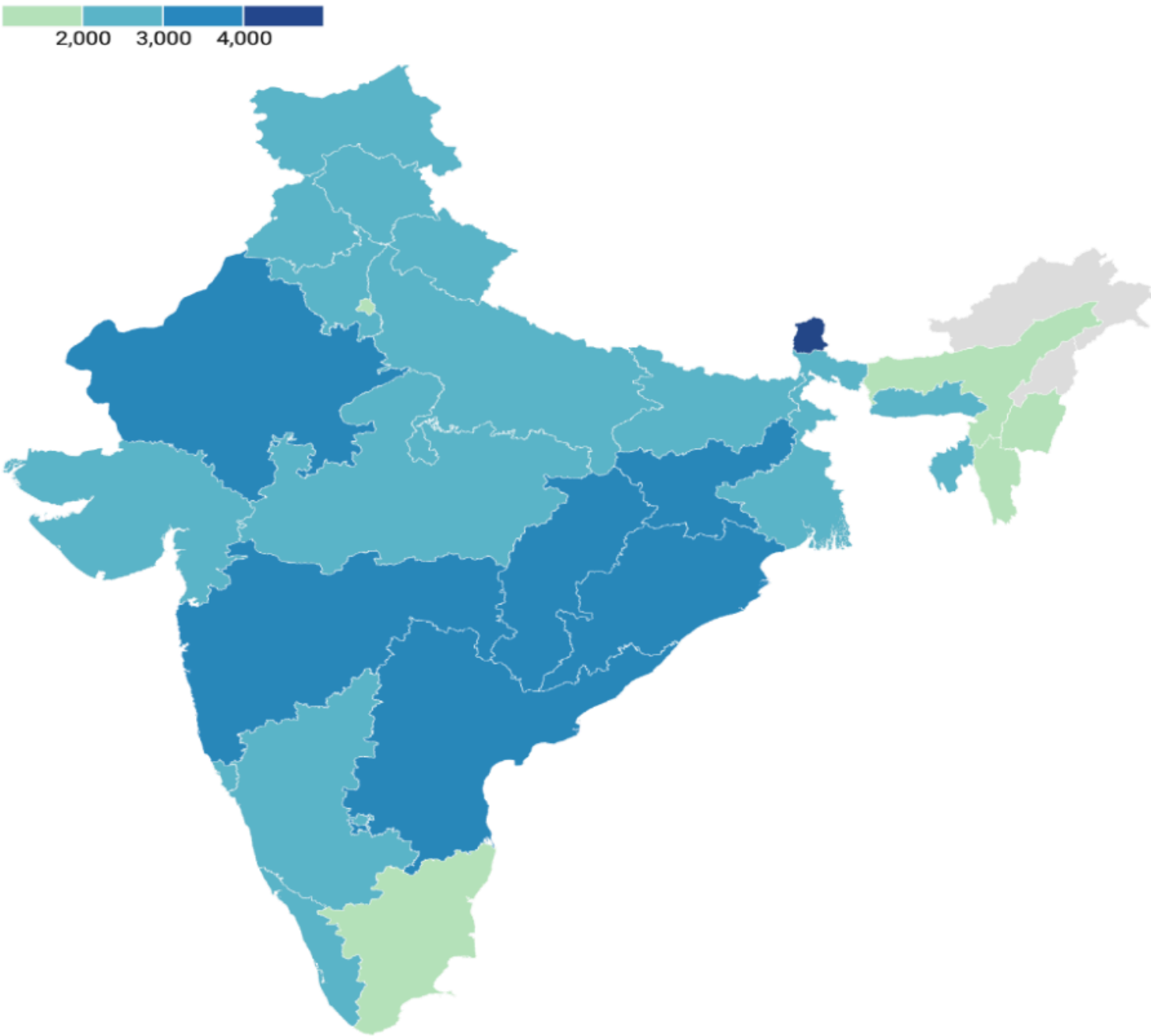


Figure 1

Unnumbered image in the Results Section

ASDP for Scheduled Tribe in 2011

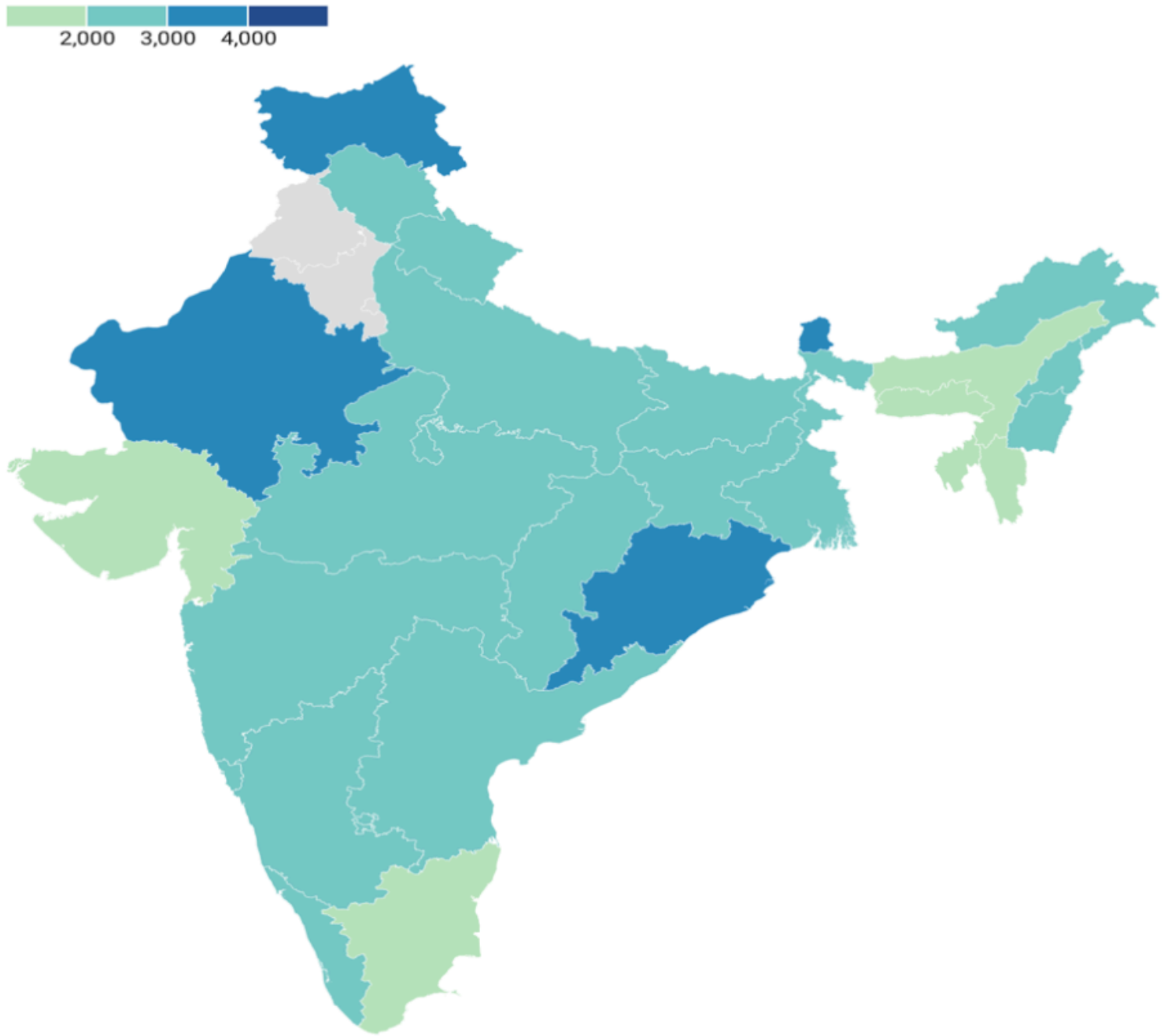


Figure 2

Unnumbered image in the Results Section

ASDP for Non Scheduled Caste/Tribe

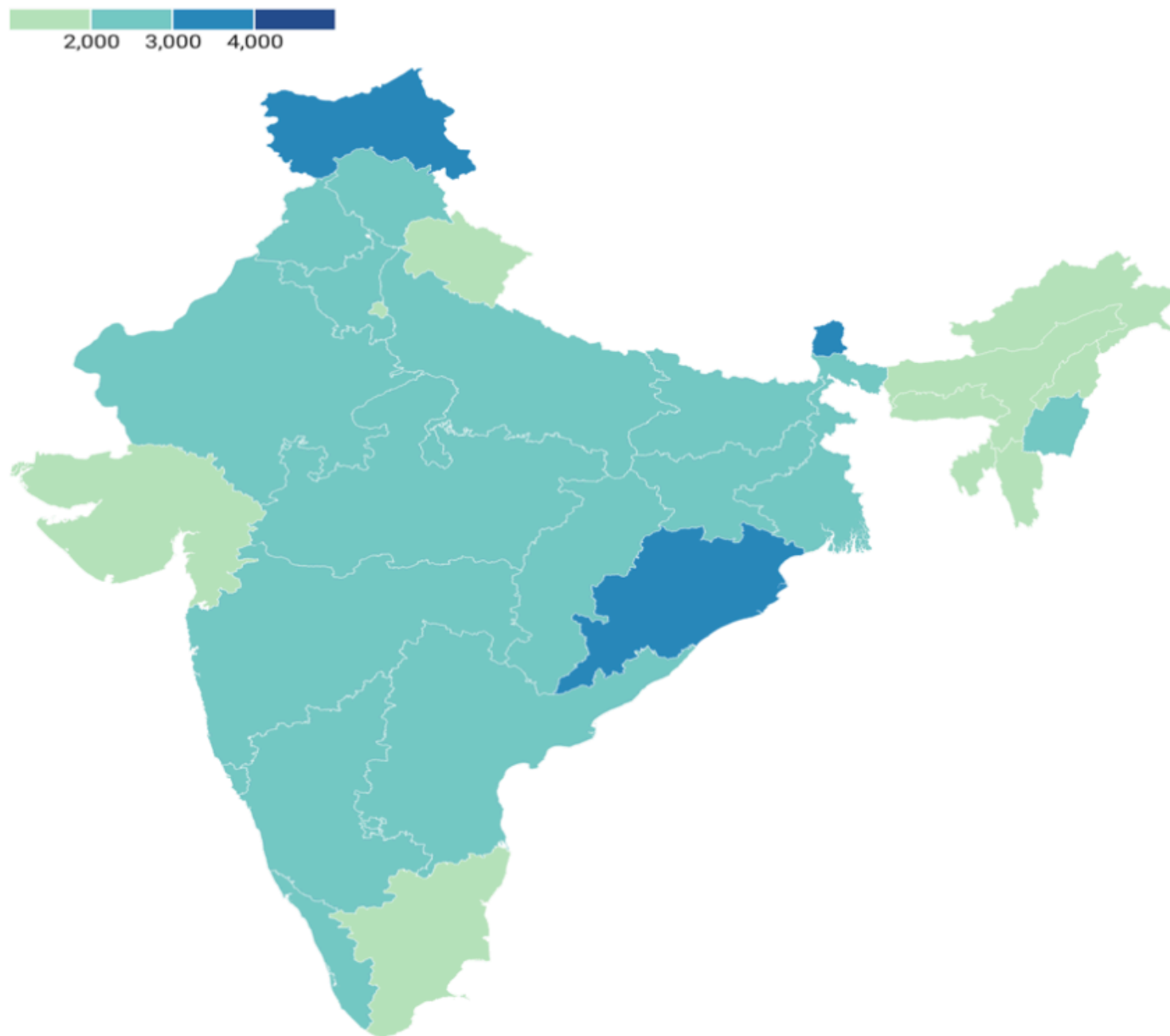


Figure 3

Unnumbered image in the Results Section

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