Complaint Resolution Systems and Local Governance: Experimental Evidence from Rural India *

Chinmaya Kumar† M. R. Sharan‡

Abstract

Governments worldwide have introduced grievance-redress systems to improve public service delivery, but there is little causal evidence on their effectiveness. We study such a system in Bihar, India, linking administrative data on ≈ 550,000 complaints filed with surveys and evidence from a randomised controlled trial. The experiment covered 1,629 elected ward representatives, all low-caste officials responsible for key local water and sanitation projects. In the main treatment arm, representatives were offered help to file grievances about projects stalled by higher-tier officials – a 'hold-up' problem seen across decentralised settings. Treatment, which saw substantial take-up, increased project initiation by 26 percent within three months, with spillovers to neighbouring wards. Yet treatment cut re-election rates by 20 percent. Investigating causes, we find evidence of both catch-up in control wards and backlash from higher-tier—predominantly upper-caste—officials. Complementary evidence from a separate regression discontinuity design shows that caste is a central driver of hold-up even at baseline. Our results suggest that grievance systems can increase voice, reduce obstruction and improve service delivery, but backlash and political costs may limit uptake by marginalised representatives.

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†Azim Premji University

‡University of Maryland

1 Introduction

Over recent decades, fiscal and administrative authority has increasingly shifted from central to local governments in many developing countries (Bardhan and Mookherjee, 2006). However, decentralisation rarely results in full devolution of powers: higher-tier authorities typically retain control over resource transfers, final approvals, and monitoring, creating hold-up problems within government (Mookherjee, 2015; Banerjee et al., 2020). Empirical studies from diverse contexts document that these vertical frictions generate significant delays and leakages in infrastructure projects and local public-good provision, undermining gains from decentralised governance (Muwonge et al., 2022; George et al., 2024). These problems can be exacerbated when administrative hierarchy intersects with social hierarchy. In particular, local officials who are women or belong to historically disadvantaged groups often face additional barriers – not only navigating upper bureaucracy, but doing so within institutions that may be indifferent or actively hostile to their authority (Casas-Arce and Saiz, 2015; Purohit, 2022).

One potential institutional solution to intra-governmental hold-up is the establishment of formal grievance-redress systems, through which lower-tier officials – and citizens – can file complaints against non-responsive higher-tier officials. Such systems are not only widespread – adopted by governments at multiple levels across the world – but also foundational to the modern state's internal accountability architecture (Hossain et al., 2024). These typically feature independent officers empowered to investigate complaints, impose binding deadlines for action, and levy penalties for non-compliance. Proponents argue that grievance systems can reduce vertical frictions by acting as a check against powerful higher-tiered officials. Sceptics, however, caution that these mechanisms may disproportionately serve socio-economic elites due to informational and transactional barriers, thereby reinforcing existing inequities (Kruks-Wisner, 2021). Despite their ubiquity, there is little work on the causal impacts of such mechanisms on government efficiency. Moreover, their ability to mitigate hold-up – and specifically, their usefulness to local officials from disadvantaged groups – remains largely unknown.

We examine this issue in the Indian state of Bihar, a context marked by entrenched social hierarchies and persistent inequalities in access to public goods and welfare. Village governance in Bihar operates through two tiers of directly elected leaders: the Gram Panchayat (GP) president, who oversees the entire GP, and ward members (WMs), each

responsible for infrastructure within jurisdictions of roughly 1,000 residents. Our study focuses on WMs elected under quotas for Scheduled Castes (SCs), a historically disadvantaged group comprising approximately 17 percent of Bihar's population. SCs occupy the lowest rungs of India's caste hierarchy and have traditionally faced systematic exclusion and discrimination.

WMs in Bihar are formally responsible for delivering critical local water and sanitation (WAS) infrastructure, but depend on GP heads for funds and approvals. Government guidelines explicitly prioritise wards represented by SC members for implementation. Yet administrative data from Bihar's flagship WAS programme reveal severe delays consistent with vertical hold-up: three years into implementation, roughly half of all SC-led wards had yet to begin construction on a single approved project. A primary survey of WMs revealed that a majority of them blamed delays on hold-up by upper-tiered officials. We ask whether access to a formal grievance-redress mechanism can help these WMs overcome these constraints.

The grievance-redress system we study was introduced through the Bihar Public Grievance Redressal Act (BPGRA), enacted in 2016. The law allows both citizens and local officials to file complaints regarding service delivery delays or bureaucratic non-responsiveness. Complaints are reviewed by independent, higher-level officers with quasi-judicial authority to impose deadlines, fines, and suspensions on delinquent officials.

While the BPGRA offers a potentially powerful tool for WMs, its usage has been heavily skewed. Our analysis of the universe of over half-a-million complaints filed by citizens and representatives between its launch in 2016 and 2019 shows that grievances were disproportionately submitted by members of high-caste groups, consistent with concerns of elite bias embedded in such systems. This suggests that disadvantaged WMs may also face substantial informational, procedural, or political barriers to accessing the system.

To evaluate whether lowering these barriers can improve take-up and outcomes, we conduct a large randomised field experiment involving 1,629 SC WMs whose WAS projects were stalled in 2019. The 1,629 WMs came from 1,344 GPs, covering a collective population of nearly 15 million. They were randomly assigned to one of three groups: (i) a complaint-filing assistance group, where trained enumerators provided information about the grievance process and submitted complaints on WMs' behalf, thereby reducing transaction costs; or (ii) an information-only group, which received the same

information but no filing support and (iii) a control group, that was only administered the baseline survey. By linking official grievance records, a primary survey of WMs, and electoral data from subsequent local elections, we examine whether enabling access to this grievance mechanism reduces hold-up, improves infrastructure delivery, and shapes the political prospects of disadvantaged local officials.

We find that providing SC WMs with direct assistance significantly increased complaint filing and improved infrastructure delivery. Grievance filing rose by 40 percentage points (p.p) relative to the control group, where activity was negligible. Three months after complaints were filed, treated wards experienced a 26 percent increase (6.9 p.p) in the initiation of WAS projects. These results suggest that grievance mechanisms – when made accessible through minimal facilitation – can meaningfully reduce bureaucratic delays in decentralised service delivery, particularly for officials from historically marginalised communities.

The effects on project initiation extend beyond treated wards. We find substantial positive spillovers in neighbouring jurisdictions, consistent with a broader disciplining effect on higher-tier officials. In our endline survey of 945 neighbouring wards that had not initiated projects at baseline, those adjacent to treated wards were 23 percent (7 percentage points) more likely to report project initiation compared to neighbours of control wards. Yet only 2.5 percent of these neighbouring WMs actually filed complaints, indicating that the observed increase was not driven by diffusion in filing behaviour. Instead, the pattern is consistent with a threat effect: bureaucrats, aware of complaint activity, may act pre-emptively to avoid escalation. Spillovers are highly heterogeneous by caste: project initiation increased much more among SC than non-SC neighbors. These findings underscore the broader disciplining potential of formal grievance mechanisms – particularly in contexts where WMs are socially disadvantaged.

If the grievance system is so effective, why is it so rarely used at baseline? We offer two explanations. First, the information-only treatment produced only a modest 7 p.p increase in complaint filing suggesting that awareness is not the binding constraint. Rather, the technical knowledge required to navigate the grievance process and the time and effort involved in filing likely deter use. Second, the political returns to complaining for WMs appear limited. In local elections held two years after the intervention, treated WMs were 4.6 p.p less likely to emerge victorious than their control counterparts, which translates to a 20% decline in re-election rates.

We explore several mechanisms that help explain the combination of improved service delivery and muted or negative electoral returns. First, we find evidence of catch-up implementation in control wards in the run-up to elections, narrowing service-delivery gaps and potentially diminishing any electoral advantage of early initiators. Second, we find suggestive evidence of backlash from GP heads and higher-tier officials, which could both deter candidates from contesting or voters from voting for them. Third, we find no evidence of spillovers with respect to complaints by treated WMs regarding other public goods or welfare schemes, which could have improved service delivery and broadened voter support. Together, these patterns point to the limits of grievance redress as a long-run strategy, and invite a closer look at the deeper structural roots of the hold-up problem. To this end, we turn to evidence on how caste hierarchies shape the incidence of hold-up.

Our experiment builds on the premise that the hold up problem is mediated by caste, because SC ward members appear to face greater obstruction when the Gram Panchayat head is non-SC. To test this formally, we use exogenous variation in head caste that arises from Bihar's reservation rule. Gram Panchayats with an SC population share above a specified threshold are much more likely to reserve the head position for Scheduled Castes, which generates an eligibility cutoff. This yields a fuzzy regression-discontinuity design (RDD) delivering credible causal estimates of GP head caste's effect on hold-up. We find that when heads are non-SC, SC wards face systematically greater delays: projects stall more often, funds are withheld, and SC ward members are about twice as likely to file grievances. By contrast, non-SC WMs do not face any such disadvantages under SC GP heads. Further analysis indicates that these conflicts stem from discrimination against the SC representative rather than against SC constituents, as effects do not vary with the ward's SC population share. Caste thus fundamentally shapes who gets stalled in decentralised governance.

Taken together, these findings suggest that while grievance systems can discipline hold-up and deliver service improvements, their political costs may limit uptake, particularly for representatives from marginalised groups operating in socially stratified environments.

This paper makes several contributions to the literature. Grievance redress systems are widely viewed as core accountability institutions of the state (Hossain et al., 2024; Grossman and Slough, 2022), yet there is limited large-data analysis of such systems

or experimental evidence on how they function in practice, particularly in developing country contexts.[1] We provide among the first causal evidence that expanding access to a formal grievance mechanism can empower marginalized local officials, increase complaint activity, and improve infrastructure delivery, with significant spillovers. Closest to our study is Buntaine et al. (2024), who examine citizen-filed complaints against polluting firms in China. Our study differs by focusing on complaints filed by elected local officials, rather than civil society proxies, within a decentralized democracy marked by weak state capacity, where grievances serve to negotiate vertical state conflict rather than regulatory enforcement alone.

Second, we contribute to the literature on decentralisation and devolution by identifying a specific source of inefficiency – hold-up problems – and evaluating the effects of a potential institutional remedy: a grievance redressal system. Prior work shows that partial devolution can impair service delivery (Chaudhary and Iyer, 2024), while greater autonomy for local leaders reduces corruption (Banerjee et al., 2020): we posit that hold-up could be a key mechanism underlying these findings.[2] Past research has described hold-up (Bardhan and Mookherjee, 2006) or documented the effects of reduced local autonomy (Feld et al., 2024), but we are among the early papers to show why hold-up occurs – ethnic differences – and mechanisms to resolve them.[3] We show that empowering local officials through a grievance redressal system reduces hold-up and improves public service delivery, highlighting an institutional pathway for enhancing the effectiveness of decentralised governance.

Third, we contribute to the literature on the effectiveness of minority leaders. One strand examines how the political selection of minority leaders affects outcomes (Pande, 2003; Chin and Prakash, 2011; Gulzar et al., 2023); another explores barriers to performance such as lack of cooperation from subordinates (Ayalew et al., 2021), peer discrimination (Gagliarducci and Paserman, 2012), or obstruction by superiors (Casas-Arce and Saiz,

[1]Recent literature outside of economics has described complaints systems in the US or UK (Dipoppa and Grossman, 2020; Christensen and Ejdemyr, 2020), focusing on the effects of re-election incentives on how politicians respond to complaints.

[2]Indeed, the literature beyond economics on decentralisation in India acknowledges how hold-up reduces local officials to mere supplicants. As (Raghunandan, 2012) notes: "Most [local government officials] spend most of their time negotiating with their principals, officers in higher levels of government, rather than carry out their functions."

[3]See (Malesky and Hutchinson, 2016) for a review of how hold-up shapes recentralisation in Southeast Asia. Other papers describing hold-up include (Ghatak and Ghatak, 2002; Mookherjee, 2014; Saiegh and Tommasi, 1999).

2015). Yet relatively little work explores institutional mechanisms that might empower minority leaders once in office. We show that access to grievance mechanisms can enhance the bargaining position of disadvantaged officials and improve their effectiveness in delivering public goods, but may not yield electoral returns.

Finally, we contribute to a growing theoretical and empirical literature on voice within hierarchical organisations. In the private sector, Cai and Wang (2022) shows that enabling workers to provide feedback to managers improves firm-level outcomes. A grievance redressal system may play an analogous role in the public sector by giving lower-tiered officials a channel to escalate concerns. However, such mechanisms can expose filers to retaliation – a risk emphasised in models of reporting and malfeasance (Chassang and Miquel, 2019; Heyes and Kapur, 2009; Bac, 2009). Yet empirical evidence on the prevalence and nature of such backlash remains limited. We find evidence for two forms of backlash for local officials who complain: direct threats from superiors and reduced re-election rates.

2 Background and Context

2.1 Local Administrative Structure

Bihar's over 100 million rural residents live in villages grouped into administrative units called Gram Panchayats (GPs). There are over 8,400 GPs in Bihar. Each GP is headed by an elected representative called the "Mukhiya", who we will simply refer to henceforth as the GP head. Each GP is divided into wards, and each ward is represented by a Ward Member (WM). There are over 114,000 wards in Bihar. Both GP heads and WMs are directly elected.

On average, a GP head represents a population of 13,300 persons, while a WM is elected from a population of approximately 1,000.[4] Local bodies are responsible for, among other things, the implementation of development projects and representing their constituents' issues at higher levels. Within a GP, much of this has traditionally been han-

[4]These are back-of-the-envelope extrapolations. The last estimates of GP populations are from 2010: 10,953 persons per GP. Since there are 13.5 wards per GP, the average ward population for 2010 can be estimated to be 806 persons. The figures of 13,300 and 1,000 are arrived at by assuming population growth for the decade to be 22%.

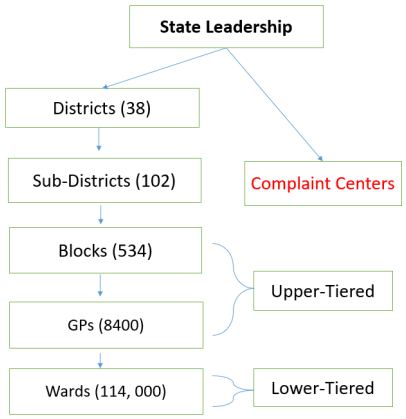


Figure 1: State Administration Structure
This figure displays how different layers of the state are connected to each other. Districts are the main administrative unit below the state secretariat and are divided into sub-districts. Sub-districts are further divided into blocks, which are the local arm of the bureaucracy. Blocks are further divided into GPs. Each GP is an elected body headed by a GP head and further divided into multiple wards represented by WMs. Complaint Resolution Centers are independent bodies set up by the state at the sub-district level.

dled by the GP head (Rider et al. (2011), Gupta (2002)).

While GPs are elected bodies with considerable decision-making authority, they rely heavily on block-level bureaucrats for funding and support. Block officials directly monitor, supervise, and support implementation of public programs. There are 534 blocks in Bihar, and each block oversees program implementation in about 16 GPs. Figure 1 depicts the administrative structure and shows how Blocks, GPs, and Wards are situated within the state.

2.2 Implementation of Water and Sanitation (WAS) Schemes

In late 2016, the state government of Bihar devolved implementation of two major water and sanitation schemes to WMs. The two schemes—Nal Jal (piped water for every household) and Nali Gali (construction of village roads and drains)—formed key planks of the government's "seven resolves".[5] An estimated sum of USD 4 billion was allocated

[5]The seven resolves – "7-Nishchay" – include: skill development programs for youth, reservation for women in government jobs, electricity in every house, piped water to households, local drains, construction of toilets, and improving higher education.

for these schemes, and over 93% of WMs surveyed reported that they were extremely beneficial to households in their jurisdictions.

The decision to transfer implementation powers to WMs marked a significant decentralisation reform. For the first time in Bihar's history, WMs had a direct say in spending state funds, with each WM expected to manage an average of USD 20,000 over three years. Importantly, the state designed a sequencing rule: wards with very high Scheduled Caste (SC) populations—and therefore headed by SC WMs—were to be given top priority in project implementation.

2.2.1 Hold-Up

In practice, however, the flow of funds was subject to multiple checkpoints. Money was transferred from the state to the GP account, from where the GP head passed it on to the ward account. WMs were tasked with identifying project sites, engaging contractors, and overseeing implementation. Block officials also retained authority to approve financial estimates both at the start and completion of projects.[6]

These layers of control meant that GP heads and block officials could hold up projects—by delaying fund transfers, refusing approvals, or imposing additional administrative hurdles. As a result, nearly three years after powers had been devolved, and despite being first in line under the official priority rules, many SC WMs had not been able to implement a single project by the time of our intervention.

Our baseline survey of SC WMs documents the sources of these delays (Figure A3, Panel A). A majority (55%) pointed to Funding Issues, namely funds not released by the state or the GP head. Another 37% cited Selection/Procedural Issues, such as ward selection rules, sequencing requirements. Only small shares reported No Suitable Site (2%) or Politics/Elections (2%), with the remainder falling into residual categories.

[6]For about a third of wards, the piped water scheme was implemented directly by the Public Health Engineering Department (PHED), due to groundwater quality concerns. There was, however, confusion about PHED's role during 2017–18 and parts of 2018–19.

2.2.2 Hold-Up Resolution Mechanism Prior to Our Intervention

Faced with stalled projects, SC WMs attempted to resolve the blockages by complaining to higher authorities (Figure A3, Panel B). Yet their complaints rarely moved beyond the same actors responsible for the hold-up in the first place. Nearly half (49%) directed complaints to the GP head, and 44% to the Block Development Officer (BDO). Only a very small fraction approached higher-level bureaucrats such as the District Magistrate (2%) or Sub-Divisional Officer (0.3%), or used the state-run Complaints System (0.7%). This pattern shows that, even when WMs did raise complaints, they were largely confined to the GP and block levels, where discretionary power over funds and approvals was concentrated.

2.3 Grievance Redress System

In 2016, the Government of Bihar enacted the Bihar Right to Public Grievance Redressal Act (BPGRA), establishing a formal mechanism through which citizens could register complaints about the delivery of public services. The Act created a network of Public Grievance Redressal Officers (PGROs), with an average of 2.5 officers per district, mandated that hearings be held within 60 days of filing, and authorised fines of up to INR 5,000 against officials found responsible for non-delivery. From 2016-2019 (the year the experiment was run), nearly 550,000 grievances have been lodged through the system. According to official figures, roughly three-quarters of these complaints are reported as satisfactorily resolved, though independent evaluations suggest lower resolution rates, but high levels of satisfaction with the process.

Two features of the system are especially relevant for our setting. First, baseline awareness among SC ward members is low: only about a quarter report having heard of the system and can correctly answer basic questions about its procedures. Second, filing a grievance involves non-trivial transaction costs—most complaints require multiple trips to distant grievance centres, entailing travel expenses, lost wages, and time away from other responsibilities. These barriers make it costly for SC WMs to deploy the system, even when they are aware of it.

At the same time, conditional on usage, the system is directly employed to address the bottlenecks we study. In our data, roughly 65% of complaints filed by SC WMs about

water and sanitation schemes explicitly cite hold-ups in the release of funds (see Table S20). This underscores the potential of grievance redressal as a channel for SC WMs to counteract obstruction by upper-tier actors. Yet the combination of low awareness and high filing costs explains why the mechanism remains underutilised, providing a natural motivation for our intervention.

3 Data Sources

This project brings together multiple data sources, both primary and secondary in nature. All our secondary data sources, except for data from two rounds of the decennial census of India, are obtained from different administrative departments of the Government of Bihar. Our primary data sources are obtained via surveys of various local actors in the administrative machinery.

3.1 Secondary Data

BPGRA Grievances Data We have official government data on the universe of 548917 complaints filed under the BPGRA between June 2016 and August 2019. Our data contains personal information including the name and address of complainants. Furthermore, we have phone numbers for 82% of complainants. We also have data detailing complaints including the date filed, the exact text of the complaint, the number of hearings held, the date of redressal and whether appeals were filed.

WAS Scheme Data This includes official government data regarding WAS projects constructed across Bihar's 114000 wards. This dataset is the source of our WAS-related outcome variables such as the status of WAS project construction in a given ward. We use this information to arrive at the sampling frame. This dataset, obtained from the Government of Bihar's Panchayati Raj (local governance) Department, has two deficiencies: first, it does not cover piped water projects in about a third of the wards (where WAS project construction was handled by the Public Health Engineering Department) and second, the data is updated with a lag. This implied that a significant share of wards we had assumed had no projects based on our data actually had some projects.

Local Representatives Data We have official government data on both upper and lower-tiered representatives for 94% of the upper-tiered representatives and 81% of the lower-tiered representatives. We also have data on individuals who contested these elections at both tiers. In all, we have a dataset of over 350,000 local politicians. For each of these, we have personal characteristics including the name, age, education, gender, caste category of these representatives. We also have data on reservation status of various posts and electoral data of on the number of votes won in the 2016 and 2021 elections.

Mission Antyodaya Data Mission Antyodaya is a convergence and accountability framework adopted in the Union Budget of India 2017–18 to improve the effectiveness of rural development spending across 27 Ministries and Departments of the Government of India. At its core is an annual GP-level survey conducted alongside the People's Plan Campaign (PPC) to support participatory Gram Panchayat Development Plans (GPDP). We use data from the 2020 round of the Mission Antyodaya survey, which was collected during that year to measure long-run effects of our experiment on water access at the GP level. Our analysis focuses on three indicators: the total number of households with piped water access, the share of households with piped water access, and the share of habitations with piped water access. Because the survey is conducted at the GP level (rather than the ward level), we restrict our analysis to GPs with a single experimental ward. We access this dataset through the SHRUG platform (Ministry of Rural Development, 2020; Asher et al., 2021).

3.2 Primary Data

All our primary data is collected via phone-based interviews of representatives and mainly of three types:

Baseline We collected data on the status of WAS project, self-reported impediments to effective functioning of the lower-tiered representative and knowledge about the formal complaints technology.

Endline Three months after the treatment, we carried out the endline survey. We collected information on whether the problem reported at the time of baseline was resolved, if they were able to start implementing WAS projects, and whether they were approached by any officials to discuss WAS project implementation.

Spillover Survey In the endline survey, we also surveyed one randomly sampled neighboring lower-tiered representative in the GP in whose wards projects were not yet undertaken. We conducted the spillover survey only for GPs with only one experimental ward.

4 Baseline Evidence on Complaint Filing

In this section, we use the universe of grievance filings to show how the complaint system works on the ground and why it matters for our study. We document three key facts: the system is skewed towards the relatively privileged, leaving the poorest and lower castes underrepresented; SC ward members, while disadvantaged as a group, are relatively elite within their communities and therefore complain at rates comparable to other ward members; and the complaints they file are much more likely to be related to public goods and water-and-sanitation projects. Together, these patterns highlight both the bias built into the system and the strategic role of SC ward members, motivating the experimental intervention that follows.

4.1 Socioeconomic Bias in Citizen and WM Complaints

We begin by examining whether the complaints system is elite-biased at baseline. To do this, we draw on two datasets: (i) the universe of 548,917 complaints filed under the BPGRA, where we identify the complainant's surname, and (ii) the Socioeconomic Caste Census (SECC), where we match surnames based on the last name of the male household head. Using the SECC, we compute a PCA-based poverty score from household asset ownership for each surname. We restrict the sample to surnames appearing at least 50,000 times in the SECC, yielding a universe of 44 surnames.

Figure 2 plots the relationship between complaints and poverty scores for both citizens and ward members (WMs). Among citizens (Panel A), three patterns emerge. First, SC surnames are, on average, poorer than non-SC surnames. Second, SCs complain less frequently than non-SCs. Third, complaining rates increase with asset wealth, suggesting that wealthier citizens are disproportionately more likely to use the complaints system.

In contrast, Panel B shows that the relationship between ward members' complaining rates and poverty scores is less clearly upward sloping. While there remains some positive association, the slope is flatter and considerably noisier, suggesting that wealth is a weaker predictor of ward members' likelihood to complain. Appendix figures A4 and A5 show that these results are robust to expanding or contracting the list of surnames appearing in the SECC.

Taken together, these patterns suggest that the grievance system is skewed toward the relatively privileged, raising concerns about whether such mechanisms empower the poorest or instead reinforce existing inequalities. At the same time, the ward member pattern lends credibility to the idea that SC WMs—who are relatively elite within their communities—are more inclined to use the complaints system.

4.2 Differences in Complaint Portfolios: WMs vs Citizens

Next, we compare the types of issues that ward members complain about relative to citizens. To do so, we calculate the ratio of the share of complaints in each category filed by ward members to the corresponding share filed by citizens. A ratio of 1 implies equal likelihood across the two groups, while a ratio greater than 1 implies that ward members are more likely to complain about that issue.

We examine seven broad categories: land and police (the two largest complaint categories overall, together accounting for nearly 40 percent of all complaints), as well as complaints relating to local government, rural development, wards, water and sanitation (WAS), and those explicitly naming the GP head—the key actor responsible for holding up WAS projects.

Figure 3 reveals a distinctly asymmetric pattern. Ward members are disproportionately likely to file complaints naming the GP head, followed by those concerning local government, ward-level issues, and WAS. By contrast, rural development complaints are closer to parity, while land and police—together constituting nearly 40% of all citizen complaints—are markedly underrepresented among WMs.

This divergence underscores the institutional logic of WM complaining: rather than mirroring the private grievances of citizens, WMs mobilise the system to contest blockages in WAS delivery and to challenge the authority of the GP head, the key actor responsible

for holding up implementation. However, when faced with hold-up problems, fewer than 1% of WMs say they use the grievance system (Figure A3). This suggests that SC WMs could be encouraged further to complain about stalled projects.

5 Intervention

5.1 Sample Selection

Our sampling frame comprises all wards that, according to official government and survey response data in May 2019 (1) had not implemented at least one of the two WAS projects, (2) had a representative who belonged to a scheduled caste, and (3) who could be contacted and agreed to participate.[7] We could not reach 15% of the sample over the phone. The main reason for our inability to get through to more representatives was because phone numbers were switched off or not reachable.[8] Our sample spans nearly a fifth of all of Bihar's GPs – whose population totals to approximately 15 million – and covers 76% of all blocks.

5.2 Experimental Arms

All treatments are administered over the phone in our setting. The experiment included three experimental arms:

1. **Complaint Filing Arm**: In this treatment arm, we called randomly-sampled lower-tiered SC representatives where, per official records, no WAS project had been undertaken and provided them information about the formal complaints technology and offered to file grievances on the representatives' behalf. We filed complaints for those who took up our offer. After a complaint was successfully filed, we sent a follow-up reminder call to the representative on the day of the first hearing of the

[7] On piloting, we discovered that the official data reports WAS construction with a lag. Hence, we have a series of screening questions to screen out wards where WAS projects have been completed.

[8] Table S4 compares the population with our sample on observables. While wards in the experimental sample are broadly comparable to all wards, contacted SC WMs are likelier to be from somewhat wealthier GPs, and are marginally closer to the district headquarters.

complaint. Our main objective here is to measure the impact of complaint filing on WAS public good provision in the short-run and electoral returns in the long-run.

2. **Information Only Arm**: We called randomly sampled lower-tiered SC politicians and only provided information. The key difference from the complaint filing assistance treatment arm is that we did not offer to file complaints. Our main objective here is to see if information alone suffices to increase the number of complaints filed.

3. **Control Arm**: Control group members were also provided information about key government schemes introduced by the government. But these schemes were unrelated to water and sanitation.

5.3 Randomization

Once we ascertained that at least one of the two WAS projects had not been undertaken—based on the ward representatives' testimony during the call—they were randomly assigned to one of the experimental groups described above. Randomization occurred in real-time on the survey app the enumerators used. Initially, we ran the intervention such that two arms, complaint filing assistance treatment, and control occurred with equal probability. Subsequently, the third arm of the experiment—the information treatment—was added and all three arms were to occur with equal probability. In the end, we had 727 filing assistance treatment wards and 130 information treatment wards. The unit of randomization was at the ward level without any stratification.

We use the baseline survey data to check if the randomization achieved balance. Table 1 presents the results of balance checks for our main treatment – complaint filing assistance.[9] It shows that the treatment and control groups are balanced across most covariates.

[9]Balance checks for the information only treatment arm is shown in Appendix Table S6.

6 Results

6.1 Impact of Complaint Filing Assistance Treatment

Estimating Equation: We begin by estimating the causal effects of the complaint filing assistance treatment on complaint filing and project implementation. The ITT effects are estimated using the following specification:

$$Y_{ig} = \beta_0 + \beta_1 T_{ig} + X'_{ig}\gamma + S_b + \eta_{ig},$$

where Y_{ig} includes whether a project was initiated (according to administrative data or the endline survey) and whether a complaint was filed in ward i of GP g. X_{ig} is a vector of ward- and GP-level controls[10], S_b are block fixed effects, and T_{ig} is an indicator equal to one if the ward member (WM) was treated with the complaint filing assistance treatment. The list of GP and ward-level controls used are given in Table S7.

This specification was pre-registered along with the experimental design and primary outcomes.[11]

First Stage: We first examine impacts on complaint filing by SC WMs. The treatment significantly increased the likelihood that WMs filed complaints. Treated WMs were 40 percentage points more likely to file complaints than control WMs, as per administrative data (First estimate in Figure 4).

Status of Complaints Filed as per Admin Data: Next, to understand how treatment affects *process outcomes*, we turn to official administrative records on complaints filed. Table S8 shows us the status of complaints as of July 2019 in the administrative data:[12] approximately a 30-60 days after treatment was assigned. About 34% of complaints were marked "resolved" and 68% of those complaints marked resolved were awarded in favour of the complainant. Conditional on being heard, about 2 hearings were held, with most complaints being assigned to the Panchayati Raj department, which is responsible

[10] Our main specification uses GP-level controls, but we show robustness to adding ward level controls too.

[11] The AEA registry ID is AEARCTR-0004308. See: https://www.socialscienceregistry.org/trials/4308.

[12] This was our last tranche of administrative data.

for all rural local governance issues.

Endline Survey: We now turn to project-level outcomes. From our endline survey conducted in September 2019 (3 months after the intervention was run),[13] we focus on two variables: (i) whether the main problem preventing projects from starting had been resolved, and (ii) whether projects had consequently begun.

The treatment had strong positive effects. First, 51% of treated WMs reported that the main impediment to project initiation was resolved, compared to a control mean of 41%, representing a 24% increase (Table 2, col 1). Second, treated WMs were 7 p.p. more likely to report project initiation relative to a control mean of 27%, a 26% increase in likelihood (Table 2, col 2).

These results are robust to a battery of different specifications: changing the fixed effects to the district or subdivision levles; dropping all controls altogether or expanding the set of controls to include ward level controls; or clustering standard errors at the block level (Table R1, cols 2–4 and Figures A6(a), A6(b).). Since randomisation occurred at the ward level, within-GP spillovers could bias the estimates. To assess this, we restrict the sample to GPs with only one treated or control ward. Results remain very similar, suggesting limited spillovers (Table R2). Finally, as we show in section 6.4.3, our reported estimates are not reflective of experimenter demand effects as similar effects are also observed in the administrative data.

ToT Effects: Since the treatments follow an 'encouragement design' approach, we also look at the ToT effects using the following specification:

$$C_{ig} = \beta_0 + \beta_1 * T_{ig} + X'_g\gamma + S_b + \eta_{ig}$$

$$Y_{ig} = \alpha_0 + \alpha_1 * C_{ig} + X'_g\gamma + S_b + \epsilon_{ig}$$

Here, we have the local average treatment effect (LATE) for compliers. The key assumptions behind the ToT estimates being unbiased are: (a) random assignment (instrument exogeniety), which is true given our setting (b) relavance (non-zero first stage): the Kleibergen-Paap rk Wald F statistic for our main regression equation is 292.922, sug-

[13] Outcomes were pre-registered.

gesting a very strong first stage (c) exclusion restriction: because assignment plausibly also affected officials' behaviour toward non-filers (deterrence) and neighbouring wards (spillovers), the exclusion restriction may not fully hold; we therefore emphasize ITT as our primary estimand and present LATE as a complier-specific effect with these caveats.

To characterize this complier population, we follow Abadie (2003) and Dahl et al. (2023); Table S9 reports mean baseline characteristics of ward representatives who filed complaints and those who did not. Since virtually no representative in the control group filed a complaint, the complier population coincides with treated representatives who filed when offered assistance. Sub-group types look very similar across compliers and the overall sample.[14] The relative-likelihood column (the ratio of complier to sample means) hovers around one for every variable (moreover, for no variable is the difference statistically significant). Hence, the ToT effects reported below can be interpreted as representative of the broader population of local politicians rather than of a narrow subgroup.

With these caveats in place, we turn to ToT effects. As we can see in Table 2, the ToT effects are much bigger: our treatment results in a 17 p.p. (65%) increase in the likelihood of initiating projects and a 25 p.p increase in the likelihood that the main impendiment to project initiation was resolved.

Heterogeneous treatment effects We examine whether resolution rates differ across characteristics of GPs and ward members. Table S12 reports the results. Conditional on treatment, the likelihood that projects are initiated does not vary systematically with the re-election incentives of either the ward member or the GP head (proxied by their margin of victory in the 2016 elections), with the education or gender of the ward member,[15] or with the GP's remoteness from the district headquarters. Taken together, these results suggest that although access to the grievance system may tilt toward elites, once complaints are filed their resolution appears relatively impartial.

Attrition Attrition in our study is limited: we were unable to reach roughly 7% of SC WMs surveyed at baseline. Table S1 shows that respondents and non-respondents are well balanced on baseline observables, suggesting that attrition is unlikely to threaten

[14]Compliers are, on average, slightly younger, marginally more educated, and located in somewhat smaller and less remote GPs, but these differences are small.

[15]There is weak evidence that male and more educated ward members achieve higher resolution rates, but the estimates are imprecise.

internal validity. To further assess robustness, we implement two additional checks. First, we compute Lee (2009) bounds for our main treatment effects (Table S2). The bounds are tight, closely bracketing our baseline estimates, and remain significantly different from zero. Second, we reweight observations using inverse probability weights that adjust for the predicted probability of response as a function of treatment status and baseline covariates. This procedure gives greater weight to respondents who look most similar to attriters on observables. As shown in Table S3, the reweighted estimates of our main treatment effects are virtually identical to those from our primary specifications.

6.2 Spillover Effects

The treatment may also affect neighbouring wards, and the most immediate concern is the possibility of *negative spillovers*. Because officials have limited attention and resources, prioritising treated wards could come at the expense of untreated wards, reducing the likelihood of stalled projects being taken up there. However, spillovers could also be *positive*, for two reasons. First, through a *social interaction channel*, treated WMs may share knowledge of the complaint process or increase the credibility of potential complaints, especially among SC peers with whom they are most closely connected. Second, through an *administrative cost channel*, upper-tier officials facing fixed costs of project approval may find it easier to clear multiple stalled projects together once they have already acted on one. Which of these channels dominates is ultimately an empirical question.

We focus on *within-GP spillovers*, restricting attention to GPs that contain only one experimental ward (see Figure A1 in the appendix). This excludes about 25% of GPs, but the resulting sample remains well balanced (Table S5). We compare untreated wards in GPs with a treated WM against untreated wards in GPs with a control WM.

6.2.1 Spillovers on Complaint Filing

We first examine whether neighbouring WMs became more likely to file complaints. The endline survey shows that spillover WMs were 2.6 percentage points more likely to complain if a neighbouring WM was treated (Table 3, col 1). Because this survey deliberately targeted wards with stalled or not-yet-started projects, these respondents had a clear incentive to complain. Figure A6(c) shows that our results are robust to alternate speci-

fications, including clustering standard errors at the block level or dropping/expanding the set of controls.

The administrative data, by contrast, covers all wards, including many where projects were already underway. Unsurprisingly, the spillover effect sizes are smaller in this broader dataset (Appendix Table S10), since wards that already had projects had little reason to complain. Taken together, these results show that treatment effects on complaint filing were not confined to treated wards, though the magnitudes depend on the sample considered.

6.2.2 Spillovers on Project Initiation

Neighbouring wards also reported higher rates of project initiation. As shown in Table 3, col 2, wards adjacent to treated WMs were 7.6 p.p. (25%) more likely to report that a WAS project had been initiated relative to neighbours of control WMs. Strikingly, this spillover effect is almost as large as the direct treatment effect reported earlier. Figure A6(c) shows that our results are robust to alternate specifications. The discrepancy between relatively small spillovers in complaint filing and large spillovers in project initiation suggests that the *threat* of complaints may be sufficient to push officials into action, even when actual spillover complaints are rare.

6.2.3 Caste Heterogeneity

We next ask whether spillovers on project initiation differ across wards represented by SC versus non-SC WMs. This analysis provides a way to distinguish between the two main channels outlined above. If the *social interaction channel* dominates, spillovers should be strongest among SC neighbours, since SC WMs are more tightly networked and officials may view them as most likely to complain. If the *administrative cost channel* dominates, spillovers should be broadly similar across wards, since once projects are cleared, all neighbours should benefit.

The results, reported in Table 3, cols 3–4, show that SC spillover wards were 49 percentage points more likely to report project initiation, compared to just 1.7 percentage

points for non-SC spillover wards.[16] This stark contrast aligns with the social interaction channel rather than the administrative cost channel.[17]

6.2.4 Block-Level Spillovers

We also explore whether our intervention produced spillovers at the block level. Since blocks contain multiple GPs, the relevant source of variation is the number of treated wards in a block. Conceptually, one might expect positive spillovers if block officials respond more broadly when exposed to several complaints at once. Alternatively, complaints from many wards could overwhelm or antagonise officials, leading to weaker responsiveness. Because we did not randomise treatment intensity at the block level, these results should not be interpreted causally. Instead, they provide descriptive patterns that complement our within-GP analysis.

The results in Table S11 show no systematic impact of block-level treatment intensity on control wards. For treated wards, however, project initiation declines as the number of treated wards in a block increases. This could reflect either dilution of official attention—each complaint receiving less follow-up—or a form of bureaucratic resistance when officials face too many complaints. Figure A2 suggests that effects may be positive when there are very few treated wards, but turn negative as intensity rises. Given the non-random assignment of intensity and the noisy estimates, we treat these results as suggestive rather than definitive and therefore relegate them to the appendix.

6.3 Constraints to Complaint Filing

So far, our results highlight both the depth of demand for complaint-filing support and its impact. SC WMs show a strong appetite for using the formal grievance system when assistance is available. The treatment substantially improves the implementation of WAS projects, and its benefits extend beyond directly treated wards to neighbouring ones as well. These findings underscore that complaint-filing assistance is highly valued and can be an effective lever for improving service delivery. Yet these gains raise a natural

[16] We run separate regressions for SC neighbours and non-SC neighbours.

[17] A third explanation is that administrators formally prioritise SC wards. While this may contribute to the observed pattern, it is unlikely to explain such a large divergence—49 p.p. versus 1.7 p.p.—between SC and non-SC neighbours.

question: if the grievance mechanism can be so effective, why do more representatives not make use of it in the first place? Below, we test for some explanations.

6.3.1 Information

We first assess whether limited awareness explains the low take-up of the complaints mechanism. In our smaller information-only treatment arm, we provided SC WMs with basic information on how to file grievances through the formal system (without the accompanying hand-holding on actually filing complaints). Information alone did increase complaint filing: compared to the control group, WMs who received information were 7 percentage points more likely to file (Figure 4). However, the effect is modest when set against the 40 percentage point increase generated by our complaint-filing assistance treatment. These results suggest that while lack of knowledge is indeed a constraint, it is far from the only barrier. Much of the difficulty lies not in knowing about the grievance system, but in overcoming the practical hurdles of using it.

6.3.2 Transaction Costs

Beyond awareness, the more serious barrier lies in the transaction costs of filing complaints. In principle, grievances can be submitted by phone, online, or in person. In practice, the first two options are rarely viable. During piloting, we encouraged WMs to use the call-centre, but the process proved extremely difficult. Filing requires clear articulation of complex problems, yet conversations often paired urban youth manning the call-centre with village leaders from highly marginalised groups.[18] Unsurprisingly, fewer than 3% of complaints are lodged through the call-centre. Internet filing is even less common, given the literacy and connectivity demands. Both options in effect require an intermediary. Filing in person is easier because grievance centres employ trained operators who translate complaints into the standardised online format. Yet these centres are hard to get to: on average, there is only one for every 80 GPs. Visiting them entails a round-trip cost of roughly INR 140 plus the loss of a full day's wage. Our survey data shows that complaint filing rates fall sharply with distance from these centres. This implies that even when WMs know about the grievance system, the personal costs of

[18] As one research associate observed, "it was as if they were from different countries."

using it are often prohibitive.

Taken together, these findings help explain why complaint-filing assistance was so effective. While lack of information plays a role, the dominant constraint is the high cost of accessing the system. Left to themselves, most WMs are unwilling or unable to incur these costs, even when projects in their wards remain stalled. Providing hands-on support overcomes some of these barriers, unlocking latent demand for the grievance system and translating it into tangible improvements in project implementation.

6.3.3 Backlash Effects

Another potential constraint to complaint filing is the fear of backlash from higher-tiered officials at the GP or block level. WMs' complaints can antagonize upper-tiered officials, who may respond with threats or demands for commissions. We interpret such demands for bribes as a form of backlash, since they represent a punitive response to the act of complaining rather than a routine transaction. Note that the risks of retaliation are especially salient for SC ward members, who are doubly disadvantaged: they are at the bottom of the caste hierarchy and occupy the lowest rung of the administrative hierarchy.

To test whether complaint filing triggers backlash, we use survey-based measures of whether ward members reported receiving threats or demands for commission from higher-tier officials in the three months after treatment. Our measures of backlash are almost certainly conservative. Because retaliation is sensitive and potentially dangerous, some WMs may refrain from reporting threats or demands altogether. In this sense, what we observe is likely the lower bound of actual backlash experienced.

Table 4 presents both ITT and TOT estimates. The ITT results show that ward members offered complaint-filing assistance were 3 percentage points more likely to report experiencing either a threat or a commission demand, relative to a control mean of 2 percent (col. 1). When we instrument for actual complaint filing, the TOT effects are larger: filing a complaint increases the probability of reporting threats or commission demands by 7.8 percentage points (col. 4). Disaggregating these outcomes, we find that the effects are concentrated in reports of commission demands, which rise by about 4.8 percentage points (col. 6), while effects on threats alone are smaller and statistically in-

significant. Figure A6(d) shows that our results are robust to alternate specifications, with both magnitude and significance remaining largely unaffected.

Taken together, these results suggest that while grievance filing can be effective in overcoming bureaucratic hold-up, it may also expose disadvantaged representatives to new forms of coercion by their superiors. The possibility of backlash thus represents a real cost of using the complaint system—helping to explain why uptake is otherwise so low, despite evidence of its effectiveness in improving project initiation.

6.3.4 Other Constraints

We next test whether characteristics of ward members, GP heads, or GPs predict take-up of the complaint-filing assistance. Table S13 reports results across five outcomes—margin of victory of the WM (col. 1), margin of victory of the GP head (col. 2), gender of the WM (col. 3), education of the WM (col. 4), and distance of the GP from the district headquarters (col. 5). Across all specifications, we find that take-up is unaffected by these characteristics. This suggests that once the transaction costs of filing are addressed, individual, political, or geographic attributes are not strong predictors of complaining.

6.4 Electoral Consequences of Complaint Filing

6.4.1 Main results

A standard model of electoral accountability (Ferejohn, 1986) predicts that improvements in public goods provision should increase the chances of reelection. Since complaint filing improves the implementation of WAS projects, we would expect ward members who make use of the grievance system to be electorally rewarded.

To test this, we use official electoral records from the Government of Bihar that track both whether ward members recontested and whether they won the 2021 elections. The elections were conducted between September - December 2021, a full 2 years after the intervention was run.

Table 5 presents the results across both ITT and TOT specifications. On the decision to recontest, our coefficients are negative but statistically insignificant. However, when it

comes to electoral success, the effects are negative: complaint-filing assistance reduces the probability of winning by about 4–5 percentage points in ITT estimates (col. 2) and around 12 percentage points in TOT estimates (col. 4). Figure A7(b) shows that our winner results are robust to alternate specifications, while Figure A7(a) shows that the candidacy results remain negative but (marginally) statistically insignificant even when we consider alternate specifications. In appendix tables S15 and S16, we show that treatment does not affect either the turnout, the number of candidates or the margin of victory of the winning WM candidate in the 2021 elections. We also show that there is no effect on GP head elections of 2021 (see Tables S18 and S19).

These findings highlight a puzzle. Despite clear evidence that complaint filing improves project initiation, we do not see electoral benefits for the ward members who use the system. On the contrary, they may even be disadvantaged. In the next section, we examine potential explanations for this disconnect between improvements in governance and electoral returns.

6.4.2 Backlash Effects

A first possibility is that the negative effects on reelection arise from backlash by upper-tiered officials. In Table 4, we showed that treatment increased the likelihood that SC WMs reported threats or demands for commissions. Such backlash could plausibly discourage WMs from recontesting in subsequent elections or reduce their chances of winning if they do. To probe this mechanism, we turn to the spillover sample. Recall that treatment led to only a modest 2.6 p.p. increase in complaint filing among neighbouring wards, but still generated an 8 p.p. rise in project initiation. Since spillover WMs themselves rarely filed complaints, they had little reason to face retaliation from upper-tiered politicians. If backlash is driving the negative effects, we should therefore not see electoral penalties among spillover WMs.

Table S14 confirms this expectation.[19] The treatment effects of having a neighbouring treated WM on both candidacy and reelection are close to zero and statistically insignificant. Unlike directly treated WMs, spillover WMs show no evidence of electoral costs. This contrast supports the interpretation that backlash against those who actively

[19]Table S21 repeats the exercise but includes all non-experimental wards in GP with exactly one experimental ward: the results remain unchanged.

file complaints helps explain why treatment reduces reelection chances among directly treated WMs.

6.4.3 Catch-Up In Control?

A second explanation for the muted electoral effects is that control wards also received projects in the run-up to elections. To examine this, we turn to administrative data. Because the records on piped water projects (*Nal Jal*) are incomplete, we focus on two outcomes: (i) whether any project (Nal Jal or *Nali Gali*) was completed in a ward (Figure A9(a), panel a), and (ii) whether a *Nali Gali* project was completed (Figure A9(b), panel b).

Figure 5 shows that in the immediate post-intervention months, treated wards clearly accelerated project initiation relative to control wards - this finding is consistent with self-reported outcomes from our endline survey of WMs. However, by March 2020, the differences between treated and control wards were no longer statistically significant. Roughly one-third of control wards with stalled projects during the pre-intervention period received projects over this window. While treated wards maintained a higher cumulative rate of completion, the difference had narrowed sharply by the May 2020, with differences no longer being statistically significant. Figure A8 and A9 show that our results are robust to alternate specifications: irrespective of whether we drop our controls or cluster our errors, the estimates strongly suggest increased implementation initially with catch-up over time.

To further examine potential longer-run impacts, we turn to Mission Antyodaya administrative data, which measure water access outcomes at the GP level. This data was collected in 2020, between a year and 18 months after the intervention was run. Because these data are only available for entire GPs (rather than wards), we restrict attention to GPs with a single experimental ward and test whether complaint-filing assistance translated into GP-wide improvements in water access. Table S22 reports the results. Across three outcomes—the total number of households, the share of households with water access, and the share of habitations with water access—we find no evidence of significant differences between treated and control GPs. These results give further credence to the notion that there was some catch-up in control GPs.

This catch-up in control wards helps explain why electoral effects are muted.[20] As water and sanitation projects were a flagship plank of the Bihar government, upper-tiered officials ensured that projects moved forward at an accelerated pace across all GPs and wards before the Bihar assembly elections of 2020, reducing the relative advantage of treated wards.

6.4.4 Narrow Application of Complaint Filing

A final possibility is that electoral returns would have been more favourable if treated WMs had extended their use of the grievance system beyond water and sanitation. Broader complaint filing—for example, on local governance issues or other public goods—could have generated wider improvements that voters might reward at the polls.

Table A3 examines this possibility. Column 1 shows, as before, that filing assistance leads to a large increase in complaints related to water and sanitation projects. Columns 2–4 turn to other domains: any complaint excluding WAS, local governance, and other public goods. Across these outcomes, we find no meaningful effects. Complaint-filing assistance does not increase the likelihood that WMs use the grievance system for issues outside WAS. Thus, while assistance was effective in encouraging complaining on WAS goods, it did not translate into broader use of the complaints system or improvements in other types of public goods that might have delivered stronger electoral returns.[21]

7 Discussion: Caste and the Hold-Up Problem

7.1 Administrative Data Evidence: How Caste Shapes Complaint-Filing

An important question raised by our findings is whether the hold-up we document is genuinely driven by caste, or whether caste simply shapes how the problem appears. For caste to matter, SC ward members and their constituencies must face more obstruction

[20] This could explain also why spillover wards who plausibly see no backlash do not see positive electoral returns.

[21] There are two reasons for this patterns: first, as seen earlier, the transaction costs of filing complaints is high; second, WMs' key responsibility over this period was implementing WAS projects and they may have felt less inclined to deal with other issues through official grievance channels.

because of their identity. One channel is when SC wards are governed under non-SC GP heads. In this setting, one clear indication of conflict is grievance filing.

We test this using a fuzzy regression discontinuity design based on population thresholds that determine whether the GP head seat is reserved for SC candidates. When a GP's SC population crosses the cutoff, the head is very likely to be SC; just below it, the head is non-SC (see appendix section V.3 for details). This rule provides quasi-random variation in GP head identity, letting us compare otherwise similar wards and identify the causal effect of SC ward members being paired with SC versus non-SC heads.

We use the following two stage instrumental variables specification:

$$\begin{aligned} Reserved_{igb} = \gamma_0 + \gamma_1 1(SCPop_{gb} > +T_b) + \gamma_2(SCPop_{gb} - T_b) + \\ \gamma_3(SCPop_{gb} - T_b) * 1(SCPop_{gb} >= T_b) + \delta * X_g + \zeta * W_i + \psi + \eta_{igb} \end{aligned} \tag{1}$$

$$\begin{aligned} Y_{igb} = \beta_0 + \beta_1 Reserved_{igb} + \beta_2(SCPop_{gb} - T_b) + \\ \beta_3(SCPop_{gb} - T_b) * 1(SCPop_{gb} >= T_b) + \omega * X_g + \theta * W_i + \psi + \epsilon_{igb} \end{aligned} \tag{2}$$

where Y_{igb} is the outcome of interest in ward i of GP g and Block b. T_b is the SC population cutoff for GPs in block b, $SCPop_{gb}$ is the SC-GP population, X_g is a vector of GP-level controls, W_i is a vector of ward level controls and *psi* indicates block fixed effects. eta_{igb} and ϵ_{igb} are error terms.

The results are consistent with discrimination (Panel A of Table 6): SC ward members are thrice as likely to file grievances about WAS projects when the GP head is non-SC as compared to when the head is also SC. In other words, hold-up is more likely to be contested—and perhaps more likely to occur—when SC representatives face non-SC heads.[22] By contrast, non-SC ward members show no systematic difference in grievance filing (Panel B of Table 6). This asymmetry suggests that non-SC representatives can navigate the system without obstruction, while SC representatives are left with little option but to contest hold-up through grievances. Table R3 shows that our main RD result

[22]Moreover, when it comes to non-hold up and non-public good related issues such as those pertaining to the WM's own household, we see no differences.

of caste of the GP head affecting WAS complaints is robust to 5 different bandwidths (ranging from 0.5 - 2x of the main RD BW).

One caveat is that RD estimates apply locally around reservation thresholds. While this concern is valid, pooling across different cut-offs for each block in Bihar gives our design more external validity than typical RDDs. A second concern is that grievance filing may be an indirect proxy for obstruction. To address this, we analyse the text of complaints: most explicitly point to hold-up by the GP head and other bureaucrats (see Table S20). Taken together, the evidence provides strong evidence that caste hierarchy drives hold-up in this context. We next turn to survey evidence from WMs to examine how GP head identity shapes why projects are stalled.

7.2 Survey Evidence: How Caste Shapes Hold-Up

The survey evidence in Table A1 offers another window into whether hold-up reflects hierarchy or simply design flaws. Using our baseline survey of WMs whose projects were stalled, we ask why projects failed to move forward and apply the same RD design to test if reasons vary by the caste of the GP head.

We turn to the same RDD approach as above, one that creates quasi-random variation in whether the GP head is SC or not. The results show a clear pattern: SC ward members under non-SC GP heads are more likely to report obstruction by the head, less likely to blame higher officials or procedures, and twice as likely to mention caste as a contributing factor (though insignificantly). Restricting attention to only the treated WMs, we see that they are also 28 percentage points more likely to accept our offer to file a grievance on their behalf. In sum, the evidence points to caste hierarchy shaping hold-up: SC ward members under non-SC heads face more obstruction from the head and show a greater willingness to escalate through the grievance system.

7.3 Hold-Up: Ward Member or Ward Constituents?

The evidence so far suggests that SC wards face greater hold-up when governed under non-SC GP heads. But what exactly drives this? We consider two possible mechanisms. The first, which we term the *constituency channel*, is that non-SC GP heads may wish

to deny resources to SC voters more generally—either because of prejudice or because SC voters are rarely their core electoral base. Under this interpretation, the caste composition of the ward matters: SC wards with larger shares of SC residents should be especially disadvantaged. The second, which we term the *representative channel*, is that the problem lies not with the SC population per se but with the SC ward member. Here, the GP head resists engaging with the SC representative as an equal, resenting the fact that a member of a subordinate caste exercises formal authority over projects.[23]

To distinguish between these mechanisms, we test whether the impact of having a non-SC GP head on whether a WM files a complaint varies with the share of SC residents in the ward. To do so, we run the same RDD specification outlined above, but split our sample of WMs into four, based on the share of SCs in the wards they govern. Table A2 presents the results. Across the distribution—whether wards have 0–25 percent, 25–50 percent, 50–75 percent, or 75–100 percent SC residents—the estimated effects of a non-SC GP head on complaint filing do not seem to follow any real trend. Indeed, wards with the highest SC shares show no detectable effect at all. Table R4 shows that the absence of any real trend is also true even if we split wards by SC population quartiles as opposed to shares. Taken together, these findings suggest that caste-based hold-up is not primarily driven by the size of the SC constituency.

We interpret this pattern as favoring the representative channel: the hold-up appears to stem more from discrimination against the SC ward member than from hostility toward SC residents as such.[24]

8 Conclusion

In decentralised settings, hold-up by higher tiers is a key barrier to local public goods provision. This paper makes two broad contributions to the political economy of development and the study of state capacity: first, to understanding hold-up in decentralised governance; and second, to understanding grievance-redress systems. On hold-up, we

[23]This may also be exacerbated by the fact that GP heads across Bihar were unhappy about devolution of funds to WMs for WAS projects (Sharan (2021)).

[24]A more extreme interpretation is that non-SC GP heads are so averse to SC participation that even the presence of a single SC voter suffices to deny the ward any projects. While logically possible, this explanation seems less plausible.

open the black box of how it operates in practice. Any state relies on collaboration across tiers of actors. Yet, this paper documents that local officials are stalled by higher tiers that control funds and approvals, these delays are structured by caste hierarchies, and ward representatives typically respond by relying on informal negotiations with superiors.

On grievance systems, we provide several novel insights. Using the universe of complaints filed under Bihar's BPGRA during its first three years, we show that complaint systems are elite-biased, validating long-standing concerns. We also show that such systems, typically built for citizens to air grievances, can be repurposed by elected representatives: SC WMs had filed complaints even before our intervention, and their complaints focused on local public goods rather than more private issues that dominate citizen-complaints. Our experiment shows that enabling disadvantaged representatives to use these systems resolves hold-up and generates positive spillovers.

Our findings also highlight the risk of backlash. Even as grievance filing improved service delivery, it lowered re-election prospects for disadvantaged representatives. Electoral penalties may deter officials from using complaint systems in the future, constraining their long-run effectiveness.

Finally, the policy implications are many. Bihar's experience shows that grievance systems can work even in weak-capacity states: complaints were heard and resolved, and public goods improved in minority areas. Moreover, conditional on filing a complaint, the system was relatively impartial: resolution rates did not seem to vary too strongly with GP/ward type (see Table S12).[25] At the same time, such systems must ensure access for both minority citizens and minority representatives; transaction costs must be reduced without undermining efficiency, since higher complaint volumes may depress resolution rates.

More broadly, because hold-up is tightly linked to caste, reservation alone may not empower disadvantaged representatives. Complementary interventions – such as training, peer-learning fora – should be implemented and evaluated alongside grievance systems. Designing mechanisms that empower marginalised officials without exposing them to political costs remains a central challenge for building state capacity in decentralised governance.

[25]Design choices made by the Bihar government seem to have mattered: placing strong officers as grievance officials and mandated hearings seemed to have enhanced effectiveness.

References

Abadie, A. (2003): "Semiparametric instrumental variable estimation of treatment response models," *Journal of econometrics*, 113, 231–263. 6.1

Asher, S., T. Lunt, R. Matsuura, and P. Novosad (2021): "Development research at high geographic resolution: an analysis of night-lights, firms, and poverty in India using the shrug open data platform," *The World Bank Economic Review*, 35. 3.1

Ayalew, S., S. Manian, and K. Sheth (2021): "Discrimination from below: Experimental evidence from Ethiopia," *Journal of Development Economics*, 151, 102653. 1

Bac, M. (2009): "An economic rationale for firing whistleblowers," *European journal of law and economics*, 27, 233–256. 1

Banerjee, A., E. Duflo, C. Imbert, S. Mathew, and R. Pande (2020): "E-governance, accountability, and leakage in public programs: Experimental evidence from a financial management reform in india," *American Economic Journal: Applied Economics*, 12, 39–72. 1

Bardhan, P. and D. Mookherjee (2006): "Decentralization, corruption and government accountability," *International handbook on the economics of corruption*, 6, 161–188. 1

Buntaine, M. T., M. Greenstone, G. He, M. Liu, S. Wang, and B. Zhang (2024): "Does the squeaky wheel get more grease? The direct and indirect effects of citizen participation on environmental governance in China," *American Economic Review*, 114, 815–850. 1

Cai, J. and S.-Y. Wang (2022): "Improving management through worker evaluations: Evidence from auto manufacturing," *The Quarterly Journal of Economics*, 137, 2459–2497. 1

Casas-Arce, P. and A. Saiz (2015): "Women and power: unpopular, unwilling, or held back?" *Journal of political Economy*, 123, 641–669. 1

Chassang, S. and G. P. I. Miquel (2019): "Crime, intimidation, and whistleblowing: A theory of inference from unverifiable reports," *The Review of Economic Studies*, 86, 2530–2553. 1

Chaudhary, L. and L. Iyer (2024): "The Importance of Being Local? Administrative Decentralization and Human Development," Tech. rep., IZA Discussion Papers. 1

Chin, A. and N. Prakash (2011): "The redistributive effects of political reservation for minorities: Evidence from India," *Journal of development Economics*, 96, 265–277. 1

Christensen, D. and S. Ejdemyr (2020): "Do elections improve constituency responsiveness? Evidence from US cities," *Political science research and methods*, 8, 459–476. 1

Dahl, C. M., M. Huber, and G. Mellace (2023): "It is never too LATE: a new look at local average treatment effects with or without defiers," *The Econometrics Journal*, 26, 378–404. 6.1

Dipoppa, G. and G. Grossman (2020): "The effect of election proximity on government responsiveness and citizens' participation: Evidence from English local elections," *Comparative Political Studies*, 53, 2183–2212. 1

Feld, L. P., E. A. Köhler, L. Palhuca, and C. A. Schaltegger (2024): "Fiscal federalism and foreign direct investment–An empirical analysis," *The World Economy*, 47, 2287–2331. 1

Ferejohn, J. (1986): "Incumbent performance and electoral control," *Public choice*, 5–25. 6.4.1

Gagliarducci, S. and M. D. Paserman (2012): "Gender interactions within hierarchies: evidence from the political arena," *The Review of Economic Studies*, 79, 1021–1052. 1

George, S., V. Rao, and M. Sharan (2024): *Two Hundred and Fifty-Thousand Democracies*, World Bank. 1

Ghatak, M. and M. Ghatak (2002): "Recent reforms in the Panchayat system in West Bengal: Toward greater participatory governance?" *Economic and political weekly*, 45–58. 3

Grossman, G. and T. Slough (2022): "Government responsiveness in developing countries," *Annual Review of Political Science*, 25, 131–153. 1

Gulzar, S., N. Haas, and B. Pasquale (2023): "Does political affirmative action work, and for whom? Theory and evidence on India's scheduled areas," in *Handbook on Economics of Discrimination and Affirmative Action*, Springer, 1–31. 1

Gupta, S. (2002): "Subaltern resurgence: a reconnaissance of Panchayat election in Bihar," . 2.1

Heyes, A. and S. Kapur (2009): "An economic model of whistle-blower policy," *The Journal of Law, Economics, & Organization*, 25, 157–182. 1

Hossain, N., A. Joshi, and S. Pande (2024): "The politics of complaint: a review of the literature on grievance redress mechanisms in the global South," *Policy Studies*, 45, 139–158. 1

Kruks-Wisner, G. (2021): "Great expectations, Great Grievances: the politics of citizens' complaints in India," *Comparative Politics*, 54, 27–49. 1

Malesky, E. J. and F. E. Hutchinson (2016): "Varieties of disappointment: Why has decentralization not delivered on its promises in Southeast Asia?" *Journal of Southeast Asian Economies*, 125–138. 3

Ministry of Rural Development, G. o. I. (2020): "Mission Antyodaya," Accessed via SHRUG https://www.devdatalab.org/shrug_download/, v2.1.pakora. 3.1

Mookherjee, D. (2014): "Accountability of local and state governments in India: an overview of recent research," *Indian Growth and Development Review*, 7, 12–41. 3

——— (2015): "Political decentralization," *Annual review of economics*, 7, 231–249. 1

Muwonge, A., M. Kinuthia, C. Owuor, and T. S. Williamson (2022): *Making devolution work for service delivery in Kenya*, World Bank Publications. 1

Pande, R. (2003): "Can mandated political representation provide disadvantaged minorities policy influence? Theory and evidence from India," *American Economic Review*, 93, 1132–1151. 1

Purohit, B. (2022): "Laments of Getting Things Done: Bureaucratic Resistance Against Female Politicians in India," Ph.D. thesis, UC Berkeley. 1

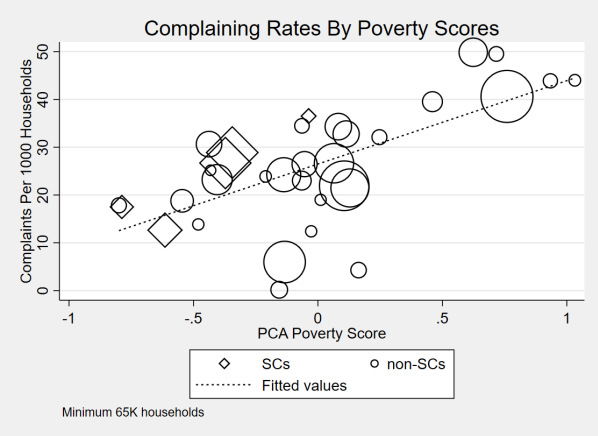
Raghunandan, T. (2012): *Decentralisation and local governments: The Indian experience*, Orient BlackSwan. 2

Rider, M., P. P. Ghosh, and S. Gupta (2011): "Report on the Bihar PRI Finance Study," . 2.1

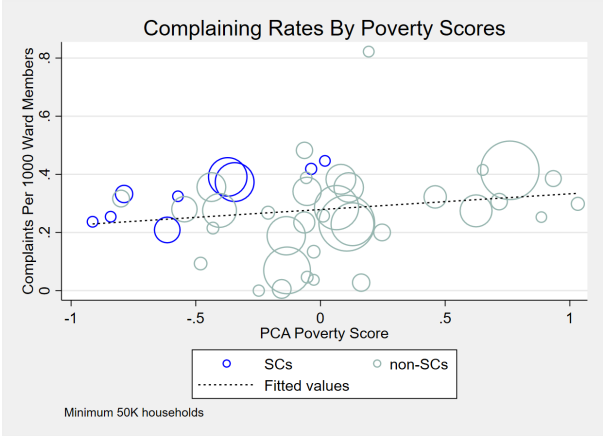
Saiegh, S. M. and M. Tommasi (1999): "Why is Argentina's fiscal federalism so inefficient? Entering the labyrinth," *Journal of Applied Economics*, 2, 169–209. 3

Sharan, M. R. (2021): *Last Among Equals: Power, caste and politics in Bihar's villages*, Westland Publications. 23

I Main Figures



(a) Citizen complaints by poverty score



(b) Ward member complaints by poverty score

Figure 2: Relationship between poverty scores and complaints filed by SC and non-SC citizens (Panel A) and ward members (Panel B). Poverty scores are calculated by surname using the Socioeconomic Caste Census (SECC 2011). Complaints filed by surname are calculated from administrative data on the universe of complaints. The y-axis plots complaints filed per 1,000 households. The x-axis plots PCA-based poverty scores based on six key assets collected in the SECC. Only surnames that repeat at least 50,000 times in the SECC are considered.

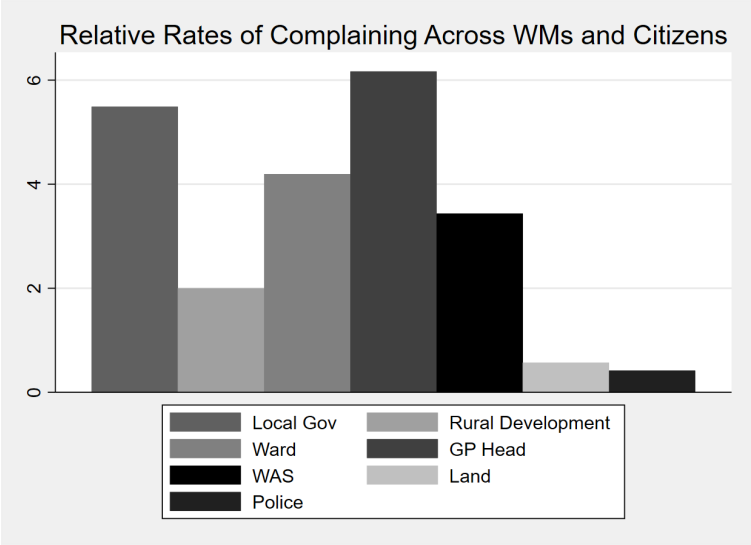


Figure 3: Relative rates of complaining by ward members (WMs) compared to citizens across seven categories: land, police, local government, rural development, ward-related issues, water and sanitation (WAS), and complaints explicitly naming the GP head. The y-axis plots the ratio of the share of complaints in each category filed by WMs to the corresponding share filed by citizens.

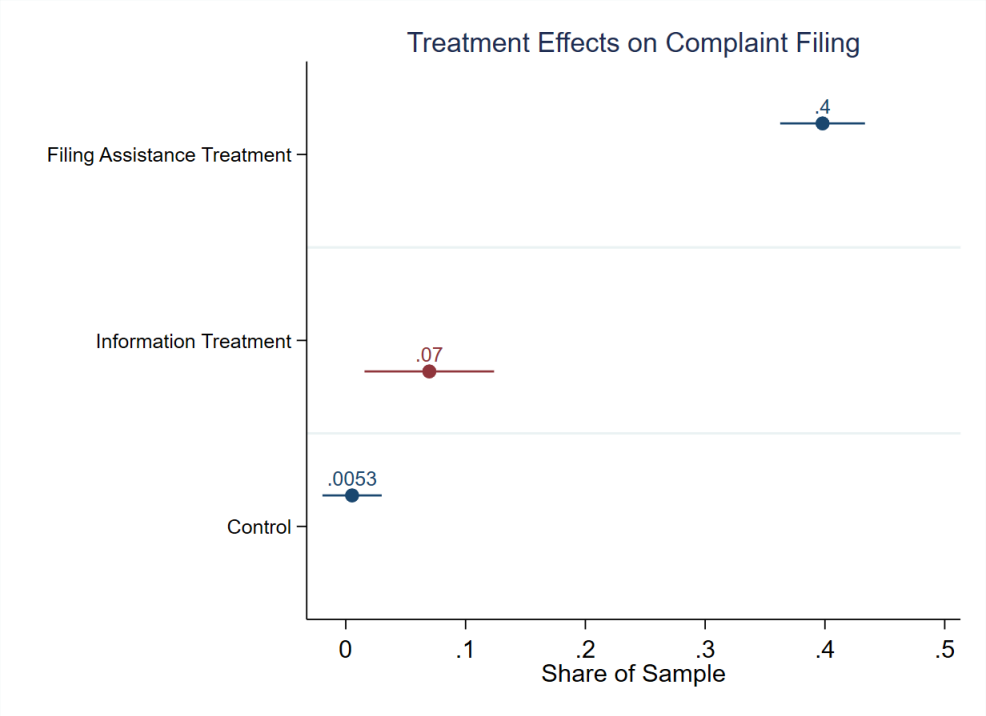
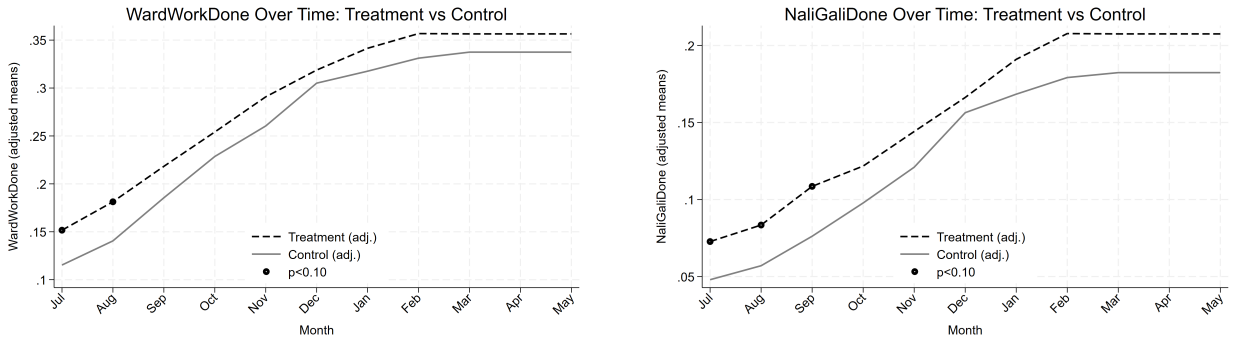


Figure 4: Information Treatment and Complaint Filing
This figure displays the impact of our two main intervention arms – a complaint filing assistance treatment and the information treatment on whether complaints are filed (this is the "first stage" of the experiment)



(a) Ward-level work projects over time

(b) Drain-and-lane (*NaliGali*) projects over time

Figure 5: Adjusted means from ward-level regressions of grievance treatment on project initiation between July 2019 and May 2020 in the administrative data. Dashed lines show treated wards; solid lines show control wards. Black markers indicate months where treatment effects are statistically significant at $p < 0.10$. Both panels illustrate that grievance-filing assistance accelerated project initiation relative to control wards, with especially pronounced effects in the early post-intervention months.

II Main Tables

Table 1: Test of Randomization Balance for Complaint Filing Assistance Treatment

Variable	(1) Control	(2) Treatment	(3) Difference
Mean SC Wealth Score (in GP)	-0.386	-0.362	0.024
	(0.588)	(0.615)	(0.032)
Mean non-SC Wealth Score (in GP)	0.359	0.352	-0.007
	(0.780)	(0.756)	(0.040)
Proportion of SCs (Census 2011)	0.205	0.199	-0.006
	(0.096)	(0.088)	(0.005)
Distance to District Headquarters (Census 2011)	31.847	31.647	-0.200
	(17.993)	(18.332)	(0.945)
Total GP Area (Census 2011)	1,176.579	1,116.427	-60.152
	(943.318)	(663.041)	(42.138)
Total Population of GP (Census 2011)	11,971.220	11,776.543	-194.676
	(4,991.410)	(4,199.561)	(238.833)
Percentage of SCs in Main SC Village (Census 2011)	0.553	0.555	0.002
	(0.252)	(0.254)	(0.013)
Percentage of all SCs in Main SC Village	0.323	0.323	0.001
	(0.197)	(0.197)	(0.010)
Margin of Victory of GP Head (Votes)	168.831	171.073	2.242
	(167.245)	(172.665)	(8.906)
Ward Member's Age	39.185	38.685	-0.501
	(11.175)	(10.836)	(0.572)
Ward Member's Gender	0.452	0.466	0.014
	(0.498)	(0.499)	(0.026)
Ward Member is Illiterate	0.112	0.101	-0.011
	(0.316)	(0.301)	(0.016)
Ward Member is Literate	0.542	0.543	0.001
	(0.499)	(0.499)	(0.026)
Observations	760	727	1,487

Table presents category-wise averages and t-tests of difference in means. Standard errors are reported in parentheses except for column 3, where p values are reported in parentheses. We also conduct F-test for the null that the coefficients for all covariates are jointly zero: F(13, 948) = 0.49 and $Prob > F = 0.9289$

Table 2: Effects of Complaint Filing on WAS Projects

	ITT Effects		TOT Effects	
	(1) Problem Solved	(2) Project Initiated	(3) Problem Solved	(4) Project Initiated
Complaint Filing Assistance	0.105***	0.069**		
	(0.031)	(0.029)		
Complaint Filed			0.251***	0.167***
			(0.066)	(0.061)
Observations	1231	1231	1331	1331
Control Mean	.41	.27	.41	.27
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of the complaint filing assistance treatment on our two main outcome variables. Column 1 presents the ITT effects of our treatment on whether the problem preventing the WMs from initiating projects was resolved. Column 2 presents the ITT effects on whether a project was initiated in the post-intervention period. Column 3 and Column 4 present the TOT effects where the treatment status of the WMs serves as an instrument for the actual complaint filing rates. The regression specification across both panels is our pre-specified estimating equation. All regressions contain GP-level controls and block fixed effects. Standard errors are robust to heteroskedasticity and reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 3: Spillover Effects of Complaint Filing Assistance Treatment

	(1) **Complaint Filed**	(2) **Project Initiated**	(3) **Project Initiated (SC)**	(4) **Project Initiated (Non-SC)**
Treated Neighbor	0.026***	0.076*	0.494**	0.017
	(0.010)	(0.041)	(0.230)	(0.046)
Observations	833	833	139	694
Control Mean	0	.3	.3	.3

Table delineates the impact of the complaint filing assistance treatment on our two main spillover outcomes.Outcomes are collected via an endline survey of one randomly selected representative from a ward neighboring a representative who was part of the experimental sample. Each column lists a different outcome.In column 1, we measure whether a complaint was filed by the representative of the neighboring ward. In column 2, we focus on whether a project was initiated in the post intervention period. The regression specification across both columns is our pre-specified estimating equation. All regressions contain GP-level controls. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table 4: Effects of Complaint Filing on Backlash

	ITT Effects			**TOT Effects**		
	(1) Threat OR Commission	(2) Threat	(3) Commission	(4) Threat OR Commission	(5) Threat	(6) Commission
Filing Assistance	0.030**	0.010	0.019**			
	(0.012)	(0.008)	(0.009)			
Filed				0.078***	0.025	0.048**
				(0.026)	(0.016)	(0.021)
Observations	1332	1332	1332	1330	1330	1330
Control Mean	.02	.01	.01	.02	.01	.01
Fixed Effects	Block	Block	Block	Block	Block	Block

footnotesizeTable reports ITT (columns 1–3) and TOT (columns 4–6) estimates of the impact of the grievance-filing assistance treatment on whether lower-tier representatives experienced threats or demands for commissions from higher-tier officials. Dependent variables are: (i) Threat or Commission (binary), (ii) Threat (binary), and (iii) Commission (binary). ITT estimates use treatment assignment as the regressor. TOT estimates instrument actual complaint filing with treatment assignment. All regressions include the set of GP-level controls and block fixed effects. Control mean of the dependent variable is reported in each row. Standard errors are robust and reported in parentheses. Significance levels: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 5: Effects of Complaint Filing on Reelection

	ITT Effects		**TOT Effects**	
	(1) Contested	(2) Won	(3) Contested	(4) Won
Complaint Filing Assistance	-0.039	-0.046*		
	(0.031)	(0.028)		
Complaint Filed			-0.099	-0.119*
			(0.072)	(0.064)
Observations	1128	1128	1232	1232
Control Mean	.68	.23	.68	.23
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of complaint filing assistance treatment on reelection probability and likelihood of running in 2021 local elections. Each column considers a different regression specification. Column 1 presents the ITT effects of of complaint filing assistance treatment on whether WMs are reelected. Column 2 present the ITT effects of our treatment on whether WMs run in 2021 elections. Column 3 and Column 4 present the TOT effects where treatment status of WMs serves as an instrument for the actual complaint filing rate. The regression specification across both panels is our pre-specified estimating equation. All regressions contain GP-level controls. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table 6: How does caste of the GP head impact whether WMs file complaints (Admin Data)?

	PANEL A: SC WMs				
	(1) **WAS Pubic Goods**	(2) **Local Government**	(3) **All Public Goods**	(4) **Mention Ward**	(5) **Placebo Private**
Upper Caste GP Head	0.02*	0.01	0.03**	0.01**	0.01
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Observations	19236	19236	19236	19236	19236
Control Mean	.01	.01	.02	0	.02
Upper Band	265.57	276.19	246.02	281.26	322.22
Block FE	YES	YES	YES	YES	YES
	PANEL B: Non-SC WMs				
	(1)	(2)	(3)	(4)	(5)
Lower Caste GP Head	0.001	0.002	0.002	0.003	0.027
	(0.003)	(0.003)	(0.007)	(0.003)	(0.019)
Observations	65861	65861	65861	65861	65861
Control Mean	.01	.01	.02	.01	.02
Upper Band	315.23	338.14	396.06	306.13	249.4
Block FE	YES	YES	YES	YES	YES

We use the administrative data of all complaints filed in the pre-intervention period. Outcome variables are binary variables and are as follows: column (1) whether a WAS complaint was filed; column (2) whether a complaint related to local governance was filed; column (3) whether a complaint related to public goods was filed (4) whether a complaint filed mentions the ward (5) a placebo test that is an indicator of whether a complaint was filed regarding the WMs own household. In panel A, we restrict to only SC WMs. Upper Caste GP Head is the treatment variable which takes the value of 1 if the SC-GP population is below the population threshold. In Panel (B), we restrict to non-SC WMs. Lower Caste GP Head is the treatment variable which takes the value of 1 if the SC-GP population is above the population threshold. We use CCT triangular bandwidths and estimate fuzzy RD specifications described in the paper (equation 1 and 2).We control for GP-level covariates and add Block-fixed effects. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Appendix

III Additional Figures and Tables

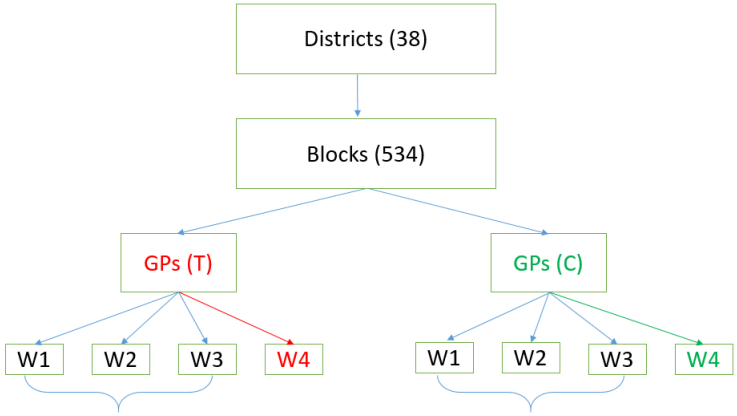


Figure A1: Within-GP Spillovers Estimation
We restrict our analysis to GPs with either one treated or one control ward. We compare untreated wards of GPs with one treated ward (marked in red) with GPs that have one control ward (in green).

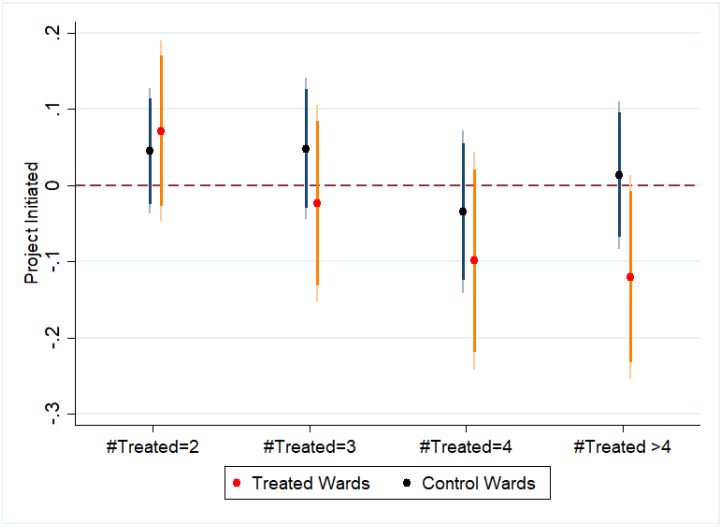
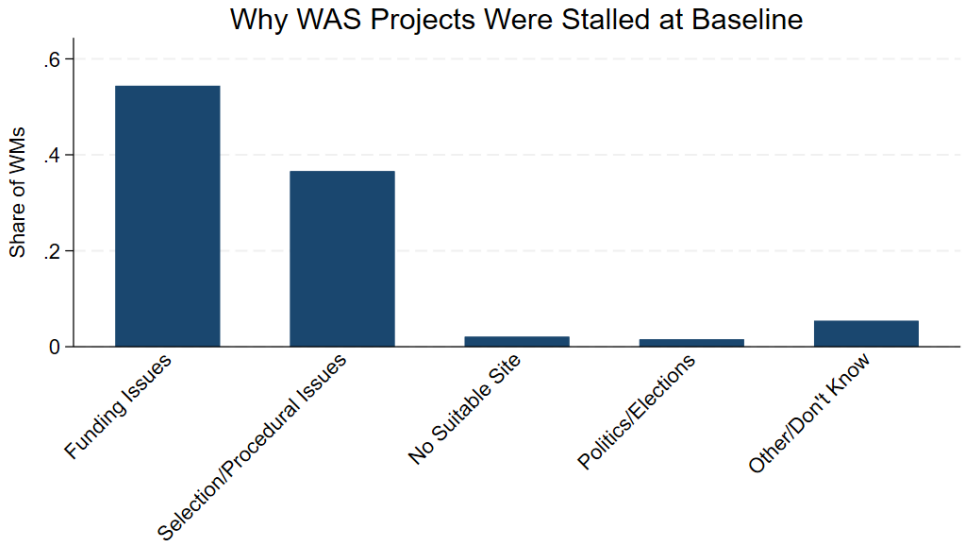
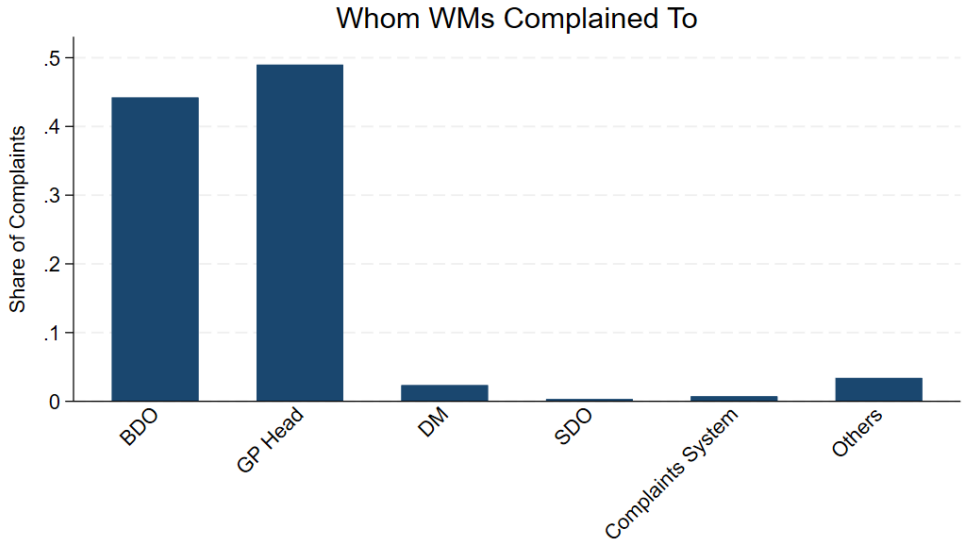


Figure A2: Impact of Block-Level Treatment Intensity on Treated Wards
This figure displays how the effects of block-level treatment intensity on treated wards vary across various levels of treatment intensity. The control group comprises of wards from blocks with only one treated ward. Y axis measures the likelihood of project initiation. All regressions have block and GP level controls and district-fixed effects. We cluster the standard errors at the block level.



(a) This panel plots the share of Ward Members (WMs) who reported different reasons why water and sanitation (WAS) projects had not been started at baseline (N = 1,629 SC WMs). Categories are grouped into five broad types: Funding Issues, Selection/Procedural Issues (selection rules, sequencing of projects, or PHED involvement), No Suitable Site, Politics/Elections (elections or local disputes), and Other/Don't Know.



(b) This panel plots the share of WMs who reported filing complaints to different authorities in the baseline survey (N = 1,629 SC WMs where projects were stalled). Categories include the Block Development Officer (BDO), the GP Head, the District Magistrate (DM), the Sub-Divisional Officer (SDO), the state-run Complaints System (Lok Shikayat), and Others.

Figure A3: Panel A shows reported reasons for stalled WAS projects. Panel B shows the destinations of complaints filed by WMs.

Table A1: How does caste of the GP head impact whether a project was stalled?

	Reasons For Stalled Projects (RD)				
	(1) **GP Head Fund**	(2) **Caste-Favoring**	(3) **Procedural Reason**	(4) **Informal Approach**	(5) **Formal Complaint**
Upper Caste GP Head	0.14**	0.04	-0.12**	-0.06	0.28**
	(0.07)	(0.03)	(0.05)	(0.05)	(0.12)
Observations	1552	1552	1552	1552	694
Control Mean	.33	.03	.15	.79	.48
Bandwidth	496.81	461.32	361.25	631.66	313.81
Disrict FE	YES	YES	YES	YES	YES

Outcomes are derived based on our baseline survey of SC WMs. Outcome variables are binary variables and are as follows: column (1) whether GP head stalled the project; column (2) whether GP head favours their own caste; column (3) procedural reason unrelated to GP head; column (4) informally spoke to the GP head about stalled projects (5) whether took up our offer to file a complaint. We use CCT triangular bandwidths and estimate fuzzy RD specifications described in the paper (equations 1 and 2). We control for GP-level covariates and add Block-fixed effects. *p ¡ 0.1, **p ¡ 0.05, ***p ¡ 0.01

Table A2: How does caste of the GP head impact whether WMs file complaints (By SC Share of Ward)?

	Complaining By SC Popn. Share of Ward			
	(1)	(2)	(3)	(4)
	0 - 0.25	**0.25 - 0.5**	**0.5 -0.75**	**0.75 - 1**
Upper Caste GP Head	0.03	0.02**	0.04*	0.00
	(0.02)	(0.01)	(0.02)	(0.02)
Observations	4677	6967	3569	1304
Control Mean	.01	.01	.01	.01
Upper Band	223.36	611.48	339.5	7036.5
Block FE	YES	YES	YES	YES

We use the administrative data of all complaints filed in the pre-intervention period. Outcome variables are binary variables is whether a WAS complaint was filed. Columns 1-4 restrict samples to wards with SC shares of 25%, 25-50%, 50-75%, 75-100% respectively. Lower Caste GP Head is the treatment variable which takes the value of 1 if the SC-GP population is above the population threshold. We use CCT triangular bandwidths and estimate fuzzy RD specifications described in the paper (equation 1 and 2).We control for GP-level covariates and add Block-fixed effects. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table A3: Effects of Treatment on non-WAS Complaint Filing

	WAS	Complaint Outcomes (Excluding WAS)		
	(1)	(2)	(3)	(4)
		Any Complaint	Local Governance	Public Goods
Filing Assistance	0.384***	0.008	0.003	0.008**
	(0.024)	(0.007)	(0.002)	(0.004)
Observations	1332	1259	1259	1259
Control Mean	.01	.01	0	0
Fixed Effects	Block	Block	Block	Block

Table reports ITT (columns 1–3) and TOT (columns 4–6) estimates of the impact of the grievance-filing assistance treatment on whether lower-tier representatives experienced threats or demands for commissions from higher-tier officials. Dependent variables are: (i) Threat or Commission (binary), (ii) Threat (binary), and (iii) Commission (binary). ITT estimates use treatment assignment as the regressor. TOT estimates instrument actual complaint filing with treatment assignment. All regressions include the set of GP-level controls and block fixed effects. Control mean of the dependent variable is reported in each row. Standard errors are robust and reported in parentheses. Significance levels: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

IV Robustness Checks

Table R1: ITT Effects of Complaint Filing on WAS Projects: robustness

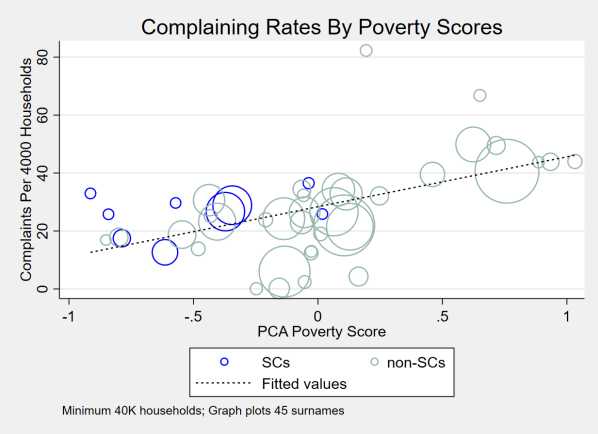
	PANEL A: Problem Solved			
	(1)	(2)	(3)	(4)
Filing Assistance Treatment	0.105***	0.105***	0.075***	0.076***
	(0.030)	(0.030)	(0.028)	(0.027)
Observations	1231	1231	1327	1332
Control Mean	.41	.41	.41	.41
	PANEL B: If Project Started			
	(1)	(2)	(3)	(4)
Filing Assistance Treatment	0.069**	0.069**	0.045*	0.046*
	(0.028)	(0.027)	(0.025)	(0.024)
Observations	1231	1231	1327	1332
Control Mean	.27	.27	.27	.27
Fixed Effects	Block	Block	SubDivision	District
Clustered SE	NO	YES	NO	NO
Pre-specified	YES	NO	NO	NO

Table shows the impact of the complaint filing assistance treatment on our two main outcome variables. Columns 1 and 2 provides results for the whole sample and columns 3 and 4 for the restricted sample. The restricted sample is generated by dropping GPs that have more than one experimental wards. 'Problem solved' outcome variables captures whether the problem preventing the SC WMs from initiating projects was resolved. Project initiated measures whether the project was, subsequently, initiated. Column (1) and (2) is our pre-specified estimating equation. Column (3) and (4) attempts to check the extent to which within-GP spillover could effect our main results. All regressions contain block fixed effects and GP-level controls. Standard errors are reported in parentheses *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

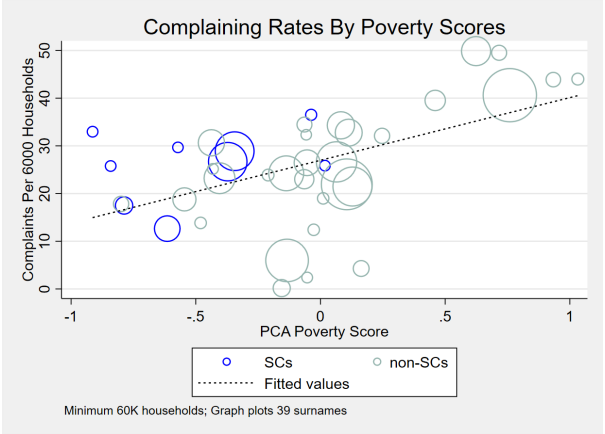
Table R2: ITT Effects of Complaint Filing on WAS Projects: spillovers a concern?

	Whole Sample		Restricted Sample	
	(1) **Problem Solved**	(2) **Project Initiated**	(3) **Problem Solved**	(4) **Project Initiated**
Filing Assistance Treatment	0.105***	0.069**	0.138***	0.082**
	(0.030)	(0.028)	(0.035)	(0.032)
Observations	1332	1332	1109	1109
Control Mean	.41	.27	.4	.27
Fixed Effects	Block	Block	Block	Block
Pre-specified	YES	YES	YES	YES

Table delineates the impact of the complaint filing assistance treatment on our two main outcome variables across different samples. Columns 1 and 2 provides results for the whole sample and columns 3 and 4 for the restricted sample. The restricted sample is generated by dropping GPs that have more than one experimental wards. 'Problem solved' outcome variables captures whether the problem preventing the SC WMs from initiating projects was resolved. Project initiated measures whether the project was, subsequently, initiated. Column (1) and (2) is our pre-specified estimating equation. Column (3) and (4) attempts to check the extent to which within-GP spillover could effect our main results. All regressions contain block fixed effects and GP-level controls. Standard errors are reported in parentheses *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

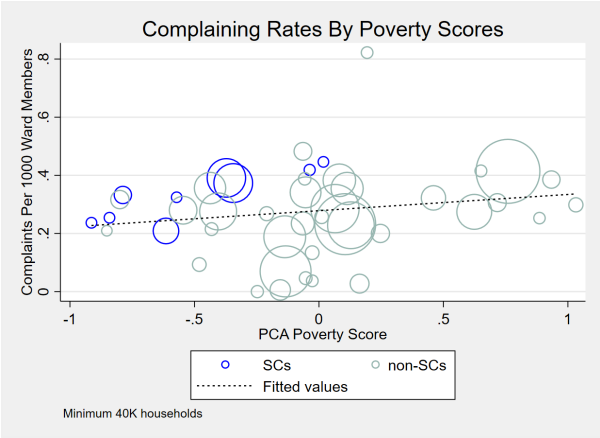


(a) Robustness: 40K

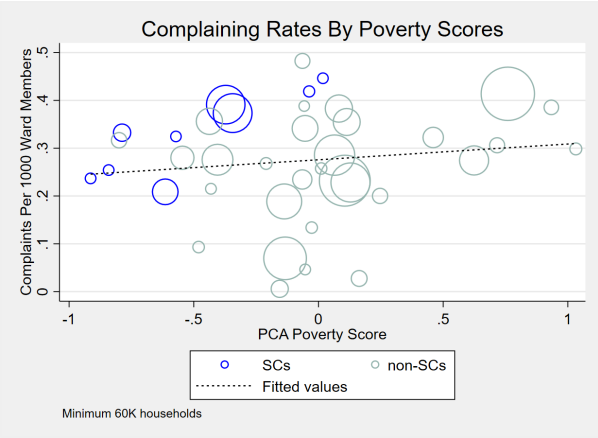


(b) Robustness: 60K

Figure A4: Relationship between poverty scores and complaints filed by SC by citizens: this tests that the relationship shown in Figure 2 is robust to choosing surnames that repeat 40,000 or 60,0000 times in the SECC.

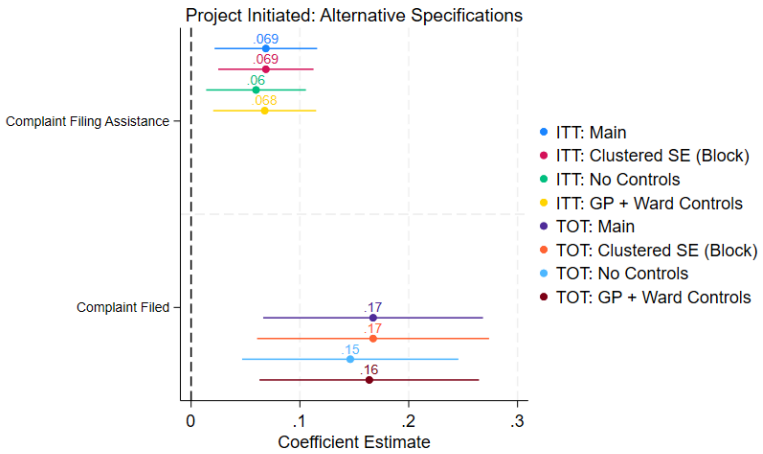


(a) Robustness: 40K

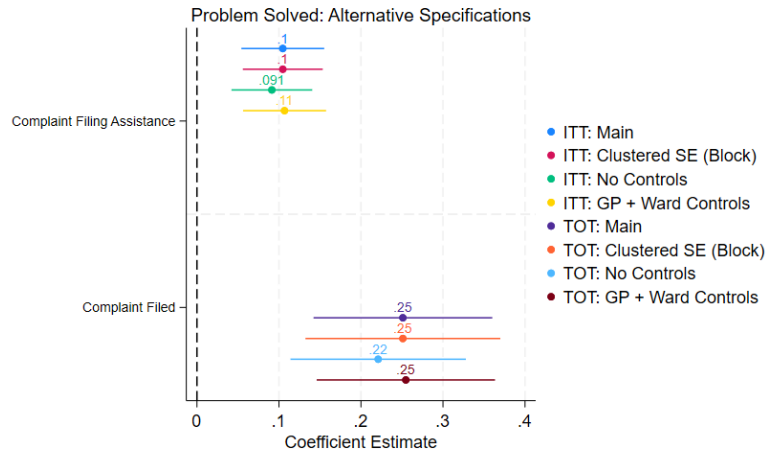


(b) Robustness: 60K

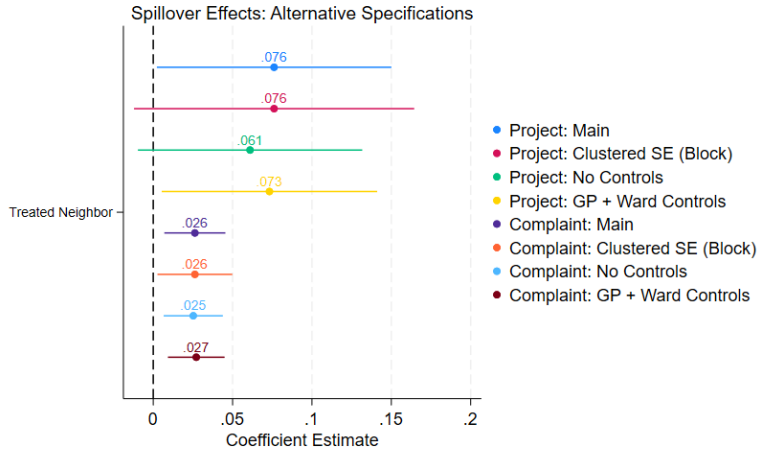
Figure A5: Relationship between poverty scores and complaints filed by SC ward members: this tests that the relationship shown in Figure 2 is robust to choosing surnames that repeat 40,000 or 60,0000 times in the SECC.



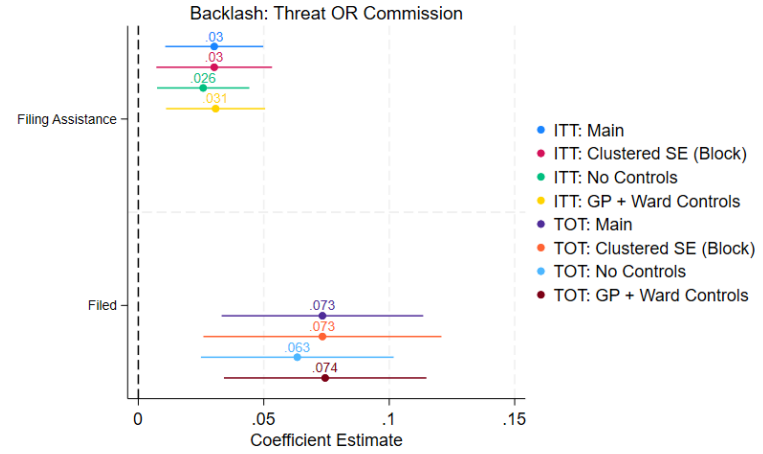
(a) Alternative specifications measuring the impacts of our main treatment on whether WMs report that projects were initiated in their wards.



(b) Alternative specifications measuring the impacts of our main treatment on whether the impediment preventing project initiation was resolved.

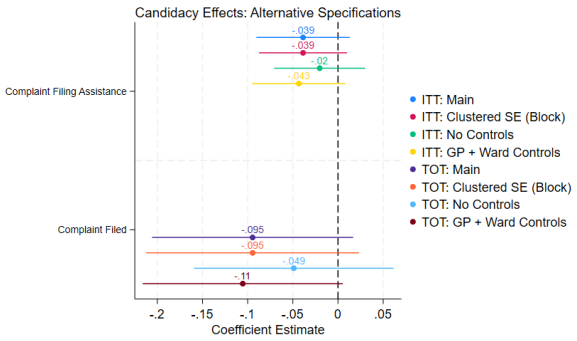


(c) Alternative specifications measuring the impacts of our main treatment on outcomes in spillover wards.

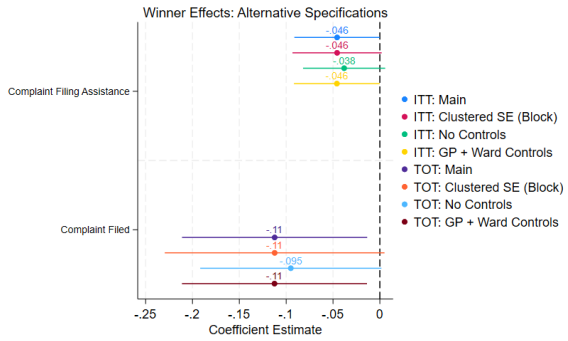


(d) Alternative specifications measuring the impacts of our main treatment on whether a WM faced backlash.

Figure A6: Robustness checks for initiation, problem resolution, spillovers, and backlash. Bars represent 90% CI.

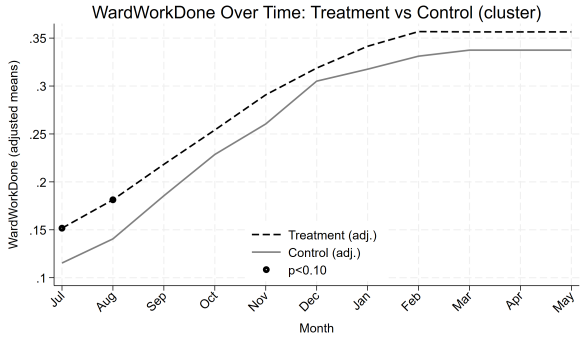


(a) Effects on candidacy in 2021 elections.

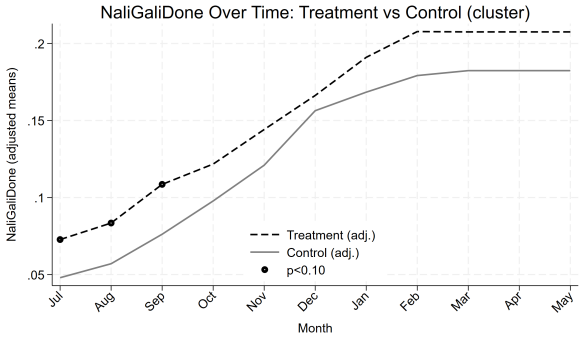


(b) Effects on winning the 2021 elections.

Figure A7: Robustness checks for electoral outcomes. Bars represent 90% CI.

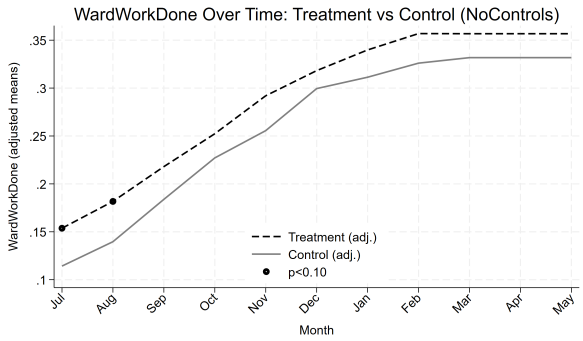


(a) Ward-level work (Robustness)

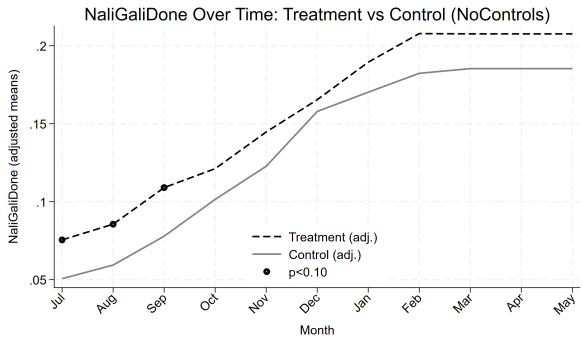


(b) Drain-and-lane (*NaliGali*) projects (Robustness)

Figure A8: Adjusted means from ward-level regressions of grievance treatment on project initiation between July 2019 and May 2020 in the administrative data. Dashed lines show treated wards; solid lines show control wards. Black markers indicate months where treatment effects are statistically significant at $p < 0.10$. Unlike our main specification, these graphs show robustness to clustering errors at the block level.



(a) Ward-level work (Robustness)



(b) Drain-and-lane (*NaliGali*) projects (Robustness)

Figure A9: Adjusted means from ward-level regressions of grievance treatment on project initiation between July 2019 and May 2020 in the administrative data. Dashed lines show treated wards; solid lines show control wards. Black markers indicate months where treatment effects are statistically significant at $p < 0.10$. Unlike our main specification, these graphs show robustness to dropping controls altogether.

Table R3: How does caste of the GP head impact whether WMs file complaints (Admin Data)?

	Alternate BWs for WAS Complaining				
	(1)	(2)	(3)	(4)	(5)
	0.5	**1**	**1.5**	**1.75**	**2**
Upper Caste GP Head	0.02*	0.02*	0.01**	0.01**	0.01**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	19236	19236	19236	19236	19236
Control Mean	.01	.01	.01	.01	.01
Upper Band	132.79	265.57	398.36	464.75	531.14
Block FE	YES	YES	YES	YES	YES

This table shows robustness of the main RD result in Table 6 to alternate bandwidths. We focus on the main outcome variable: whether a WM filed a complaint regarding WAS issues. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table R4: How does caste of the GP head impact whether WMs file complaints (By SC Population of Ward)?

	Complaining By SC Population of Ward			
	(1)	(2)	(3)	(4)
	Q1	**Q2**	**Q3**	**Q4**
Upper Caste GP Head	0.02*	0.00	0.02	0.02
	(0.01)	(0.01)	(0.02)	(0.01)
Observations	4128	4146	4203	4204
Control Mean	.01	.01	.01	.01
Upper Band	444.74	481.48	347.97	553.91
Block FE	YES	YES	YES	YES

We use the administrative data of all complaints filed in the pre-intervention period. Outcome variables are binary variables is whether a WAS complaint was filed. Columns 1-4 restrict samples to wards with SC populations of wards in the first, second, third and fourth quartiles respectively. Lower Caste GP Head is the treatment variable which takes the value of 1 if the SC-GP population is above the population threshold. We use CCT triangular bandwidths and estimate fuzzy RD specifications described in the paper (equation 1 and 2).We control for GP-level covariates and add Block-fixed effects. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

V Supplementary Appendix

V.1 Attrition

Table S1: Balance Between Attrited and Non-Attrited Sample at Endline

Variable	(1) Not Attrited	(2) Attrited	(3) Difference
Mean SC Wealth Score (in GP)	-0.391	-0.374	0.017
	(0.730)	(0.593)	(0.081)
Mean non-SC Wealth Score (in GP)	0.381	0.354	-0.028
	(0.802)	(0.766)	(0.089)
Proportion of SCs (Census 2011)	0.195	0.203	0.008
	(0.081)	(0.093)	(0.009)
Distance to District Headquarters (Census 2011)	34.589	31.576	-3.013
	(22.190)	(17.873)	(2.442)
Total GP Area (Census 2011)	1,115.568	1,149.110	33.542
	(539.779)	(832.831)	(62.036)
Total Population of GP (Census 2011)	11,375.709	11,906.755	531.045
	(3,549.539)	(4,677.768)	(400.777)
Percentage of SCs in Main SC Village (Census 2011)	0.571	0.553	-0.018
	(0.252)	(0.253)	(0.028)
Percentage of all SCs in Main SC Village	0.290	0.325	0.035
	(0.153)	(0.200)	(0.017)
OBC_RESERVED_2016	0.128	0.171	0.043
	(0.336)	(0.376)	(0.037)
Margin of Victory of GP Head (Votes)	173.982	169.674	-4.308
	(173.134)	(169.713)	(19.234)
Ward Member's Age	39.058	38.933	-0.125
	(10.253)	(11.058)	(1.139)
Ward Member's Gender	0.329	0.467	0.138
	(0.473)	(0.499)	(0.053)
Ward Member is Illiterate	0.186	0.102	-0.085
	(0.391)	(0.302)	(0.043)
Ward Member is Literate	0.547	0.542	-0.005
	(0.501)	(0.498)	(0.055)
Observations	86	1,401	1,487

Overall sample comprises all WMs who were part of our main experiment at baseline. Table presents category-wise averages and t-tests of difference in means. Standard errors are reported in parentheses

Table S2: Lee (2009) Bounds (selection = response)

	Treated_G:Lower Bound	Treated_G:Upper Bound
Problem Solved	.1005391	.1043145
Project Initiated	.0661116	.070584

Table shows Lee bounds for two main outcome variables from the endline WM survey: whether the problem preventing WMs from initiating work was resolved (Problem Solved) and whether work was initiated (Project Initiated).

Table S3: Effects of Complaint Filing on WAS Projects: Reweighted Sample for Attrition

	ITT Effects		**TOT Effects**	
	(1) Problem Solved	(2) Project Initiated	(3) Problem Solved	(4) Project Initiated
Complaint Filing Assistance	0.107***	0.068**		
	(0.031)	(0.029)		
Complaint Filed			0.257***	0.164***
			(0.066)	(0.061)
Observations	1224	1224	1326	1326
Control Mean	.41	.27	.41	.27
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of the complaint filing assistance treatment on our two main outcome variables, with observations re-weighted for attrition. Column 1 presents the ITT effects of our treatment on whether the problem preventing the WMs from initiating projects was resolved. Column 2 presents the ITT effects on whether a project was initiated in the post-intervention period. Column 3 and Column 4 present the TOT effects where the treatment status of the WMs serves as an instrument for the actual complaint filing rates. The regression specification across both panels is our pre-specified estimating equation. All regressions contain GP-level controls and block fixed effects. Standard errors are robust to heteroskedasticity and reported in parentheses *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

V.2 Additional Tables

Table S4: Comparison of Sample Wards to All Wards

Variable	(1) Population	(2) Sample	(3) Difference
Mean SC Wealth Score (in GP)	-0.424	-0.362	0.062
	(0.611)	(0.597)	(0.000)
Mean non-SC Wealth Score (in GP)	0.327	0.384	0.057
	(0.764)	(0.757)	(0.005)
Proportion of SCs (Census 2011)	0.202	0.198	-0.004
	(0.092)	(0.086)	(0.120)
Distance to District Headquarters (Census 2011)	32.954	31.751	-1.203
	(18.501)	(17.656)	(0.012)
Total GP Area (Census 2011)	1,174.446	1,113.245	-61.201
	(882.700)	(733.147)	(0.004)
Total Population of GP (Census 2011)	11,843.700	11,872.551	28.851
	(4,491.801)	(4,710.335)	(0.814)
Percentage of SCs in Main SC Village (Census 2011)	0.557	0.548	-0.008
	(0.257)	(0.253)	(0.220)
Percentage of all SCs in Main SC Village	0.328	0.325	-0.003
	(0.205)	(0.204)	(0.612)
GP Head Reserved for OBC in 2016	0.169	0.169	0.000
	(0.375)	(0.375)	(0.986)
Margin of Victory of Upper-Tiered Representative (Votes)	167.262	173.472	6.210
	(167.416)	(175.299)	(0.178)
Lower-Tiered Representative's Age	39.857	38.886	-0.971
	(11.884)	(10.987)	(0.001)
Lower-Tiered Representative's Gender	0.445	0.467	0.022
	(0.497)	(0.499)	(0.098)
Lower-Tiered Leader Has Five Years of Education	0.262	0.356	0.094
	(0.440)	(0.479)	(0.000)
Observations	3,070	2,628	5,698

Tables present category-wise averages and t-tests of difference in means. Standard errors are reported in parentheses except for column 3, where p values are reported in parentheses. We also conduct F-test for the null that the coefficients for all covariates are jointly zero: F(13, 5345) = 6.31 and $Prob > F = 0.00$.

Table S5: Balance Checks for Complaint Filing Assistance Treatment: Spillover Sample

Variable	(1) Control	(2) Treatment	(3) Difference
Mean SC Wealth Score (in GP)	-0.383	-0.354	0.029
	(0.605)	(0.635)	(0.458)
Mean non-SC Wealth Score (in GP)	0.312	0.342	0.030
	(0.786)	(0.769)	(0.539)
Proportion of SCs (Census 2011)	0.193	0.192	-0.002
	(0.089)	(0.083)	(0.773)
Distance to District Headquarters (Census 2011)	30.988	31.003	0.015
	(18.066)	(18.087)	(0.989)
Total GP Area (Census 2011)	1,176.696	1,114.613	-62.082
	(1,024.201)	(663.783)	(0.249)
Total Population of GP (Census 2011)	11,949.118	11,671.403	-277.715
	(5,237.602)	(4,103.171)	(0.345)
Percentage of SCs in Main SC Village (Census 2011)	0.562	0.557	-0.005
	(0.248)	(0.248)	(0.770)
Percentage of all SCs in Main SC Village	0.302	0.315	0.012
	(0.188)	(0.195)	(0.313)
Margin of Victory of Upper-Tiered Representative (Votes)	170.949	173.879	2.930
	(169.181)	(172.773)	(0.786)
Lower-Tiered Representative's Age	39.157	38.378	-0.779
	(11.569)	(10.781)	(0.266)
Lower-Tiered Representative's Gender	0.454	0.470	0.016
	(0.498)	(0.500)	(0.612)
Lower Tiered Representative is Illiterate	0.114	0.095	-0.019
	(0.318)	(0.294)	(0.319)
Lower Tiered Representative is Literate	0.509	0.533	0.024
	(0.500)	(0.499)	(0.444)
Observations	517	506	1,023

Table presents category-wise averages and t-tests of difference in means.Standard errors are reported in parentheses

Table S6: Balance Checks for Information Treatment

Variable	(1) Control	(2) Treatment	(3) Difference
Mean SC Wealth Score (in GP)	-0.403	-0.427	-0.024
	(0.518)	(0.615)	(0.070)
Mean non-SC Wealth Score (in GP)	0.320	0.369	0.048
	(0.750)	(0.837)	(0.097)
Proportion of SCs (Census 2011)	0.193	0.198	0.006
	(0.090)	(0.075)	(0.010)
Distance to District Headquarters (Census 2011)	33.056	30.453	-2.603
	(20.119)	(16.141)	(2.211)
Total GP Area (Census 2011)	1,088.290	1,026.992	-61.298
	(688.985)	(583.970)	(77.395)
Total Population of GP (Census 2011)	11,978.191	11,813.661	-164.530
	(4,533.703)	(5,026.136)	(583.165)
Percentage of SCs in Main SC Village (Census 2011)	0.580	0.558	-0.022
	(0.249)	(0.257)	(0.031)
Percentage of all SCs in Main SC Village	0.282	0.331	0.048
	(0.164)	(0.230)	(0.025)
Margin of Victory of GP Head (Votes)	169.125	183.985	14.860
	(162.299)	(184.369)	(21.334)
Ward Member's Age	38.411	38.138	-0.273
	(10.663)	(10.427)	(1.282)
Ward Member's Gender	0.441	0.508	0.067
	(0.498)	(0.502)	(0.061)
Ward Member is Illiterate	0.135	0.123	-0.012
	(0.343)	(0.330)	(0.041)
Ward Member is Literate	0.525	0.538	0.014
	(0.501)	(0.500)	(0.061)
Observations	141	130	271

Table presents category-wise averages and t-tests of difference in means.Standard errors are reported in parentheses

Table S7: Control Variables Used in Regressions

Variable	Description
Panel A: GP-level Controls	
Mean SC Wealth Score (in GP)	Average wealth score of Scheduled Caste households in the Gram Panchayat (GP).
Mean non-SC Wealth Score (in GP)	Average wealth score of non-SC households in the GP.
Proportion of SCs (Census 2011)	Share of Scheduled Caste population in the GP.
Distance to Nearest Statutory Town (Census 2011)	Distance from the GP to the nearest statutory town.
Distance to District Headquarters (Census 2011)	Distance from the GP to the district headquarters.
Number of Villages in GP (Census 2011)	Count of villages within the GP boundary.
Total GP Area (Census 2011)	Total land area of the GP.
Total Population of GP (Census 2011)	Total population of the GP.
Percentage of SCs in Main SC Village (Census 2011)	Share of Scheduled Caste population within the main SC village of the GP.
Percentage of all SCs in Main SC Village	Share of all SCs in the GP that reside in the main SC village.
Margin of Victory of GP Head (Votes)	Vote margin by which the GP head won the election.
Panel B: WM-level Controls	
Ward Member's Gender	Indicator for whether the ward member is female.
Ward Member's Age	Age of the ward member (years).
Ward Member is Illiterate	Dummy for ward member being illiterate.
Ward Member is Literate	Dummy for ward member being literate.

Table S8: Status of Grievances Filed (as of July 2019)

Average number of hearings	1.93
Share of complaints marked resolved	.34
Share awarded to complainant	.23
Share: Panchayati Raj	.82
Share: Public Health Monitoring Department	.03
Share: Rural Development Department	.13
Share: Social Welfare	0
Share: Urban Development and Housing Department	.02

The table reports simple summary statistics on the status of complaints filed, based on official administrative records, approximately 45 days after the intervention in July 2019.

Table S9: Balance across Filers and Non-Filers (Approximation of Complier Composition)

Variable	Not Filed	Filed	Ratio
Ward Member's Age	39.093	38.493	0.989
Distance to District Headquarters (Census 2011)	32.303	30.143	0.949
Ward Member is Illiterate	0.110	0.095	0.893
Ward Member is Literate	0.536	0.559	1.032
Margin of Victory of GP Head (Votes)	172.999	160.878	0.947
Distance to Nearest Statuatory Town (Census 2011)	21.349	19.131	0.921
Proportion of SCs (Census 2011)	0.203	0.199	0.985
Percentage of all SCs in Main SC Village	0.321	0.328	1.016
Percentage of SCs in Main SC Village (Census 2011)	0.555	0.551	0.995
Total Population of GP (Census 2011)	11939.833	11689.549	0.984
Total GP Area (Census 2011)	1156.819	1118.962	0.975
Number of Villages in GP (Census 2011)	5.762	6.053	1.037
Ward Member's Gender	0.466	0.441	0.959
Mean non-SC Wealth Score (in GP)	0.347	0.378	1.065
Mean SC Wealth Score (in GP)	-0.388	-0.336	0.897
Observations	1108	379	1487

The table reports simple summary statistics on the status of complaints filed, based on official administrative records, approximately 45 days after the intervention in July 2019.

Table S10: Spillover Effects of Complaint Filing Assistance Treatment Across All Neighbours of Treated Wards

	Complaints Filed		
	(1) **WAS**	(2) **Public Goods**	(3) **Private**
Treated Neighbor	0.002**	0.002*	0.001***
	(0.001)	(0.001)	(0.000)
Observations	10744	10744	10744
Control Mean	0	0	0
Fixed Effects	Block	Block	Block
Pre-specified	YES	YES	YES

All regressions contain GP-level controls. Standard errors are reported in parentheses *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table S11: Spillovers at Block Level

	Control Wards	Treated Wards	All Wards
	(1) **Project Initiated**	(2) **Project Initiated**	(3) **Project Initiated**
Total Treated Wards	0.001	-0.034***	-0.011
	(0.009)	(0.012)	(0.008)
Stuck Projects Baseline	-0.002	0.005*	0.001
	(0.002)	(0.003)	(0.002)
Observations	1280	649	1929
Sample Mean	.29	.29	.29
Fixed Effects	District	District	District
Cluster SE	Block	Block	Block
Treatment Intensity	1 and Above	1 and Above	1 and Above

This table delineates the impact of block level treatment intensity on project initiation across different types of wards. Column 1 provides results for the control wards, column 2 for the treated wards, and column 3 for all wards together. The sample for this analysis is restricted to all blocks with at least one treated ward. Outcome variable 'Project initiated' measures whether the project was initiated. All regressions contain district fixed effects and block and GP-level controls. Standard errors are clustered at block level and reported in parentheses *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table S12: What Predicts Treatment Success

	(1) WM MoV (Bottom Quintile)	(2) GP Head MoV (Bottom Quintile)	(3) Gender of WM	(4) Education: Literate	(5) Education: Intermediate	(6) Distance to District HQ
Treatment	0.071**	0.066**	0.103***	0.051	0.053*	0.035
	(0.033)	(0.033)	(0.037)	(0.037)	(0.032)	(0.044)
Treatment × WM Reelection	-0.037					
	(0.084)					
Treatment GP Head Reelection		0.013				
		(0.075)				
Treatment × Female WM			-0.089			
			(0.061)			
Treatment × Above Literate WM				0.045		
				(0.062)		
Treatment × Intermediate					0.106	
					(0.090)	
Treatment × Remote GP						0.067
						(0.060)
Observations	1332	1332	1332	1332	1332	1332

Notes: Each column reports results from a separate regression of treatment take-up on the treatment indicator interacted with the heterogeneity variable shown in the column header. The coefficient on *Treatment* gives the effect for the baseline group (WMs above the 20th percentile of MoV; male WMs; less educated WMs; GPs above the 20th percentile of MoV; or wards closer than the median distance to the district HQ). The interaction term shows the differential effect for the subgroup: WMs in the bottom quintile of margin of victory (strong re-election incentives), WMs paired with GP Heads in the bottom quintile of MoV (strong re-election incentives), female WMs, literate WMs, WMs with intermediate degree or above, or wards further than the median distance from the district HQ. Standard errors are clustered at the block level. All specifications include GP-level controls and block fixed effects. * p¡0.10, ** p¡0.05, *** p¡0.01.

Table S13: What Predicts Treatment Take-Up

	(1) WM MoV (Bottom Quintile)	(2) GP Head MoV (Bottom Quintile)	(3) Gender of WM	(4) Education of WM	(5) Distance to District HQ
Treatment	0.383***	0.383***	0.370***	0.396***	0.404***
	(0.026)	(0.030)	(0.072)	(0.026)	(0.033)
Treatment × WM Reelection	0.010				
	(0.063)				
Treatment × Female WM		0.002			
		(0.047)			
Treatment × Literate WM			0.015		
			(0.075)		
Treatment GP Head Reelection				-0.059	
				(0.057)	
Treatment × Remote GP					-0.039
					(0.046)
Observations	1332	1332	1332	1332	1332

Notes: Each column reports results from a separate regression of treatment take-up on the treatment indicator interacted with the heterogeneity variable shown in the column header. The coefficient on *Treatment* gives the effect for the baseline group (WMs above the 20th percentile of MoV; male WMs; less educated WMs; GPs above the 20th percentile of MoV; or wards closer than the median distance to the district HQ). The interaction term shows the differential effect for the subgroup: WMs in the bottom quintile of margin of victory (strong re-election incentives), WMs paired with GP Heads in the bottom quintile of MoV (strong re-election incentives), female WMs, literate WMs, or wards further than the median distance from the district HQ. Standard errors are clustered at the block level. All specifications include GP-level controls and block fixed effects. * p¡0.10, ** p¡0.05, *** p¡0.01.

Table S14: Effects of Treated Neighboring Wards on Reelection

	ITT Effects	
	(1) Contested	(2) Won
Complaint Filing Assistance	0.000	-0.011
	(0.034)	(0.039)
Observations	638	638
Control Mean	.66	.22
Fixed Effects	Block	Block

Table delineates the impact of having a treated neighboring ward on the reelection probability in 2021 local elections for the spillover sample. We restrict our sample to GPs that have only one experimental ward. The first column is whether the WM contested the 2021 GP elections. The second column is whether the WM won the 2021 elections. All regressions contain GP-level controls. All regressions contain GP-level controls. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table S15: Effects of Complaint Filing on Ward Winner

	ITT Effects		**TOT Effects**	
	(1) Age	(2) MoV	(3) Age	(4) MoV
Complaint Filing Assistance	-0.218	-0.003		
	(0.716)	(0.010)		
Complaint Filed			-0.495	-0.009
			(1.725)	(0.023)
Observations	1200	1124	1296	1217
Control Mean	39.06	.19	39.06	.19
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of complaint filing assistance treatment on the characteristics of the winning candidate in the 2021 ward elections. Outcomes are: the age of the winner, their margin of victory. Columns 3-4 present ToT effects. All regressions contain GP-level controls and block FE. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table S16: Effects of Complaint Filing on Ward Elections

	ITT Effects		TOT Effects	
	(1) Candidates	(2) Turnout	(3) Candidates	(4) Turnout
Complaint Filing Assistance	-0.137	-7.980		
	(0.113)	(7.076)		
Complaint Filed			-0.372	-24.329
			(0.272)	(17.176)
Observations	1206	1194	1301	1291
Control Mean	4.63	355.93	4.63	355.93
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of complaint filing assistance treatment on ward elections in the 2021 ward elections. Outcomes are: the average age of candidates contesting elections, the total candidates contesting elections, the total votes polled in elections. Columns 4-6 present ToT effects. All regressions contain GP-level controls and block FE. Standard errors are reported in parentheses $*p < 0.1$, $**p < 0.05$, $***p < 0.01$

Table S17: Effects of Complaint Filing on Likelihood of Running For Higher Posts

	If Ran for Higher Posts			
	(1)	(2)	(3)	(4)
Complaint Filing	0.004	0.004	0.006	0.005
	(0.004)	(0.005)	(0.004)	(0.004)
Observations	1247	1247	1247	1247
Control Mean	0	0	0	0
Fixed Effects	Block	Block	SubDivision	District
Clustered SE	NO	YES	NO	NO
Pre-specified	YES	NO	NO	NO

Table delineates the impact of complaint filing assistance treatment on probability of running for higher posts in 2021 local elections. Each column considers a different regression specification. The first column is our pre-specified sestimating equation. Other columns vary the level of fixed effects and cluster standard errors at the block level where mentioned. All regressions contain GP-level controls. All regressions contain GP-level controls. Standard errors are reported in parentheses $*p < 0.1$, $**p < 0.05$, $***p < 0.01$

Table S18: Effects of Complaint Filing on GP Head Winner

	ITT Effects		TOT Effects	
	(1) Age	(2) MoV	(3) Age	(4) MoV
Complaint Filing Assistance	1.045	-0.008		
	(0.942)	(0.011)		
Complaint Filed			2.477	-0.023
			(1.998)	(0.022)
Observations	771	759	895	882
Control Mean	42.39	.15	42.39	.15
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of complaint filing assistance treatment on the characteristics of the winning candidate in the 2021 GP Head elections. Sample is restricted to all GPs with exactly 1 experimental ward. Outcomes are: the age of the winner, their margin of victory. Columns 3-4 present ToT effects. All regressions contain GP-level controls and block FE. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table S19: Effects of Complaint Filing on GP Head Elections

	ITT Effects		TOT Effects	
	(1) Candidates	(2) Turnout	(3) Candidates	(4) Turnout
Complaint Filing Assistance	0.006	-20.569		
	(0.313)	(77.039)		
Complaint Filed			-0.039	-61.900
			(0.666)	(164.053)
Observations	771	771	895	895
Control Mean	8.49	5223.69	8.49	5223.69
Fixed Effects	Block	Block	Block	Block

Table delineates the impact of complaint filing assistance treatment on ward elections in the 2021 GP Head elections. Sample is restricted to all GPs with exactly 1 experimental ward. Outcomes are: the average age of candidates contesting elections, the total candidates contesting elections, the total votes polled in elections. Columns 4-6 present ToT effects. All regressions contain GP-level controls and block FE. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table S20: Classification of WAS complaints filed by SC Ward Members in the pre-experimental period

Classification	**% of complaints**	**Example**
Direct hold-up	65%	"SC-reserved wards (2,3,5) from 2015–17 not started, but extremely backward wards (4,10) selected in 2017–18"
WAS generic/quality	28%	"In Ward-6, Nal-Jal and Nali Gali work not happening"
Mis-categorized (non-WAS)	7%	"Delay in payment of instalment to Indira Awas beneficiary"

Table analyzes the text of WAS complaints filed by SC WMs in the pre-experimental period and classifies them into 3 categories: direct hold-up, WAS generic/quality and Mis-categorized.

Table S21: Effects of Treated Neighboring Wards on Reelection

	If Reelected			
	(1)	(2)	(3)	(4)
Treated Neighbor	0.002	0.002	-0.009	-0.007
	(0.010)	(0.013)	(0.008)	(0.008)
Observations	10347	10347	10347	10347
Control Mean	.2	.2	.2	.2
Fixed Effects	Block	Block	SubDivision	District
Clustered SE	NO	YES	NO	NO

Table delineates the impact of having a treated neighboring ward on the reelection probability in 2021 local elections. We restrict our sample to GPs that have only one experimental ward. For this analysis, we include all non-experimental wards in a given GP. The first column is our pre-specified estimating equation. Other columns vary the level of fixed effects and cluster standard errors at the block level where mentioned. All regressions contain GP-level controls. All regressions contain GP-level controls. Standard errors are reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table S22: Effects of Complaint Filing on Long Run Water Access at the GP level

	(1) Total Households	(2) Share Households	(3) Share Habitation
Complaint Filing Assistance	16.973	-0.001	-0.007
	(64.007)	(0.022)	(0.033)
Observations	885	885	885
Control Mean	728.25	.31	.43
Fixed Effects	Block	Block	Block

Outcome variables are (i) total number of households in the GP with piped water access, (ii) share of households with piped water access, and (iii) share of habitations with piped water access, all measured using the 2020 round of the Mission Antyodaya survey (accessed via SHRUG). Because the survey is only available at the GP level, we restrict to GPs with a single experimental ward. All regressions contain GP-level controls and block fixed effects. Standard errors are robust to heteroskedasticity and reported in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

V.3 RD Framework

The state of Bihar is divided into 38 districts, which are further divided into 534 blocks and 8400 GPs. Within each block, the selection of GPs to be reserved is carried out in two steps. First, the total number GPs to be reserved for SCs is determined by the share of SC population in a given block.Next, all the GPs in the block are arranged in descending order based on their GP level SC population and top GPs are selected. This reservation rule gives rise to an exogenous SC population cut-off, below which no GP is reserved. Above the cut-off, not all GPs are reserved for SCs, as some are blocked to be reserved for OBCs. In practice, as Figure A10 shows, once we throw away GPs above the cut-off that are blocked, the first stage results in a near 85 percent jump in the probability of reservation. Thus, we have a fuzzy pooled RD with a strong first stage. We also check for manipulation around the cutoff by carrying out McCray test and find that the density is reasonably smooth at the cutoff (see Figure A11).

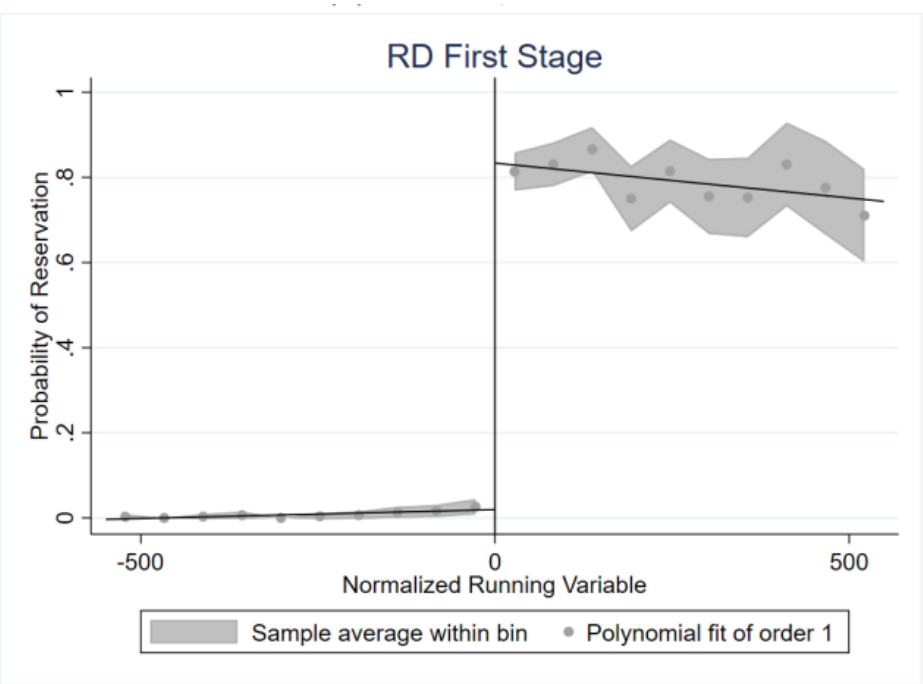
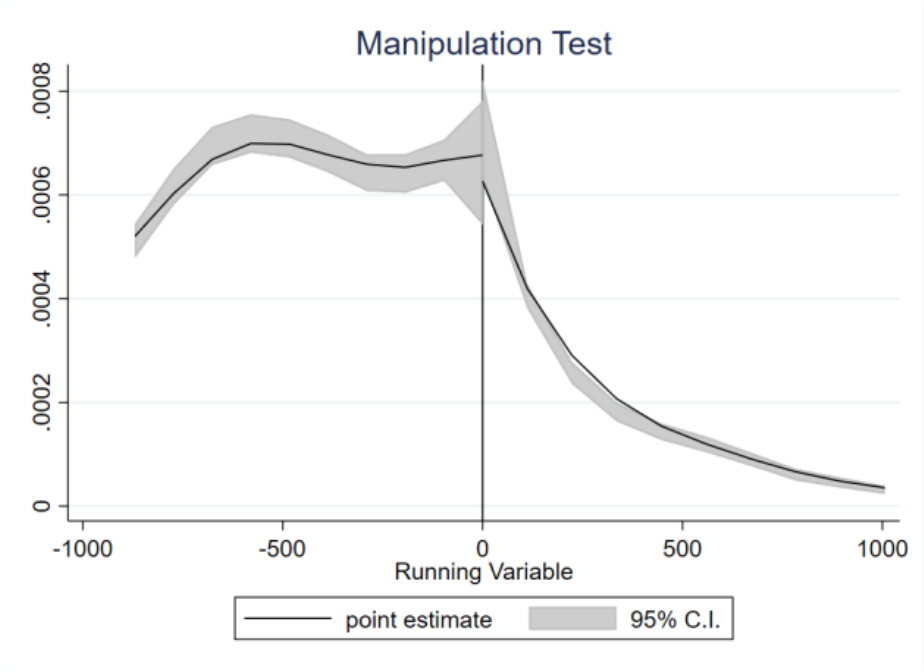


Figure A10: Probability of reservation based on the rank of a GP within a Block

Our running variable is the difference in SC population of a GP and the mean of the SC Population of the last Panchayat to not be reserved and the first GP to be reserved. Thus,



(a) Mccrary Test

Figure A11: Mccrary Test for Manipulation

for GP i i in Block j:

$$Running_{ij} = SCPop_{ij} - \left(\frac{SCPop_{1j} + SCPop_{0j}}{2} \right)$$

where SCPop refers to SC Population and 0 and 1 subscripts stand for the the last GP to not be reserved and the first GP to be reserved, respectively.

Under the assumption of continuity of all other GP characteristics, the fuzzy RD estimator calculates the local average treatment effect (LATE) of having an SC representative with population equal to the cutoff population for a block. We use the following two-stage instrumental variables specification:

$$Reserved_{igb} = \gamma_0 + \gamma_1 1(SCPop_{gb} > +T_b) + \gamma_2(SCPop_{gb} - T_b) + \gamma_3(SCPop_{gb} - T_b) * 1(SCPop_{gb} >= T_b) + \delta * X_g + \zeta * W_i + \psi + \eta_{igb} \quad (3)$$

$$Y_{igb} = \beta_0 + \beta_1 Reserved_{igb} + \beta_2(SCPop_{gb} - T_b) + \beta_3(SCPop_{gb} - T_b) * 1(SCPop_{gb} >= T_b) + \omega * X_g + \theta * W_i + \psi + \epsilon_{igb} \quad (4)$$