Extractive States and Layered Conflict: The Case of Jharkhand's Electricity Sector

Working Paper
Mapping Power Project

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June 2017

Project Overview

This working paper was written as part of a collaborative research project, Mapping Power, which aims to provide a state-level analysis of India's electricity governance. The project is coordinated by Sunila S. Kale (University of Washington, Seattle), Navroz K. Dubash (Centre for Policy Research), and Ranjit Bharvirkar (Regulatory Assistance Project), and carried out by a team of 12 researchers. The research explores the views and perspectives of various stakeholders and organizations in each state and how they will be affected by new initiatives in India's electricity sector, as well as the forces and constraints that shape decision-making in electricity governance. Using data from qualitative interviews with key informants buttressed by quantitative data, the research team covered 15 states as part of the analysis: Andhra Pradesh, Bihar, Delhi, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, and West Bengal. You can learn more about Mapping Power as well as access other working papers in the series here: http://www.cprindia.org/projects/mapping-power.

Acknowledgements

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Preparation of this paper was supported by the Regulatory Assistance Project. The paper was informed, in part, by 25 interviews with a broad range of electricity sector stakeholders that were conducted on a not-for-attribution basis. The author wishes to thank the interviewees who have generously took some of their valuable time to share their perspectives, as well as S.K.F. Kujur, Ashok Bihany, Rudra Biswas, and officials from the JSEB/JBVNL and JSERC.

Suggested Citation

Rohit Chandra, "Extractive States and Layered Conflict: The Case of Jharkhand's Electricity Sector", Working Paper, Mapping Power Project (Centre for Policy Research and Regulatory Assistance Project, 2017).

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Abstract

Despite its considerable resource endowment, and a relatively "clean slate" during the formation of the state, Jharkhand has severely underdelivered on most aspects of its electricity mandate. It is hard to blame a beleaguered Jharkhand State Electricity Board (JSEB) exclusively for these problems; the weak relative bargaining power of the state vis-a-vis central actors (particularly Central Public Sector Undertakings, or PSUs), and the short-term time horizons of most politicians are just as much responsible for this underdelivery of public services. A large amount of the financial agency traditionally associated with control of the state has been taken away from the Jharkhand electricity sector because of these disputes. Ultimately, Jharkhand's electricity system has still not been able to extricate itself from the multiple disputes both within and outside the state. Until this happens, it is hard to see the electricity system improving considerably.

Introduction

When Jharkhand was first formed in 2001, there was a renewed sense of optimism in the state. A unified, persistent social movement led by various, primarily tribal, groups in southern Bihar had finally succeeded in its demand for a political and administrative entity separate from Bihar.[1] Given the relative developmental vacuum and divisive caste politics of Bihar, both the political class and the bureaucratic elites of Jharkhand were hopeful that this separation would result in a critical juncture, a decisive break from the past. One of the areas where there was most room for optimism was electricity and electrification. In 2001, the electrification gap between Jharkhand and Bihar was pronounced; the population density of north Bihar, the domination of Bihari politics by upper-caste groups since independence, and the complexity of the terrain in south Bihar had resulted in systematic deprivation of electricity to non-industrial Jharkhand. After 2001, Jharkhand could presumably make more claims on the plentiful natural resources within its borders to correct this historical imbalance. From a power planner's perspective, Jharkhand had an ideal confluence of geological circumstance; plentiful coal, abundant rivers and waterways, and relatively large expanses of unsettled land. In fact, this had been one of the key reasons an earlier generation of industrial capacity had come up in the state: steel plants in Jamshedpur (owned by Tata Iron and Steel, or TISCO) and Bokaro (owed by the Steel Authority of India, or SAIL), clusters of manufacturing between Ranchi and Dhanbad, power production in the Damodar Valley.

This optimism, however, was short-lived. Within a few years, it became exceedingly clear that Jharkhand was not going to experience the smooth transition that was expected. Protracted disputes with the Bihar government over the administrative handover of files from the Bihar State Electricity Board (BSEB) to the JSEB, as well as the transfer of officers[2] [3] and ownership of state assets (such as Tenughat Vidyut Nigam Limited, or TVNL)[4] prevented the electricity bureaucracy from settling into a steady state. But perhaps more importantly, the political climate within the state fractured much quicker than imagined; the unity displayed during the Jharkhand movement quickly dissolved into more localized identity-based (tribal and non-tribal) rivalries.[5] This created an

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[1] In 2011, 26.2 percent of the Jharkhand population was officially Scheduled Tribes, as compared to 1.3 percent in Bihar. More importantly, seven of 24 districts in Jharkhand have >50 percent tribal population, making them electorally much more significant. See: http://tribal.nic.in/WriteReadData/userfiles/file/Demographic.pdf.

[2] "JSEB Chairman Asks for Transfer of BSEB Employees," *The Times of India*, 19 May 2001, http://timesofindia.indiatimes.com/city/patna/JSEB-chairman-asks-for-transfer-of-BSEB-employees/articleshow/610763123.cms.

[3] "Jharkhand HC Summons JSEB, BSEB Chairmen," *The Times of India*, 22 February 2003, http://timesofindia.indiatimes.com/city/patna/Jharkhand-HC-summons-JSEB-BSEB-chairmen/articleshow/38209023.cms.

[4] "Tenughat Vidyut Nigam Goes to Jharkhand," *The Times of India*, 5 October 2002, http://timesofindia.indiatimes.com/city/patna/Tenughat-Vidyut-Nigam-goes-to-Jharkhand/articleshow/24205957.cms.

[5] For a good explanation of why, read

unstable ecosystem for long-term planning. In the last 15 years, Jharkhand has had ten chief ministers and two instances of president's rule (in which the governor temporarily rules the state). On average, chief ministers have been in power for 576 days, less than two years. And whichever party or coalition came into power would often look to extract quick rents from the power system rather than make long-term investments to improve the system. The continued dominance of short-term political goals has taken its toll on the state's power system: Jharkhand still has one of the worst rural electrification rates in the country (39 percent)[6], its discom is ranked among the worst financial performers nationally[7], and the state has been unable to resolve a spate of legacy issues with PSUs (it only unbundled its SEB in late 2014).

However, the big counterbalance to this political manipulation of the system was the rise of the electricity regulatory system. After the Electricity Act of 2003, Jharkhand mobilized its own regulatory commission, the Jharkhand State Electricity Regulatory Commission (JSERC), within the next year. Quickly, the JSERC became the (relatively) apolitical, progressive voice for electrification in a political environment where the political salience of electricity was questionable, especially amidst the myriad other identity and developmental issues that have historically dominated the state's politics. Over time, the effectiveness and authority of the JSERC has been slowly eroded, but it still performs many critical functions which rein in excessive politicization of the "JSEB++" (collectively, the four companies the former JSEB was split into; see footnote).[8]

Given the state's political origins, it is not surprising that Jharkhand politics is known for its mobilisation around tribal issues. Since almost a third of the electoral constituencies in the state have tribal majorities, issues of tribal land rights, access to government schools, universities, and jobs, corporate ingress by out-of-state firms, etc., tend to dominate headlines. Many social scientists have noted how the rapid formation of the Jharkhand state from its Bihari remnants has consistently alienated the median tribal voter in the state.[9] A consequence of this disengagement has been the deprioritization of developmental issues, like electricity, when it comes to political campaigning. Not surprisingly, large capital projects like those in electricity have become ripe for patronage and rent-seeking.

As a young state, Jharkhand has been discovering its place in the federal politics of electricity, where it has control over distribution, some transmission, and little generation. The legacies of the state's interactions with the Damodar Valley Corporation (DVC), and various other Central PSUs has left multiple layers of inherited conflict from which the state is still busy extricating itself. These problems dominate the administrative space, and understanding them in some detail is important how the state's agency, particularly in the financial domain, has eroded over time.

Corbridge, Stuart. "The Ideology of Tribal Economy and Society: Politics in Jharkhand, c. 1950-80." In *Jharkhand: Environment, Development, Ethnicity.* Edited by Corbridge, Stuart, Sarah Jewitt, and Sanjay Kumar. Oxford University Press, 2004. Print.

[6] According to the "eHabitation Details" table at http://garv.gov.in/garv2/dashboard. Accessed January 6, 2017.

[7] "State Distribution Utilities: Fourth Annual Integrated Ratings," Power Finance Corporation, http://www.pfcindia.com/writereaddata/userfiles/file/goi/4th_rating_booklet_Final_20-6-16.pdf.

[8] After unbundling in late 2014, the JSEB was split into a holding company, a genco, a transco, and a discom. Practically, though, these companies are all in the same building, they share board members, and personnel are regularly transferred between different positions in the companies. Consequently, it is not a stretch of the imagination to consider them as practically unified, although legally separate entities. For the sake of simplicity, I will refer to them collectively in this paper as JSEB++, the successor institutions to the JSEB.

[9] See, for example,
A. Shah, A. (2007), "'Keeping the state away': democracy, politics, and the state in India's Jharkhand," Journal of the Royal Anthropological Institute, 13: 129–145. doi:10.1111/j.1467-9655.2007.00417.x;and
Stuart Corbridge, "The continuing struggle for India's Jharkhand: democracy, decentralisation and the politics of names and numbers," Commonwealth & Comparative Politics 40.3 (2002): 55-71.

I. Regulatory Regimes

The most consistent way of characterizing the different periods of Jharkhand's electricity scenario is to divide it among the regulatory regimes under various chairmen: S.K.F. Kujur (2003–2008), Mukhtiar Singh (2008–2012), and N.N. Tiwari (2014–present). Political turnover was much more frequent (see Figure 1), so the JSERC chairmen ended up inhabiting various roles to anchor the sector: consumer advocate, JSEB watchdog, grievance redresser, political and bureaucratic coordinator, and more. Establishing the nature of their tenures will give a broader overview of how the regulatory apparatus has evolved within the state.

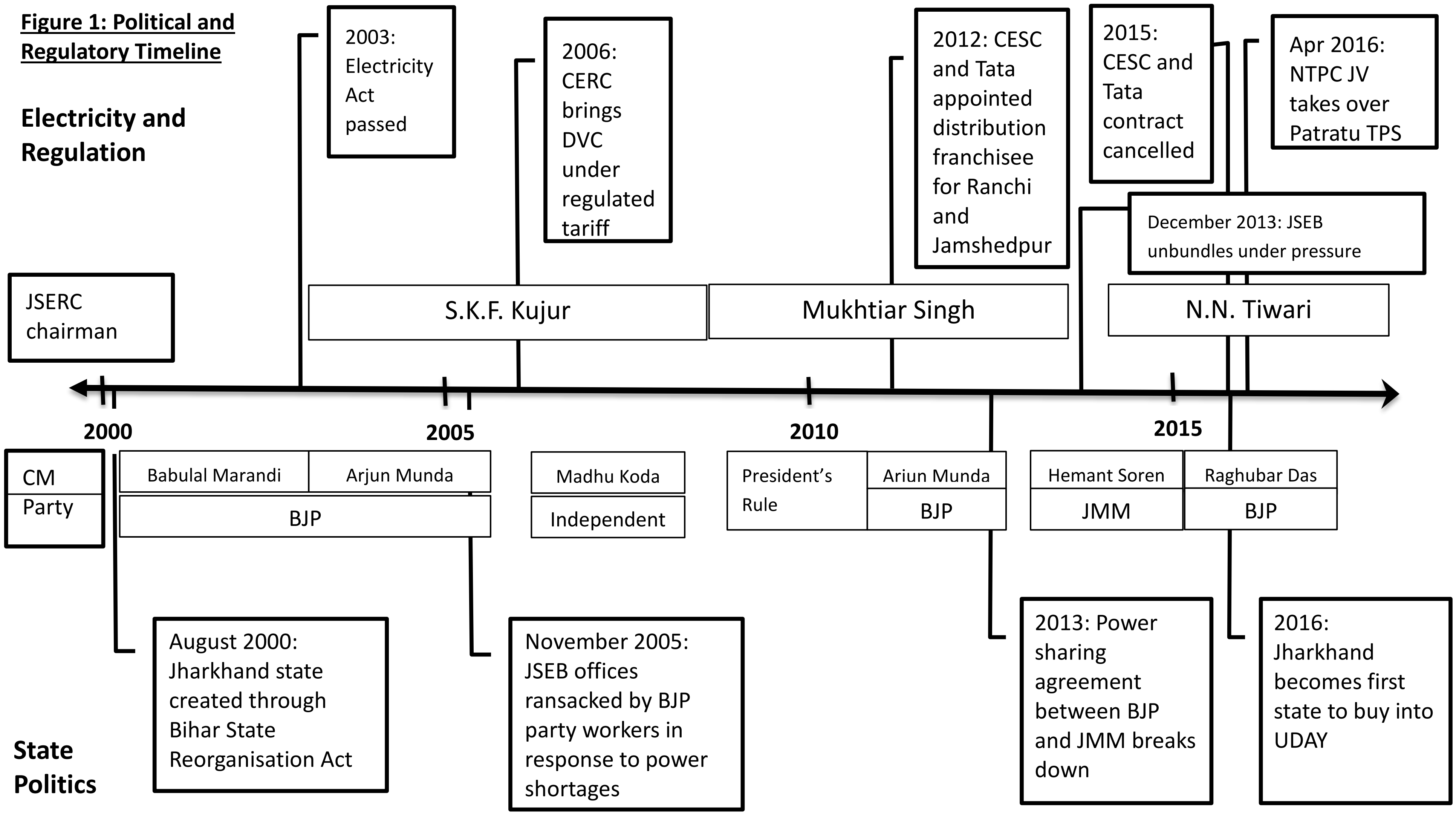
Kujur was a career IAS officer. He was of tribal, Christian origin, educated entirely in Jharkhand before completing his higher education outside of the state. Most importantly, his last posting was as principal accountant general of Bihar, where he had played an important role in the financial and administrative bifurcation of Jharkhand from Bihar. He was trusted by the political establishment in Jharkhand at the time, which is why he was appointed member (finance) and, shortly thereafter, chairman of the JSERC. Almost everyone interviewed for this paper confirmed that Kujur was by far the most intelligent, diligent person who had ever been part of the Jharkhand electricity regulatory bureaucracy. He knew that he had a short window of opportunity to discipline a still nascent electricity bureaucracy and establish the regulator's authority. Even in the mid-2000s, the state was dealing with the legacies of bifurcation, which meant that it did not realise how drastically the Electricity Act upended existing relations in the sector. Arbitrary tariff determination, subsidizing inefficient operation, and slow operational progress on targets were all matters on which the regulator could discipline the JSEB. And Kujur did just that. On the suggestion of A.K. Basu (second chairman of the Central Electricity Regulatory Commission, or CERC) , he spent the first six months of his tenure observing other state ERCs at work and then deployed this knowledge in Jharkhand.

Between his knowledge of law and finance, and his trust among the political class (particularly the energy minister, at the time Lalchand Mahto[10]), Kujur was able to establish the JSERC as a legitimate entity. And using the JSERC as a platform, he blasted the JSEB by cutting their tariffs massively. He posted all the tariff proceedings online so that they were publicly accessible. He pushed for JSEB audits, which had never happened in the past. At one point, the JSEB was so flustered by his onslaught that they wrote a letter to the Ministry of Power asking that they be "exempted from the terms of the Electricity Act, 2003," no doubt an expression of their relative administrative and legal naivete at the time. But more importantly, Kujur was proactively trying to involve himself in all aspects of the JSEB's activities. He tried to facilitate a loan to the decrepit Patratu Thermal Power Station (PTPS) from the World Bank (discussed later). He expressed his opinion on the ideal location of new transmission corridors. He gave Jamshedpur Utilities and Services Company (JUSCO) a parallel license in Seraikela Kharsawan (discussed later). He introduced the hiring of outside consultants (first TERI and then PWC) to assess tariff orders. He established a State Advisory Committee (SAC) with a small number of smart consumer advocates. He ensured that the JSERC had financial independence from the government and a working office space. He testified in court against the JSEB (discussed below). And much more.[11] In other words, as an assertive regulator dealing with an inexperienced, young state apparatus and JSEB, he was able to shape many things which may have been outside the JSERC's formal jurisdiction. Most of the older Jharkhand electricity bureaucracy admit that he was the best thing to ever happen to the sector; his regulatory activism was the shot of adrenaline that re-energised a decaying system.

[10] Given the amount of churn, contestation, and conflict that existed between various ministers and their administrations in early Jharkhand governments (see http://indiatoday.intoday.in/story/turf-war-between-ministers-bureaucrats-bothers-jharkhand-cm-babulal-marandi/1/232097.html), this was definitely an anomaly.

[11] S.K.F. Kujur, personal communication, 19 July 2016.

Figure 1: Political and Regulatory Timeline



The timeline excludes the following chief ministers because of visual constraints: Shibu Soren (JMM) 2 March 2005–12 March 2005, Shibu Soren (JMM) 27 August 2008–18 January 2009 (bookended by president's rule), Shibu Soren (JMM) 30 December 2009–31 May 2010, President's Rule 18 January 2013–12 July 2013

Mukhtiar Singh, a Bihar/Jharkhand cadre IAS officer, succeeded Kujur in July 2008 during what would become the most unstable period in Jharkhand's short political history. Within six months of his appointment, the state would go into a year of president's rule. Later, in 2010, this would happen again for three months. Singh came with strong political roots in Bihar. Although he was from Haryana, he had a relatively successful stint in the Bihar IAS, where he served as district collector of Patna, familiarizing himself with all the major political actors in the state. In this way, he was like Kujur; he could act as both a political and bureaucratic operator to get things done.[12] But the political class was beginning to understand the power of the JSERC and importance of having a sympathetic, pliant regulator; while Singh was headstrong, political instability and other delays ensured that no other members were appointed to the JSERC for a long time. He served half of his tenure without any other members. One of his main struggles was to convince licensees to file tariff petitions in a timely manner. The JSEB, DVC, and other licensees had begun to figure out that if they did not file a tariff order, they could avoid engaging with the regulator and possible delegitimise it. Many of these organisations were still reluctant to concede that tariff determination was not a process which they controlled anymore. Not to be outdone, Singh passed a suo motu tariff order for the DVC and JSEB without a petition or any public hearings. This was a wake-up call for many of the other licensees who were trying to bypass the JSERC. After this petition, submission improved slowly.

Like Kujur, Singh was extremely outspoken against the JSEB. He would excoriate them for their excessive losses and inefficiencies in public hearings and SAC meetings. He continued a strong tradition of consumer advocacy through the JSERC by limiting how much the JSEB could financially recover through tariffs given their >40 percent AT&C losses. As much as he could, he tried to force the indolent JSEB to send typically office-bound engineers into the field more regularly. With the appointment of a member (rechnical), T. Munikrishnaiah, in June 2010, he also started trying to encourage energy audits, more systematic transformer maintenance, and other technical fixes.[13]

After Singh's tenure ended, the JSERC was left without a chairman for a few years, but it did have a member (technical) and member (finance) who continued their statutory obligations. However, without a bureaucratically and politically embedded chairman, anything outside of the regular responsibilities was extremely difficult to pursue. Despite this, Kujur and Singh had mainstreamed the JSERC into the sector; no licensee or generator could afford to ignore the institution anymore. As one former JSERC official put it, "the JSERC were treated like *maha babus*; once we were appointed it was hard to put very much pressure on us. We could pass tariff orders as frequently as we liked.[14]"

Justice N N Tiwari was appointed as chairman of the JSERC by the new BJP government which came into power in 2014.[15] He was a surprising choice. While the JSERC is a quasi-judicial body in theory, technical knowledge and bureaucratic/political context have often been more important for all the work that the chairman does outside of his statutory responsibilities. Judges tend to be socially and politically isolated, a mould that Tiwari conformed to. As one lawyer at the Ranchi High Court familiar with his style commented, "Tiwari is quite a legalistic, by-the-books chairman. He is not capable of the back-room conversations, the off-the-record negotiations, the assertiveness that Kujur and Mukhtiar Singh were

[12] Mukhtiar Singh, personal communication, 19 July 2016.
[13] Former JSERC personnel. 9 August 2016.
[14] Former JSERC member, personal communication. 17 July 2016.
[15] Justice Tiwari was the only chairman of the JSERC the author was unable to interview. He typically does not grant interviews, even to the media.

known for."[16] While no one doubts his honesty or integrity, they do see him as someone that avoids confrontation and wants to please all parties. This seems to be a very intentional choice by this government to choose a regulator who would not be averse to maintaining the status quo, rather than constantly chiding the state for its inefficiencies.

Despite this situation, one of the initiatives Tiwari has been appreciated for his expansion of existing customer outreach and education programs. He established a rotating monthly meeting in every sub-station circle where the distribution company, in concert with the regulators, would hold a public workshop to both educate electricity consumers of their rights, and also get a better sense of grievances. In this regard, Tiwari has not completely diminished the consumer advocacy function which the JSERC inhabits. Consequently, the JSEB's entreaties for higher tariffs have been consistently rejected because of their inability to reduce their losses.

Looking at this sequence, the first four to five years were a relative honeymoon period, where the JSERC could establish its authority without major political blowback. Kujur's initial insistence on transparency and accountability rattled many feathers, especially amongst licensees and the power sector bureaucracy who were not used to public scrutiny. It resulted in almost immediate legal challenges to most of his orders.[17] But it also established the authority of the JSERC and allowed it to grow in the absence of sanctioned opposition by the political class. Consumer advocates and media began to see the JSERC as a potential ally rather than yet another government department which needed to be cajoled and lobbied.[18] Aggrieved consumers took the time to write long, detailed complaint letters to the JSERC with realistic hopes that their complaints would be read and acted upon.

But once the JSEB and other licensees became sufficiently knowledgeable about the regulatory system they found ways to gradually undermine it. And the political cover which had been afforded to Kujur was no longer available. This is evident particularly from the Mukhtiar Singh period onwards when licensees and the JSEB++ began disengaging from the regulatory process. Following a death by a thousand cuts strategy, the JSERC was undermined in myriad ways: It was not allocated office space anywhere near the administrative heart of Ranchi, making it more difficult to gain access to important administrative actors, legal challenges to JSERC rulings were perpetually postponed to delay judgement on important cases[19], data and audit requests were often delayed and often intentionally falsified. It is unlikely that such a concerted effort at undermining a statutory regulator would be possible without some measure of political authorization from state leaders. And the traditional punitive measure for such non-compliance, financial penalties by the JSERC, were also effectively nullified over time as the financial situation of the JSEB++ deteriorated.[20]

A key reason for creating state-level electricity regulators was to move the locus of decision-making away from courts towards a more specialized entity which could better consider the technical and financial issues in the sector. Operationally, however, the JSERC seems to be moving away from system-

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[16] Senior lawyer in Ranchi High Court, personal communication, 22 July 2016.

[17] The details of these challenges are in the archived first annual report of JSERC, available at https://web.archive.org/web/20060503065152/http://jserc.org/annualreport.html

[18] "More Power Players for Brighter Days," *The Telegraph,* 2 Jan 2006, https://www.telegraphindia.com/1060102/asp/ranchi/story_5669260.asp.

[19] A look at the last few years of daily orders on the JSERC website makes clear how many instances of continuations (mainly due to counsel being unavailable), institutional non-response, and forum shopping (particularly between the JSERC and APTEL) have occurred.

[20] The size of JSERC's penalties was nothing in comparison to the crushing interest payments and generator dues that the JSEB++ was facing.

wide considerations towards more judicially pedantic issues. Looking through cases and orders from the last few years, the JSERC has increasingly become a site of financial dispute resolution (primarily the JSEB++ vs. private parties), without focusing as much on operational issues and improvement, which were paramount in the early years. If system performance had improved in the last decade, this transition would be warranted, but even now AT&C losses are greater than 35 percent. The JSERC has been effectively muscled away from being too assertive on operational issues. To understand why, it is important to get a sense of how electricity enters political life in Jharkhand.

II. Politics and Political Salience of Electricity

Suppose there is a spectrum of Indian state governments with two extremes (or ideal types): (a) governments which have stable coalitions and long enough time horizons to value infrastructural development (labelled as accumulative), and (b) governments which have rapidly shifting coalitions and short time horizons, and hence undervalue infrastructural development (labelled as extractive). States where extractive governments have dominated (.eg., Jharkhand, Bihar, Uttar Pradesh, Assam) are severely constrained by their short time horizons. Given their uncertain political future, politicians look to collect rents from state institutions, rather than develop them. Their method of bureaucratic incentivization is punitive, rather than environment-creating. Historically, political rhetoric tends to be populist rather than developmental. And because domestic capital markets have not generally treated them favourably, these governments are generally much less concerned about preserving markets in areas where short-term rents are available.

States where accumulative governments have dominated (e.g., Gujarat, Maharashtra, Karnataka), on the other hand, have gradually convinced their political institutions to eschew short-term rent seeking for long-term gains. Developmental rhetoric may not dominate, but it has played a role in legitimising leaders and parties. Their track record makes it easier for them to attract new investment capital from both state-owned and private financial institutions. The general aim is to grow the pie and get a larger slice of it, rather than fighting over an existing small pie. Consequently, these states have greater incentives to preserve markets rather than undermine them. And even if politicians are seeking rents, they are targeting larger fish: infrastructure contract kickbacks, preferential finance from state-owned lenders, mutually beneficial relationships with reputed private contractors. Post-liberalization, there has been pressure on most Indian states to gradually transition from the extractive to the accumulative mode. In the process of doing so, the locus of rent-seeking is shifting away from state institutions towards the private sector. It is very clear from the narrative around electricity so far that Jharkhand governments have very much been rooted in the extractive mode.

As mentioned earlier, political instability in Jharkhand has been a constant threat to its ability to make long-term plans across sectors. This is a problem which is common across many states in India. What is it specifically that political instability does to institutions like the JSEB++ (and the wider bureaucracy)? First and foremost, it causes procurement paralysis. Bureaucratic risk aversion[21] to sign on major orders means that for any large tender or purchase order needed political authorization. Given the continual near bankruptcy of the JSEB++, inventories were consistently low, which meant that new transformers, substations, transmission lines, meters etc. were all conditional on political approval. Without a consistent or stable energy minister, much of the required procurement simply did not happen (except for the occasional approval by the governor during president's rule). The most productive periods for

[21] Primarily in fear of punishment transfers and potential investigations into financial impropriety by the Central Vigilance Commission (CVC), Comptroller and Auditor General (CAG), or Central Bureau of Investigation (CBI).

the JSEB++ where generally when the Chief Minister kept the energy portfolio, preventing undue rent-seeking in the tendering and procurement process.

The 2014 Jharkhand election was the first time that one party managed to claim an outright majority without some form of power sharing; the present government is the first in the state's history where one CM will likely see out an entire term. In such an uncertain political environment, it is no surprise that the extractive mode has dominated Jharkhand governments. There are a few prominent examples which illustrate this.

Patratu Thermal Power Station (PTPS) is one of Jharkhand's oldest power plants. With a nameplate capacity of 840 MW, it was commissioned over the period in the early 1970s with Soviet assistance. As with most power plants, its efficiency has declined considerably over time, and currently only two out of the ten units are in operation with a plant load factor (PLF) of about 15 percent. For a state which procures more than 70 percent of the state power requirement from out of state, PTPS was a valuable in the early 2000s because it provided cheap in-state generation. However, over the 2000s, as PLFs fell and maintenance costs rose, the economic logic behind keeping the plant alive slowly disappeared.[22] Any reasonable long-term economic analysis would have shut the plant down by the mid-2000s and tried to refurbish it, rather than continuing using the existing setup. Multiple regulators, JSEB chairmen, and the Central Electricity Authority) CEA tried to push for this[23] [24], but were unsuccessful because of political support of JSEB's excessively optimistic modernization and revenue targets. PTPS renovation and modernization (R&M) expenditures have been a regular item on the Energy Ministry annual plan, sometimes on the order of Rs. 200 crores per year.[25] Despite this, PTPS plant efficiencies have not changed significantly in the last ten years; in fact, most electricity insiders believe that the R&M funds have gone primarily into employment costs for workers, making PTPS renovation essentially a patronage strategy. The estimated Rs. 1,500-2,000 crores used for PTPS renovation over a decade could easily have been used to build a new 300 MW power plant which would have provided the state cheap power for decades. But not surprisingly, the various multi-year R&M budgets were passed by different parties in power, each eager to milk the dying asset for all it was worth. After years of sputtering and groaning, PTPS was finally handed to NTPC in April 2015, further eroding the state's control over its generation assets.[26] This patronage strategy was much more viable in the Kujur and early Singh periods, when the JSEB had not been audited properly. As audits of the JSEB become more frequent, such obvious forms of patronage and financial mismanagement became more difficult.

Another promising initiative stifled by political interference was the hiring of distribution franchisees.[27] Like most government agencies in India, the JSEB is naturally possessive by default; giving up operational responsibilities to a private contractor was anathema, financial reasoning notwithstanding. However, by

[22] JSEB, "MYT Petition of Generation Function for the first Control Period FY 2012-2013 to 2015-2016," Ranchi, 2012, http://archive.jharkhand.gov.in/Notice/Notice/73/N2012000035.pdf.

[23] In fact, in the mid-2000s, Jharkhand was on the verge of receiving World Bank support to refurbish the plant. One of the conditions of the loan, however, was that the World Bank would undertake the expenditure and monitor it closely. The Jharkhand government at the time refused, saying that it would only take the assistance if it was the agency responsible for expenditure. Not surprisingly, the arrangement fell apart. (Interview with S.K.F. Kujur)

[24] JSERC, "Sections 6 - Directions to the JSEB," Tariff Order 2003-2004 For JSEB, Ranchi, 2003, http://web.archive.org/web/20080720142730/http://www.jserc.org/pdf/tarriff_period/tarriff_03-04/tarifforder-Section6.pdf.

[25] Department of Energy,. "Detailed Power Sector Analysis of Jharkhand," Ranchi, 2012, http://archive.jharkhand.gov.in/New_Depts/energ/pdf/Detailed%20Power%20Sector%20Analysis%20of%20Jharkhand.pdf.

[26] "NTPC JV Takes over Patratu Power Plant," *The Hindu*, 5 April 2016, http://www.thehindu.com/todays-paper/tp-national/tp-otherstates/ntpc-jv-takes-over-patratu-power-plant/article8434484.ece.

[27] While distribution franchises have their own sets of problems, they are extremely effective at reducing commercial losses, which in Jharkhand are still around 40%.

mid-2012, the Arjun Munda-led government had managed to overcome political and institutional opposition to bid out distribution franchisee contracts. In late 2012, during the Singh period, the Calcutta Electric Supply Corporation (CESC) in Ranchi and Tata Power in Jamshedpur were contractually appointed as distribution franchisees.[28] Jamshedpur was home ground for the Tatas, so their job was a bit easier since the group had already been involved in building the infrastructure of the city. But CESC had to invest considerably more resources in the first year after being appointed as franchisee, conducting a survey of the entire city and its load patterns, putting together an inventory of existing distribution assets, and scouting locations for new assets, ATPs, consumer grievance centres and more.

Unfortunately, within two months of the franchisee-appointment decision, Munda was ousted from the coalition leadership, followed by six months of president's rule, a year and a half of Hemant Soren leadership, and then a new BJP majority government in late 2014. Naturally, all the existing arrangements between the appointed franchisees and political parties needed to be renegotiated after the election. And when the franchisees refused to meet the new government's terms, the JSEB++ proceeded to cancel the franchise contract in May 2015, almost two and a half years after the initial decision. As one former regulator put it, "It seems that the state was not really committed to these reforms in the first place. The unions were not the main reason these were rolled back; the graft potential is so high in distribution that taking on distribution reforms takes serious will.[29]" Naturally, there has been legal fallout from this cancellation, and the relatively arbitrary cancellation of the contract will likely cause JSEB++ dearly.[30]

Why are politicians able to assert themselves over these institutions with such impunity? Part of the problem lies in the fact that the political salience of electricity is still relatively low compared to other factors. One consistent refrain in most of my interviews with Jharkhand electricity personnel was that while politicians may make claims about giving electricity, it is never a promise which is taken seriously, particularly in rural Jharkhand. As one regulatory official put it, "[On electricity], the government has zero credibility to deliver on its promises." As a state where only 24 percent of households had electricity available in 2001[31] increasing to 46 percent in 2011 (see Table 1)[32], many other factors loom much larger in state politics: identity and self-respect, land and forest rights, food and water availability, access to basic healthcare services, and road penetration, to name a few. Electricity becomes far more relevant in urban settings, where an informal arrangement with your meter reader or a local official often pays greater dividends than engaging with the political process.

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[28] "Jharkhand State Electricity Board signs pact with CESC, Tata Power=," *The Times of India*, 6 December 2012, http://timesofindia.indiatimes.com/city/ranchi/Jharkhand-State-Electricity-Board-signs-pact-with-CESC-Tata-Power/articleshow/17500542.cms.

[29] Former regulatory official, personal communication, 17 July 2016.

[30] The details of the High Court ruling in the case are available at https://indiankanoon.org/doc/52529192/ . In summary, it would seem that CESC has managed to quash the distribution franchise termination agreement by JSEB++, but the matter has been appealed to the Supreme Court.

[31] Census of India, 2001, "H-12 Distribution of Households by Source and Location of Drinking Water and Availability of Electricity and Latrine."

[32] Census of India, 2011, "Households by Main Source of Lighting," http://www.censusindia.gov.in/2011census/Hlo-series/Hl-data/DDW-HH2507-0000.xls

Table 1: Share of Households by Source of Lighting (Census 2011)

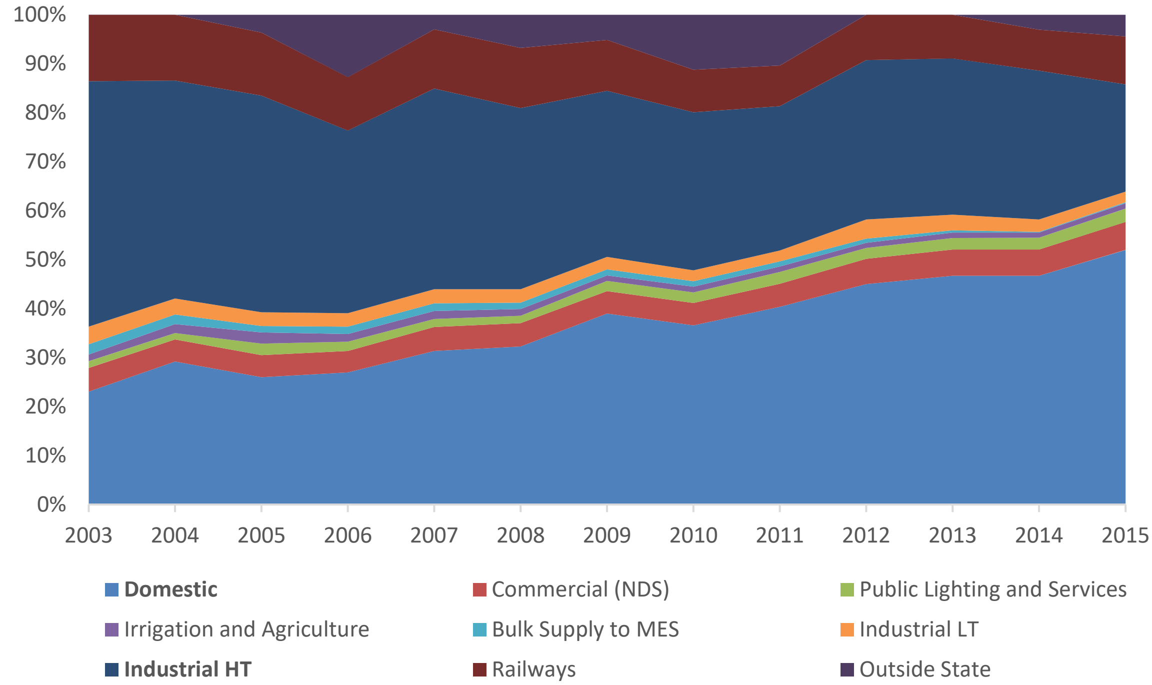
		Electricity	Kerosene	Solar	Other Oil	Any Other	No Lighting
All India	Total	67.25%	31.43%	0.44%	0.20%	0.20%	0.47%
	Rural	55.31%	43.15%	0.55%	0.24%	0.22%	0.54%
	Urban	92.68%	6.48%	0.22%	0.12%	0.17%	0.34%
Jharkhand	Total	**45.78%**	53.13%	0.73%	0.22%	0.09%	0.06%
	Rural	**32.31%**	66.44%	0.89%	0.24%	0.08%	0.04%
	Urban	**87.98%**	11.42%	0.21%	0.16%	0.11%	0.12%

In fact, middle-class activism in urban areas for reliable electricity supply has been far more effective than any kind of rural mobilization in Jharkhand. The most well-known case of this was in the mid-2000s when a couple of judges, annoyed by regular power cuts at the courts, took suo motu action against the JSEB and summoned the chairman, member (technical), and energy secretary to respond for the erratic power supply in Ranchi.[33] Although not reported publicly, it seems that the JSEB was selling some of the power meant for Ranchi to other, higher-paying consumers in the short-term market to shore up their finances. Kujur testified as witness in this case against the JSEB. Ultimately, this case led to almost 150 MW of extra power being allocated to the city, which improved reliability considerably. Of the four largest cities in Jharkhand, quality of service and frequency of power cuts has certainly decreased in Ranchi, Jamshedpur, and Bokaro. By comparison, however, Dhanbad still remains problematic because it is in the DVC service area.

This differentiation between customers was apparent at the SAC meeting in August 2016, where the few outspoken consumer advocates were representatives of small industry associations rather than citizens' consumer groups. Industry as an electricity consumer has historically had a privileged position in Jharkhand (see Figure 2). As a large, well-organized consumer group, industrial demand in Jharkhand has always been high because of the previously mentioned industrial clusters in Dhanbad, Bokaro, Jamshedpur, and Ranchi. These groups were also the primary source of revenue for the JSEB, since they paid higher tariffs and were less likely to receive informal political exemptions from payment (as agricultural consumers often do). But even among industrial consumers, there seems to have developed a clear differentiation; large industrial consumers such as Tata, SAIL, Heavy Engineering Corporation (HEC), etc. have more financial leverage over the JSEB and direct political access, but smaller industrial consumers do not. Consequently, the most vocal objections in the SAC meeting came from representatives of flour mills (Dhanbad), small metal works (Deoghar), and ancillary parts providers to Tata (Adityapur).

[33] Mukherjee, Chandrajit, "Courts lash at JSEB on Ranchi power cut," *The Telegraph* (Ranchi edition), 14 May 2005, http://www.telegraphindia.com/1050514/asp/ranchi/story_4737912.asp.

Figure 2: Jharkhand Load Profile 2003-2015
(collated from JSERC tariff orders)



Through these examples what is clear is that consumer groups have dealt with the extractive mode of Jharkhand politics in different ways. Middle class and urban consumers often have had the luxury of powerful state institutions (like the courts) acting on their behalf to discipline the JSEB++ and thus have rarely needed to organize politically. Industrial consumers, on the other hand, have tried to use the SACs and regulatory processes where possible, but have often struggled when bigger companies negotiate separately from smaller ones. Rural consumer activism is nowhere to be found in this landscape. Local political representatives often show up at regulatory hearings held during the Tiwari period, but it is not clear that their views ever percolate upwards to Ranchi. Clearly, the changing load profile of Jharkhand towards domestic consumption has benefited primarily urban consumers.

III. Jurisdictional and Territorial Disputes

While political interference has certainly played a part in undermining the effectiveness of the JSEB, what is of more concern is the myriad state and central disputes that remain unresolved. Historically, Jharkhand has always had a mosaic of electricity suppliers for different parts of the state. Before India's grid truly became somewhat national (from the early 1990s onwards with the creation of Powergrid), most regions had relatively isolated sub-grids with some connections between cities, industrial corridors, and generating plants. Southern Bihar typified this arrangement. Part of the state was under the service area of the DVC; villages in the coal belt were supplied power through Central Coalfields Limited (CCL); the larger area around Bokaro received power from the SAIL power plant; and areas around Jamshedpur received power from the Tatas. Some parts of eastern Bihar were actually connected to the Bengal grid and were completely isolated from Bihar. While the BSEB was still the distribution company, in practice there were financial exchanges between these electricity suppliers and the BSEB to compensate them for their cost of supply. After the Electricity Act 2003 was passed, in theory all of these companies could have become licensees. However, the JSERC decided early in its tenure that there had to be some minimum size to be a licensee; otherwise there could have been 10–15 different licensees in the state.[34]

Since most of the licensees were state-owned entities, it was not a problem for the JSEB to continue earlier financial practices adapted for the licensee regime. However, Kujur took a bold step early on in his tenure as JSERC chairman which would have far reaching consequences. JUSCO, the Jamshedpur utility run by the Tatas, applied for a parallel license in Seraikela Kharsawan district. Many of Tata's ancillary suppliers in Adityapur were unsatisfied with the quality of service provided by the JSEB, and were hoping that power supplied by JUSCO would be more reliable. Before the government understood the implications of a parallel license, Kujur pushed it through under his own authority, effectively creating competition in this district from late 2006 onwards. The result was catastrophic for the JSEB; 65 percent of consumers in the district switched to JUSCO immediately when given the choice, despite JUSCO's higher prices. Most of these consumers were high-tension (HT) industrial consumers, which also meant a huge revenue blow to the JSEB.[35]

The JSEB had received its first taste of competition and did not like it. Kujur was put under intense pressure by the Munda government to roll back the parallel license (he didn't); the détente that had existed between the JSERC and the government was now over. Open hostilities took root as legal challenges were mounted to the parallel license and further attempts by the JSERC at issuing parallel licenses were stymied. The courts were used as a forum to challenge and drag out any decision which was not acceptable to the government. It was very clear that both the political establishment and the JSEB were not willing to let go of operational and financial control of the electricity system. In a thin silver lining, however, this parallel license became an early exemplar of the spirit of the Electricity Act, cited by regulators throughout India as a successful example of localized competition drastically improving the quality of service for consumers.[36]

Unfortunately, within state disputes have been the lesser of the JSEB's worries. The bigger jurisdictional battles in electricity were being fought with Central or out-of-state PSU giants, primarily the DVC. Legally, the DVC falls into an administrative grey area because of the unique conditions of its incorporation; it was established in 1948 by the DVC Act, which was approved by the Governor General because Parliament did not exist at the time. Consequently, there was no real deliberation about states' rights and the Corporation was giving far-reaching power in its service area[37], which includes seven districts of Jharkhand. At the time this made sense; the DVC was working in a developmental vacuum and needed powers to be able to swiftly develop the power infrastructure that India urgently needed at the time. However, sixty years later, the DVC still has these far-reaching powers which severely restrict States' ability to take operational decisions on electricity and water in its service area.[38] On top of this, the DVC has been known to explicitly favour West Bengal over Bihar/Jharkhand, although both states are equal shareholders (40 percent) in the corporation. For years, the DVC had been charging the West

[34] This would have overwhelmed an already understaffed JSERC.
[35] Singh, BNP. Personal Communication. 2 Aug. 2016.
[36] Deo, Pramod. Personal Communication. 4 July 2016.
[37] This included the right to supply electricity in the Damodar Valley, the right to control water in the Damodar Valley, the right to set its own tariffs, and other administrative powers to undertake actions in its service area without explicit permission from State Governments.
[38] The Act has been amended a few times since 1948, but none of the Amendments have significantly altered the powers of the Corporation or its place in India's federal structure.

Bengal State Electricity Board (WBSEB) for power after netting the dividend payment for the state's equity stake, while charging the JSEB the full cost of power ignoring the dividend payment. Since the DVC head offices are in Kolkata, and its chairmen have historically been Bengali, social networks reinforced this asymmetric treatment.

Thus, there have been continual frictions between the Jharkhand government and the DVC. In the 2014-2015 financial year, almost 45 percent of the JSEB++'s power purchase budget (Rs. 2,127.90 crores) went to buying 36 percent of its total power (4316.22 million units) from the DVC, which gives the DVC considerable leverage as a large supplier. The power purchase cost was Rs. 4.93/kWh, unconscionably high for a large, primarily thermal coal power producer.[39] Not surprisingly, every few years there was a high-profile financial dispute between Jharkhand and the DVC, which was eventually temporarily resolved with a high-level negotiation between the chairmen of the JSEB and the DVC.[40] In the Tiwari regime, a new bureaucratic twist has emerged. The JSEB++ chairman, the DVC chairman, and the energy secretaries are all Class I officers now. Previously, the territoriality between the DVC and the JSEB and their respective bureaucracies was a major issue; most of the DVC service area is only supplied power at the 132 kV level by the DVC, and the JSEB ends up being responsible for the last-mile infrastructure and most LT consumers. This is the most difficult and expensive part of distribution, which the DVC foists off on the JSEB. Ideally, the Ministry of Power, the parent agency of the DVC would step in to resolve this unproductive dispute. But then again, the DVC is a valuable asset to the Ministry because of its revenue generation and contribution to the Central pool, while Jharkhand as a state has relatively little bargaining power. Both in the administrative services, and in ministerial politics, there are few representatives from Jharkhand (Jayant Sinha being the major exception), which has made it very difficult for the state to push its power agenda in Delhi. So little power is consumed in Jharkhand compared to other states, and only 20 percent of Jharkhand's power comes from State, so the JSEB++ and Jharkhand government cannot assert themselves as large consumers either.

The common site of these disputes is the legal or quasi-judicial regulatory system. When the DVC was unhappy with the JSERC's tariff orders, it filed cases challenging the JSERC's authority over the DVC tariff. This case lingered for a while until CERC finally passed a tariff order for DVC, forced by the Appellate Tribunal for Industry (APTEL). In fact, in APTEL's ruling, DVC was forced to retroactively return money to consumers it had been overcharging by setting its own tariffs. It appealed this decision, and it is still floating around in the Supreme Court unresolved, while a financially underperforming DVC maintains the status quo.[41] Not surprisingly, since the Electricity Act, DVC has developed a reputation as a litigious entity, hiring many lawyers and consultants to fight tariff orders and adverse rulings. As one former regulatory official put it, "DVC is basically a bully in its service area.[42]"

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[39] JSERC, "Provisional Tariff Order on Review of ARR for FY 2013-14 (6th Jan 14 – 31st Mar 14) & FY 2014-15 and ARR and Distribution Tariff for FY 2015-16 for Jharkhand Bijli Vitran Nigam Limited (JBVNL)," December 2015, http://jserc.org/pdf/tariff_order/jbvnl2015.pdf.

[40] In one of the more egregious examples the author heard during interviews, the DVC cut off power to Bokaro Steel, which was deficient in power and had to buy the remaining quantity from the DVC. SAIL was in arrears to the DVC, and DVC consequently cut off power to the plant, causing hundreds, maybe even thousands of crores in losses to SAIL. Steel making is particularly sensitive to power cuts because of the necessity of maintaining high temperatures to ensure that the steel stays consistent and in liquid form.

[41] For example, read this ruling by APTEL in a recent DVC vs. JSERC case (http://aptel.gov.in/judgements/A.No.%20255%20of%202014.pdf). It took almost one and a half years for the APTEL to rule on the disputed tariff order, which was issued by the JSERC in September 2014.

[42] Former regulatory official, personal communication, 1 August 2016.

IV. Losing Financial Agency

One of the inevitable results of these conflicts has been the complete undermining of the financial agency of the state electricity apparatus at all levels. An ideal vertically integrated utility has the financial space to procure power, choose its suppliers, invest in its transmission and distribution network, compensate its employees, construct generation assets, set tariffs to make a fair profit, and much more. Most of India's utilities do not have all of these luxurious conditions available to them, and Jharkhand is amongst the worst of them.

Remaining in the extractive mode has slowly led to an intentional ignorance of finance and financial rules. The only way to continue extracting from existing state institutions for fifteen years (since the formation of the state in 2001) is to undermine the supremacy of finance and financial logic. And this is precisely what Jharkhand politics has accomplished. Looking through CAG reports on PSUs in Jharkhand, there is a palpable exasperation with the JSEB++ for not having ever placed its audited accounts in front of the State Legislature.[43] From the gaming of PTPS R&M expenditures, to the wilful ignorance of certain large consumers' power dues, to the manipulation of tenders towards favoured contractors, a strong norm has been established which prioritises short-term gains. This puts the power bureaucracy in a very difficult place. In the words of one senior JSEB++ official:

> We are an "orphan child" here at the JSEB++. *Humein bhojan bhi theek se nahin milta*.[44] I am losing Rs. 20 crores a month simply because no government office ever pays its power bills. We can't even ask them to pay. And if government offices don't pay, then what example does that set for everyone else? It severely undermines our authority.
>
> I have an operational budget of about Rs. 100 crores annually. I have to split this among the 28 verticals of the JSEB++. Think about how many consumers I have to meter. There are about 25 cities in Jharkhand with an average of 2 lakh consumers each. That's 50 lakh consumers. A new meter costs around Rs. 1500. I would need a budget of around Rs. 900 crores[45] just to meter everyone. I just don't have the money to spend on meters even if I wanted.[46]

Now add to this the out-of-state pressures. The JSEB++ pays almost half of its power procurement budget to the DVC. As of September 2015, it was in arrears of over Rs. 5000 crores to the DVC.[47] Between debt service, power procurement costs, and the little money it pours into generation, the JSEB++ is constantly scrambling for working capital. It desperately tries to recover money from the consumers it is allowed to bill, to cover its monthly expenses. It loses money on most of the power it procures because the JSERC does not allow it to recover a higher tariff. And on top of this, it has private companies infringing on its service area and potentially taking over its distribution centres. The profit motive is a distant illusion in this setting; loss minimization is the order of the day.

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[43] Government of Jharkhand, "Report of the Comptroller and Auditor General of India on Public Sector Undertakings for the year ended 31 March 2015," p. 22, http://cag.gov.in/sites/default/files/audit_report_files/Jharkhand_Public_Sector_Undertakings_Report_2_2016.pdf.

[44] This literally translates to "We don't even get fed properly," a reference to the lack of financial resources of the JSEB.

[45] Interview note: *I think the calculation is closer to Rs. 750 crores, but I couldn't keep up with the math at the time of the interview.*

[46] Senior JSEB official, personal communication, 22 July 2016.

[47] "DVC likely to recover 5,000 cr dues from Jharkhand," *BusinessLine*, 9 September 2015, http://www.thehindubusinessline.com/companies/dvc-likely-to-recover-5000-cr-dues-from-jharkhand/article7633870.ece

This erosion of financial agency is why there is subdued enthusiasm in the electricity bureaucracy regarding the efficacy any of the Central government's new policy initiatives. In this kind of cost-constrained environment, how can the JSEB++ even consider buying more expensive renewable power? Although there was a massive bidding out of renewable capacity, the state government is already dragging its feet on signing PPAs.[48] While the *Ujwal Discom Assurance Yojana* (UDAY) may temporarily wipe out the accumulated debt of the JSEB++, how can it prevent the continual financial haemorrhaging that was described earlier? The state government is happy to accept UDAY debt transfers as it delays JSEB++'s default, but ultimately all UDAY has done is delay the inevitable by a year without enforcing serious operational changes.[49] According to JSEB insiders, funds from the Restructured Accelerated Power Development and Reforms Programme and Rural Electrification Corporation are used primarily as a way of making a bankrupt JSEB++ whole, a wholesale transfer of funds from the Centre to the State without nearly as much monitoring and directed spending as specified by the respective programs and agencies. Much of this is corroborated by the litany of CAG-reported irregularities.[50] Traditionally, one would expect the Central government to impose strong conditionality on its fund transfers to the state, but time and time again, the conditionality expressed on paper has been ignored or undermined.

Conclusion

The egregious financial irregularities which have been described earlier have not gone unnoticed by the small, but observant consumer advocacy community in Jharkhand. The Adityapur Small Industries Association (ASIA) currently has a pending case against the JSEB, holding them responsible for the large-scale inconsistencies which show up rather obviously on their balancesheet.[51] But this consumer voice is precisely what needs to be cultivated and further legitimised. Since the end of the Singh period, consumer advocates have had to increasingly resort to legal means of expressing their discontent as the effectiveness of regulatory discipline on the JSEB++ has declined. This is partly because the traditional financially punitive measures mean little to an organization which is already so steeped in liabilities.

So much of Jharkhand's electricity-related cognitive space is occupied in managing its relationship with Central or out-of-state organizations (NTPC, PowerGrid, the Ministry of Power, DVC etc.), that it is failing its ultimate constituents: its citizens. Consultants sitting in the JSEB++ offices are busy coming up with complicated timepaths and highly impractical plans for UDAY and Power for All to please the Central government, when the basic maintenance and repair of transformers is being neglected on the ground. For organizations like the JSEB++ that are already understaffed (at least with quality personnel), it is not clear whether this top-down approach is helping the state bureaucracy improve service delivery.

While the state does have a credible, uncaptured regulator, the state electricity bureaucracy and successive state governments have eroded the regulator's powers and influence over time. In turn, the state in Jharkhand is often so embroiled in firefighting short-term problems that there is little to no bandwidth for planning or long-term investment. This has been compounded by the extreme scarcity of working capital to implement any improvements to the electricity system. Rapid political turnover has undermined many of the cases where private capital has been successfully attracted to the state's

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[48] "Solar power: Jharkhand discoms seek additional upfront subsidy," *Financial Express*, 19 October 2016, http://www.financialexpress.com/economy/solar-power-jharkhand-discoms-seek-additional-upfront-subsidy/423490/

[49] "Jharkhand electricity board continues to lose despite UDAY," *Business Standard*, 28 January 2017, http://www.business-standard.com/article/news-ians/jharkhand-electricity-board-continues-to-lose-despite-uday-117012800691_1.html

[50] "Report of the Comptroller and Auditor General of India on Public Sector Undertakings for the year ended 31 March 2015," pp. 34-47.

[51] Ashok Bihany, personal communication, 20 July 2016.

power sector. Generation seems to be the one exception here, but that is primarily because of the ability of generators to sell a portion of their power to other states, which have more predictable governments and finances.

For Jharkhand to emerge from this entangled situation, there needs to be a single-minded approach to extricating the state from the various operational and financial conflicts it is currently engaged in with various entities, but particularly the DVC. Even partial resolution of many of these conflicts will lead to an expansion of the financial agency of the state's various institutions, which in turn will elongate their time horizons. If this can happen in parallel to a stable, Centrally-aligned government (like the one right now), then maybe service delivery and quality of service can occupy a larger part of the system's cognitive space.

Ultimately, Jharkhand's situation serves as a warning of how helpless states can be in the Indian federal electricity system. With no money, little generation, a decrepit state electricity bureaucracy, and little influence at the Centre, extraction remains the default political mode with no palpable progress towards accumulation. This is not just a state-level failure, but a failure of India's federalism. As Weingast has influentially argued, thriving markets in federal structures require a kind of cooperative federalism, where state governments give up some of their power and commit to preserving the rules of markets within their territory in return for access to a common market regulated by the Centre.[52] In electricity, such rule following would include actions like not putting money into failing state-owned power projects, not borrowing endlessly from state banks to pay utility dues, and procuring cheaper power from national markets when possible rather than expensive power from unfair legacy contracts. It does not seem like Jharkhand has reached this point yet. Given that the political salience of electricity seems unlikely to change in the short term, it is worth considering more interventionist moves by the Central government to resolve this situation.

[52] Weingast, Barry R., "The Economic Role of Political Institutions: Market-Preserving Federalism and Economic Development," Journal of Law, Economics, & Organization 11.1 (1995): 1–31.