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## 1. Introduction

Equitable and inclusive representation in political decision-making is increasingly recognized as essential—not only for social justice but also for meaningful development and the sustainable management of shared resources. (Find citation: Elinor Ostrom, Amartya Sen, Stiglitz, Acemoglu and Robinson, Duflo, North, UNDP). In developing economies, in particular, political power plays a crucial role in determining how resources are allocated/distributed, shaping development outcomes and, in turn, both individual and community well-being. However, access to political representation is often restricted, particularly for marginalized groups[1], who frequently lack the power, status, or resources to advocate for their interests, especially against more powerful actors in society (Find citation: Baba et al., 2021, Sasaki and Baba 2024). In response to such persistent inequities, many countries have enacted electoral quota policies to empower historically excluded groups. In India, electoral quotas, called reservations, have been adopted to address the millennia old oppressive social structure known as the caste system. The caste hierarchy has relegated certain groups and tribal communities to the peripheries, where marginalization remains deeply entrenched, restricting access to social, political, and economic power. This investigation will evaluate the extent to which reservations for local political leadership positions yield meaningfully improved outcomes for the communities in which they are applied.

In 1992, the Indian government mandated that the leadership position of village councils be reserved for members of two historically oppressed caste groups - Dalits (Scheduled Castes, SC) and Adivasis (Scheduled Tribes, ST) - on a rotating basis in rough proportion to the population share of these groups in each village. I will evaluate how the rotating application of these reservations from 1994-2007 impacted economic and environmental outcomes at the local level.

[1] According to the V-Dem Equality of Political Power Across Social Groups index (from Our World in Data)

Here, reservation refers to the process where certain electoral positions can only be contested for by candidates from the castes for which it was "reserved". Previous research on reservation policies has shown that these policies can enhance political participation and direct resources toward marginalized communities,(Find citation: Pande 2003) while also influencing the distribution of and local access to public goods.(Find citation: Duflo 2005, Besley et al. 2004, Palaniswamy and Krishnan 2012). Most studies on the efficacy of political reservations in India have focused on development and participatory outcomes, using survey or census data and qualitative insights from a few districts (Find citation: for example: Munshi 2019, Dunning and Nilekani 2013). While these studies provide insights into caste representation and document impacts in some domains, their generalizability is uncertain(Find citation: Sunderland). I examine the impacts of SC/ST reservations on a large scale and find geographic granularity previously lacking in the literature.

In particular, I analyze a yearly dataset of over 5,000 village spanning five electoral cycles in Karnataka, a southern state of India, to assess the impact of caste-based political representation for SC/ST groups on two outcomes: forest cover, indicating differences in impacts on local environmental resources, and night-time lights, serving as a proxy for local economic activity and development. Using village-year observations as my unit of analysis, I offer causal evidence on how caste-based leadership influences local forests and economic growth, contributing empirical evidence to the literatures on political representation, development, and environmental resources

I provide evidence that caste reservation assignments are quasi-random and then apply a difference-in-differences identification strategy to compare outcome changes between reserved and unreserved village councils over time and across elections. Using a two-way fixed effects model with village and time fixed effects, I estimate the average causal effect of SC-ST leadership on local outcomes and also decompose the effect for SC and ST reservations separately. To allay concern of confounding from SC-ST population shares in the first election with reservations I show my results are robust to the exclusion of this time period from the analysis. I further demonstrate the validity of my main estimates by showing their close comparability with estimates from a

pair of new identification approaches which address bias arising from heterogeneous treatment effects in two-way-fixed-effect difference-in-differences models.

My main estimates indicate that SC-ST leadership is associated with improvements in local economic outcomes and reductions in forest cover. In particular, I find that villages with SC-ST reservations realize a (O: X) percentage point ((O: XZ)%) increase in nighttime light brightness and a (O: Y) percentage point decrease ((O: YZ)%) of forest cover relative to villages without reservations. Decomposition of these estimates reveals more pronounced effects for ST compared to SC castes. This contrasts with the conventional view that indigenous groups inherently protect forests, and may suggest that meeting basic needs for food and housing may take priority over environmental conservation, or that the utilization of forest resources is more important for the level or paths of economic advancement of ST communities.

Additionally, I consider how my main estimates vary across villages with different baseline characteristics from population density to education levels and literacy rates to extent of forest cover. This results reveal that...

The paper is organized as follows: Section II covers the caste reservation system and its implementation in Karnataka. Section III describes the empirical strategy and data sources. Section IV presents the results, and Section V discusses policy implications and concludes.

## 2. Background

(O: This is the 1 background under the sections folder.)

Our analysis centers on reservations at the village council level. To provide context, the following section offers an overview of local governance, the role of caste in India's social hierarchy, and the reservation system within local councils. We also outline the reservation process in Karnataka, which forms the foundation of our identification strategy.

### *2.1. Village Councils*

The 1990's in India introduced a range of political reforms aimed at decentralizing political power and establishing a more participatory governance structure, leading to the $73^{rd}$ Constitutional Amendment Act of 1992. This act formalized Panchayati Raj Institutions (PRI) of local governance or established them where they previously did not exist. These reforms were a response to multiple reports highlighting previous efforts' failures to engage rural communities in their own development, citing the lack of authority, resources, and autonomy in local institutions - and the "insufficient representation of weaker sections like Scheduled Castes, Scheduled Tribes and women".

Figure 1 illustrates the multi-tiered governance structure in India, from the national level down to villages in rural areas, where a substantial portion of the population resides. [2] Within this structure, each village cluster - comprising 1 to 20 villages - serves as an autonomous unit for local governance. Hereafter, we refer to this unit as a village cluster. The village council (Gram Panchayats or a village republic, referred to as village councils or councils hereafter) is the democratically elected body representing this cluster of villages, with authority over planning economic development, promoting social justice, managing community resources, and distributing government benefits for the villages under its purview. Councils play a crucial role in community well-being, delivering essential services like sanitation, healthcare, and education, managing local resources such as water bodies and pasture lands, and administering government funds for projects ranging from poverty alleviation to infrastructure, actively shaping India's rural landscape.

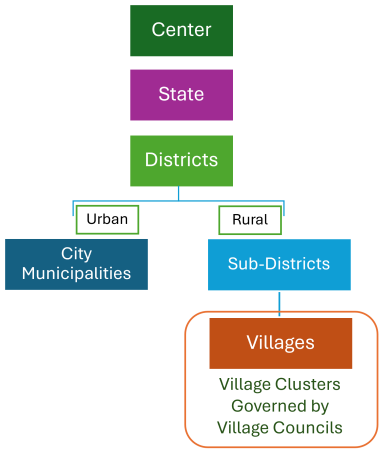


Figure 1: Administrative hierarchy in India

The council is led by a Chairperson, who oversees its functions, presides over meetings, and

[2] In 1990, 74%($\approx$ 648 million people) of India's population was rural, and even today, rural communities make up a significant 65% (around 909 million people as of 2022).

represents the council at higher governance levels. As the only officially paid member, the Chairperson holds substantial influence, particularly in selecting beneficiaries for government schemes and directing the allocation of resources. Empirical studies confirm the Chairperson's discretion significantly impacts local development outcomes, shaping the council's priorities and the distribution of public goods within the village cluster (Find citation: besleygovernance2006, besleypolitics2004, chattopadhyaywomen2004, palaniswamylocal2012, dunningethnic2013).

### *2.2. Caste and Marginalization*

Caste, a deeply rooted social hierarchy in the Indian subcontinent, has long defined India's social structure. This system, comprising thousands of castes grouped into five broad categories, further divides these groups into "upper" and "lower" castes, with rigid social rules and endogamy reinforcing caste boundaries across generations. The resulting stratification imposes stark social, economic, and political implications from birth, limiting individuals' rights to self-determination and shaping their economic class, social capital, and political representation.

This paper follows the Indian government's caste classifications: General Category (upper castes with historical privilege), Other Backward Castes (OBCs, with disadvantaged socio-economic outcomes), Scheduled Castes (SC, or Dalits, who have historically faced severe discrimination and social exclusion, resulting in lower human development outcomes), and Scheduled Tribes (ST, indigenous communities who have also been socially marginalized and often live in isolated areas, such as hills and forests). Despite legal protections against caste discrimination and affirmative action policies, caste remains a substantial barrier to equitable outcomes, with SC and ST communities experiencing higher poverty rates, lower literacy levels, and limited access to essential services like healthcare and education. These persistent caste-based inequalities continue to impede economic mobility and welfare, affecting one-third of the population. Addressing these disparities is both a key motivation for our work and underscores the need for ongoing policy improvements.

The architect of India's constitution and a vocal critic of the caste system, Dr.B.R. Ambed-

kar, condemned village republics as the 'ruination of India', calling them 'sinks of localism, ignorance, and communalism'. Caste hierarchies are often more overtly enforced in rural areas, where traditional social structures, economic reliance on caste-based occupations, and limited educational access reinforce these divides.[3] In response to these deep-rooted inequities, reservation policies were introduced to address historical injustices and provide marginalized castes with representation in governance.

### *2.3. Reservations*

The 73rd Constitutional Amendment of 1992 introduced electoral quotas, known as reservations in South Asia, within local governing bodies, mandating reserved seats in village councils for Scheduled Castes (SC), Scheduled Tribes (ST), and women. For instance, a seat reserved for SC candidates is open only to those from the SC community. This paper focuses on caste-based reservations in local governance; although women's reservations intersect with caste quotas, we treat them as a constant, as they apply uniformly within each caste group (with one-third of seats in each group reserved for women). A summary of the seat allocation process is included below, as it is integral to our identification strategy.

In the context of caste, the amendment establishes two types of reservations: one for council members and, more notably, one for the Chairperson of each council. For council members, the number of reserved seats for SCs and STs is proportional to the population of these groups in the area. For Chairperson positions, the amendment aims to ensure that (i) the proportion of Chairperson positions reserved for SCs and STs in councils reflects their population share within the state; (ii) at each level of governance, Chairperson roles reserved for SCs and STs should match with their population percentages; and (iii) these reserved Chairperson positions rotate among councils, across election cycles, to allow multiple councils, not just a few, the chance to experience SC- and ST-led governance. Before examining how these stipulations were adopted,

[3]It is important to note that caste discrimination is not absent in urban areas. Though the forms and intensity may differ, and while urbanization and modernization can mitigate some aspects of caste discrimination, systemic inequalities persist across rural and urban settings.

we turn to the specific context of Karnataka, where the implementation of reservations provides us a setting for our analysis.

### *2.4. Reservations in Karnataka*

Responsibility for implementing the reservation stipulations in the 73rd Amendment fell to individual states, allowing flexibility in interpretation and assignment processes, resulting in variation across states, particularly in council and chair election procedures. Given these differences, we focus our analysis on Karnataka - a state with a long history of village governance, early adoption of reservations, significant council expenditure authority, geographic diversity, and robust reservation data—making it an ideal setting for us to explore effects of caste reservations.

The reservation process for chairperson positions in Karnataka's village councils follows a structured approach to ensure fair representation for SC, Scheduled Tribes ST, and OBC and we describe this process here in some detail. First, the SC and ST populations are calculated as a percentage of the state total—approximately 18% for SC and 9% for ST—determining that these proportions of the $\approx$ 6000 councils will be reserved for each group, respectively. This proportionate reservation is replicated at the district and sub-district levels. Within each sub-district, councils are sorted by the proportion of SC or ST population, and reservations are assigned accordingly. For SC reservations, councils are ranked from highest to lowest SC population, with the top-ranked councils receiving SC chair reservations; if ties occur, selection is random. Once SC reservations are set, these councils are removed, and ST reservations are assigned following the same process, ensuring that SC and ST categories remain mutually exclusive. The same method is then applied for OBC reservations after excluding councils already reserved for SC or ST. In subsequent election terms, councils cannot receive the same reservation category twice in a row, although SC-reserved councils may be allocated ST reservations, and vice versa. This rotation process ensures broader representation over time. While much of this information is drawn from secondary sources, our limited conversations with officials at the Ministry of Panchayati Raj confirmed many of these insights, even if not all specific details.

The first council election in Karnataka with reservations was held in 1994, with subsequent elections every five years. While council members serve five-year terms, beginning in 2000, chair reservations rotated every 2.5 years, leading to a new chair elected internally by council members every 30 months. This rotation resulted in chairs being elected in 1994 and after in 2000, 2002, 2005, and 2007. Although council elections are indirect—voters elect council members, who then select the chair (Adhyaksha) and vice-chair (Upadhyaksha) - it is generally well known who is likely to contest for the chair, especially because council elections happen locally. Additionally, Karnataka introduced reservations for OBCs(other Backward Castes mentioned in the previously) as well, adding further complexity to the council chair reservation process, which we describe next.

The introduction of these reservations led to rapid shifts in the composition of councils, where members from SC and ST castes, historically excluded from decision-making, began to assume leadership roles. This change creates a natural experiment for our analysis, providing the variation we leverage: councils transitioning from no SC/ST leadership to having rotating leaders from these marginalized groups. Notably, while the leadership rotates, the proportion of SC/ST members within each council remains consistent with their population share. This stability, along with multiple election terms in our dataset, supports the argument that SC/ST representation in the general council membership does not confound our analysis of the leadership effects.

## 3. Empirical Framework

Brief intro to be written

### *3.1. Main Specification 1: TWFE*

The aim here is to estimate the contemporaneous (short-run) effects of having a council leader from a marginalized caste on local forest cover and night-time lights intensity. To achieve this, a difference-in-differences ($DiD$) identification strategy is employed, comparing changes in

outcomes between reserved and unreserved councils over time to estimate the treatment effect of reservations.

This is implemented using a two-way fixed effects (TWFE) regression model, which accounts for both council-specific characteristics and common time shocks. The model is specified for each council $i$ in year $t$, covering the pre-reservation periods and five election terms from 1983 to 2010:

$$Y_{it} = \beta \cdot Reservation_{it} + \gamma_i + \delta_t + \epsilon_{it} \tag{1}$$

Where $Y_{it}$ is the outcome of interest, $\gamma_i$ denotes council fixed effects, and $\delta_t$ the year fixed effects. The key parameter of interest is $\beta$, the coefficient on $Reservation_{it}$, which indicates whether the council leadership position in a given year is reserved for a candidate from a marginalized caste, capturing the average treatment effect of this reservation. Additionally, we consider several alternative definitions of this reservation variable to separately indicate specific types of reservations.

The estimates include council and year fixed effects to control for time-invariant characteristics, such as baseline geographical or demographic differences, initial forest cover, and year fixed effects account for any time-varying shocks common across councils in Karnataka. We also cluster standard errors at the treatment allocation level to address within-unit correlation, which, in this case, is at the council level.

### *3.2. Independent Variable Definitions*

In all specifications, this paper considers two definitions of the key independent variable: the caste reservation status of council leadership. First, $Reservation_{it}$ is defined as a binary variable, where council leadership is considered reserved if the council has either Scheduled Castes (SC)

or Scheduled Tribes (ST) reservations, and is set as follows:

$$Reservation_{it} = \begin{cases} 1 \text{ if the leadership position is reserved for SC/ST} \\ 0 \text{ Otherwise} \end{cases}$$

This specification captures the overall effect of caste reservations by combining SC and ST reservations. Although these two groups are not homogeneous, this approach enables an estimation of the average impact of SC/ST-based reservations in leadership positions on forest cover and development outcomes. For this analysis, councils with BC reservations and those where the leadership position is unreserved (General category) are included as part of the control group. Additionally, as a robustness check, an alternate specification combines SC, ST, and BC reservations into a single treated group, contrasting it with the General (unreserved) category as the control group.

We also decompose the main estimates by caste categories (SC and ST) to assess the separate effects of leadership from each group. This distinction facilitates an analysis of how leadership from different castes influences outcomes. Considering the distinct histories and social contexts of SC and ST groups, evaluating SC reservations separately from ST reservations will yield valuable insights. Here, $Reservation_{it}$ is defined as a categorical variable:

$$Reservation_{it} = \begin{cases} SC \text{ if the position is reserved for Scheduled Castes} \\ ST \text{ if the position is reserved for Scheduled Tribes} \\ 0 \text{ Otherwise} \end{cases}$$

The effect of caste reservations is first estimated on forest cover, measured as the percentage of forest within the council area, and then on development, using night-time lights intensity as an indicator. In this context, $\beta$ captures the same-year average treatment effect of reservations on these outcomes.

While $\beta$ is interpreted as the average treatment effect of having marginalized caste leaders in councils, this estimate technically represents an Intent-to-Treat (ITT) effect. This distinction arises because the data reflect the reservation status assigned by the government rather than the actual caste of the council leader. While this paper does not directly verify that the assigned council leader is always from the reserved caste, nor can it entirely rule out the possibility of unofficial takeovers by members of dominant castes, it is important to note that adherence to the assigned reservation status is legally mandated. Conversations with senior bureaucrats in the department overseeing councils affirm that these reservations are generally followed in practice. This is further supported by numerous studies indicating that such reservations are often respected((Find citation: Duflo, Pande, Dunning etc)).

It is also worth noting that the estimates may not accurately reflect the impacts when a member of SC/ST wins a leadership role without reservations. In any case, the estimate still represents the effect of the reservation policy itself. In fact, since the analysis likely includes instances where reservations were disregarded, as well as cases where SC/ST members attained leadership positions without reservations, this estimate may understate the true effect of having genuine SC/ST leadership in place. By estimating the impact of the reservation policy, at least part of the leadership effect is captured, which may provide a lower bound on the overall impact.

In the baseline model, the focus is on estimating the short-run (same-year) causal effect of leadership reservations for marginalized castes, using minimal controls. A potential confounder in this analysis is the number of marginalized caste members in the council (and, by extension, the proportion of these caste groups within the village cluster), which could influence both reservation status and outcomes.

Since reservations in the first election term (1994) were assigned based on councils with the highest proportions of marginalized caste members within each sub-district, the representation of SC/ST members likely had a strong influence on reservation assignments during this initial period. However, form the data it is observed that SC/ST leadership reservations are distributed across councils with varying numbers of SC/ST members. While councils with a higher SC/ST

population were more likely to have SC/ST leaders in the first term, the distribution data ((O: see tables in robustness or here?)) indicates that reservations are not concentrated in councils with the highest SC/ST numbers but rather are spread across a broader range of SC/ST representation. Over subsequent terms, the rotation system within sub-districts introduced a degree of randomness, weakening the correlation between council demographics and reservation assignments.

To ensure that excluding SC/ST population shares does not bias the results, robustness estimates are included that account for the SC/ST council proportion, testing the sensitivity of the findings. Additionally, the robustness of the results is assessed by excluding the 1994 election period, when the correlation between SC/ST populations and reservation assignment was most direct.

Although the probability of reservation status was initially higher for councils with larger SC/ST populations, the subsequent allocation process introduced enough randomness to make exogeneity plausible. Thus, the identification strategy relies on the assumption that, in the absence of caste reservations, treated and control councils would have evolved along similar paths.

## 4. Results

### *4.1. TWFE Results*

This section presents the estimated effects of SC-ST leadership reservations on forest cover and night lights intensity, using the model in equation 1, which includes both council and year fixed effects. It compares the outcomes between councils with SC-ST leadership and those without, offering insights into the impact of reservations on environmental and economic outcomes.

#### *4.1.1. Impact of SC-ST Leadership on Forest Cover and Economic Activity*

Table 1 presents the main effects of SC-ST leadership reservations, estimated using a two-way fixed effects model. Councils with SC-ST leadership show a decrease in forest cover by about

0.20 percentage points compared to councils without reservations, indicating a slower rate of forest cover growth. Over the study period, average forest cover increased from 5.64% in 1983-84 to 8.41% in 2009-10, with SC-ST councils experiencing smaller gains compared to non-reserved councils. This difference corresponds to a roughly 3.2% reduction in forest cover gains relative to the baseline of 6.21% in 1991-92.

Table 1: Impact of SC or ST Reservations (Combined) on Forest Cover and Night Lights

| | vcf3 | | nlt_asin | |
|---|---|---|---|---|
| SC or ST | | | | |
| SC/ST | -0.200 | *** | 0.011 | *** |
| | (0.031) | | (0.003) | |
| Fixed Effects | id year | | id year | |
| Obs | 140924 | | 95551 | |

*** p<.01, ** p<.05, * p<.1

In terms of economic activity, SC-ST leadership is associated with a 0.011 increase in night lights intensity (in the transformed measure), which corresponds to a 1.1% relative increase. Night lights grew substantially across all councils from 1992 to 2010, with SC-ST-led councils seeing relatively higher increases compared to areas without reservations, indicating greater local economic activity in these areas.

*4.1.2. Disaggregated Impact of SC and ST Leadership*

Table 2 presents the disaggregated effects of SC and ST leadership on forest cover and night lights. SC-led councils experience a 0.189 percentage point reduction in forest cover, while ST-led councils show a slightly larger reduction of 0.234 percentage points compared to unreserved councils. In terms of night lights, SC-led councils see a 1% increase in brightness, whereas ST-led councils show an even higher increase of 1.4% as compared to villages without SC-ST leadership.

The disaggregated effects reveal notable differences between SC and ST-led councils. While both SC and ST-led councils show smaller gains in forest cover compared to non-reserved councils, the difference is more pronounced under ST leadership. ST-led councils experience a slightly larger reduction, with a 0.234 percentage point decrease in forest cover, compared to the 0.189

Table 2: Impact of SC and ST Reservations (Disaggregated) on Forest Cover and Night Lights

| | vcf3 | | nlt_asin | |
|---|---|---|---|---|
| SC/ST(Diasaggregated) | | | | |
| SC | -0.189 | *** | 0.010 | *** |
| | (0.033) | | (0.004) | |
| ST | -0.234 | *** | 0.014 | ** |
| | (0.062) | | (0.006) | |
| Fixed Effects | id year | | id year | |
| Obs | 140924 | | 95551 | |

*** p<.01, ** p<.05, * p<.1

percentage point reduction observed in SC-led councils. Night lights intensity shows a clear variation across SC and ST-led councils. SC-led councils experience a 1% increase in night lights, while ST-led councils show a higher increase of 1.4%. This pattern suggests that ST-led councils may see more substantial improvements in local economic activity compared to SC-led councils. Together, these trends indicate that SC and ST leadership have distinct impacts on both forest cover and economic activity, with ST-led councils exhibiting larger shifts in both measures.

The final results are based on the fully specified model with village council and year fixed effects, as shown in Column 4 of Appendix Tables A.3, A.4, A.5, and A.6. The inclusion of fixed effects controls for time-invariant factors specific to each council as well as general yearly trends, ensuring that the reported effects are robust and attributable to SC-ST leadership.

### *4.2. Robustness Checks*

## Appendix A. Additional Tables for Fixed Effects Analysis

**Note:** This table outlines the effect of SC-ST leadership on forest cover, with a stepwise inclusion of fixed effects. The final specification, which includes both council and year fixed effects, provides the most refined estimate of SC-ST impact on forest cover, showing a reduction in forest cover. The table illustrates the SC-ST leadership impact on night lights intensity, with stepwise fixed effects. The inclusion of both council and year fixed effects offers a more controlled estimate, showing increased night lights under SC-ST leadership.

Table A.3: Fixed Effects Estimates for SC or ST on Forest Cover

| | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|
| SC or ST | | | | | | | | |
| SC/ST | -0.226 | * | 0.633 | *** | -1.101 | *** | -0.200 | *** |
| | (0.127) | | (0.031) | | (0.145) | | (0.031) | |
| Fixed Effect | _cons | | id | | year | | id year | |
| Obs | 140924 | | 140924 | | 140924 | | 140924 | |

*** p<.01, ** p<.05, * p<.1

Table A.4: Fixed Effects Estimates for SC or ST on Night Lights

| | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|
| SC or ST | | | | | | | | |
| SC/ST | 0.165 | *** | 0.162 | *** | 0.033 | *** | 0.011 | *** |
| | (0.010) | | (0.006) | | (0.009) | | (0.003) | |
| Fixed Effect | _cons | | id | | year | | id year | |
| Obs | 95551 | | 95551 | | 95551 | | 95551 | |

*** p<.01, ** p<.05, * p<.1

This table displays the estimated impact of SC and ST leadership on forest cover, with stepwise inclusion of village council and year fixed effects. The results demonstrate that accounting for fixed effects refines the estimates, showing the adjusted impact of SC and ST leadership more accurately. The following table presents the influence of SC and ST leadership on night lights, using stepwise fixed effects for council and year. Including fixed effects reduces potential bias from time-invariant characteristics and yearly changes, leading to a clearer understanding of SC-ST leadership's impact on economic activity.

Table A.5: Fixed Effects Estimates for Disaggregated SC and ST on Forest Cover

| | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|
| SC/ST(Diasaggregated) | | | | | | | | |
| SC | -0.214 | * | 0.603 | *** | -1.059 | *** | -0.189 | *** |
| | (0.130) | | (0.033) | | (0.145) | | (0.033) | |
| ST | -0.262 | | 0.722 | *** | -1.220 | *** | -0.234 | *** |
| | (0.290) | | (0.063) | | (0.304) | | (0.062) | |
| Fixed Effect | _cons | | id | | year | | id year | |
| Obs | 140924 | | 140924 | | 140924 | | 140924 | |

*** p<.01, ** p<.05, * p<.1

Table A.6: Fixed Effects Estimates for Disaggregated SC and ST on Night Lights

| | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|
| SC/ST(Diasaggregated) | | | | | | | | |
| SC | 0.176 | *** | 0.144 | *** | 0.057 | *** | 0.010 | *** |
| | (0.011) | | (0.007) | | (0.009) | | (0.004) | |
| ST | 0.134 | *** | 0.217 | *** | -0.034 | ** | 0.014 | ** |
| | (0.019) | | (0.013) | | (0.016) | | (0.006) | |
| Fixed Effect | _cons | | id | | year | | id year | |
| Obs | 95551 | | 95551 | | 95551 | | 95551 | |

*** p<.01, ** p<.05, * p<.1

## References