CHAPTER 2

Karnataka

The Difficulty of Parallel Regulation

Introduction

As in most Indian states, the power sector subsidy represented a growing thorn in Karnataka's fiscal budget, amounting to 2.1 per cent of Gross State Domestic Product (GSDP) by 2000-1. The Karnataka Government initiated a broad range of fiscal and governance reforms in the late nineties, of which power sector restructuring was only one, but significant part. The state promulgated the Karnataka Electricity Reforms Act of 1999 (KERA), an important component of which was the establishment of the Karnataka Electricity Regulatory Commission (KERC).

KERC has been in operation for seven years, during which time it passed five tariff orders (see Table 1) and over 30 regulations. It is midway through the tenure of its second Chairperson, which began in late 2004.

The KERC developed a reputation in its early years of being an outspoken advocate of consumer interest with a highly evolved, transparent governance structure. Along with APERC, KERC was also seen as a model regulator. In many ways, Andhra Pradesh and Karnataka had similar power sector characteristics and followed similar and contemporaneous reform

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This chapter draws on information obtained through interviews and documentary evidence. All interviews were conducted on a not-for-attribution basis. Consequently, while specific points obtained in interviews are referenced in a note, interviewees are only identified by their broad institutional affiliation.

Table 1: Karnataka Power Sector Characteristics and KERC Orders

	FY00	*FY01*	*FY02*	*FY03*	*FY04*	*FY05*	*FY06*
Tariff Increase (%)		16.85		16.2	2.89		–
T&D Loss Actual (%)	38	35.5	35.86	32.14	30.59	NA	NA
Subsidy Claimed (Cr)	1,213.1	1,820.8	2,231.3	1,903.9	1,623.3	1,873.00	1,726.30
Subsidy Released (Cr)	768.9	1,246.4	1,872.0	1,699.0	1,555.5	935.0	NA
Tariff Order Date Issued	NA	Dec 2000	NA	May 2002	March 2003 Dec 2003	NA	Sept 2005

Source: KERC Annual Reports

tracks, with World Bank assisted structural adjustment, institutional unbundling, and a strong governance reform initiative in the late nineties. However, the performance of the regulated utilities under KERC markedly differed from that of APERC. Costs increased, losses decreased slowly, and the subsidy burden increased.

The disconnect between a reputation of governance excellence and weak outcomes, and the divergence from APERC over time, made KERC an important case for this study and a point of comparison against AP.

Reform and Political Context

The power sector reforms followed two closely tied visions, one along institutional change towards privatisation, and the other along fiscal reform towards eliminating the power sector deficit. The Government of Karnataka set up a Special Secretary for Power Reforms and a Steering Committee, on which the KERC had a representative. Deliberations on both these policy directions started prior to, and continued into, the first tenure of KERC. This context would prove formative as policy developments along these two paths would overlap with the mandate of the KERC and circumscribe the role of the regulator.

The establishment of the KERC under the KERA fit within a broader set of institutional restructuring initiatives in Karnataka that envisioned the unbundling, corporatisation and eventual privatisation of distribution. The KERA ushered the vertical unbundling of the erstwhile Karnataka Power Transmission Company Ltd (KPTCL) into transmission and four distribution companies (ESCOMs), effective in March 2002.[1] The seeds of this vision were sown in the mid-nineties by the Administrative Staff College of India (ASCI) in two reports that laid both the foundation of the KERA and the regulatory framework for Karnataka.[2] ASCI later drafted the KERA, which drew heavily from the preceding Andhra Pradesh and Orissa Reform Acts.[3]

These reforms were catalysed, and in some cases triggered, by the World Bank's structural adjustment programme for Karnataka, the Karnataka Economic Restructuring Loan (KERL). The power sector reforms got significant attention from the World Bank, due to its concern for fiscal prudence. The World Bank provided technical assistance to the government through the appointment of the Financial and Distribution Privatisation (FDP) consultancy to assist in the transition.

The Karnataka Government signaled its intent for privatisation of distribution in an MOU with the Government of India on its power sector reform policy in February 2000, and in the following 2001 budget.[4] The government had hired consultants to develop a privatisation strategy, which was approved in late 2002.[5] The privatisation proposal, which included a proposed amendment to the KERA, came under significant controversy, and drew strong criticism from the KERC for allowing future private owners to easily bypass the regulator for cost increases. The KERC stated in a letter to the government 'the Commission recommends that it be kept in a state of suspended animation . . . to avoid the completely unnecessary expenditure of around Rs 2 crore per annum on its maintenance and upkeep'.[6] Eventually, the government put plans for privatisations in abeyance. But this experience nevertheless soured relations between KERC and the government, and weakened the government's perceived commitment to the regulatory process.

While the impact of the attempted privatisation was eventually only symbolic, the second policy direction of fiscal adjustment set in place a set of directives that were akin to a 'parallel regulator'. The government mapped out a path toward eliminating the power sector deficit through the Financial Restructuring Plan (FRP) and the rolling Medium Term Fiscal Plan (MTFP). The FRP aimed to reduce the deficit from 2.01 per cent of GSDP to 0.8 per cent by 2004-5. It developed several short-term operational targets for the power companies to reduce losses from 37 per cent to 28 per cent in this time period, reduce theft, expand metering, and set investment budgets.[7] The MTFP provided commitments to meet the gradually reducing projected subsidies, and laid down effective 'upper bounds' on subsidy commitments by government.

Many of the specific FRP directives, such as loss reduction targets, directly overlap with KERC's mandate, while others set the bounds within which KERC would operate (such as investment and subsidy budgets). To the extent that the regulated utilities answer to their owners first, this overlap brings into question the usefulness and perceived enforceability of KERC's actions.

This overlap in oversight arises in part from the fact that the regulated utilities are state-owned. As owner, the government has already established methods of monitoring utility performance and operations, and planning future investments. This overlap with regulatory mandate manifests in formal and informal ways. Besides the specific directives of the FRP and MTFP, in terms of general oversight, the Energy and Finance departments of the Government of Karnataka (GoK) and the advisor to the chief minister sit on KPTCL's board. In practice, such oversight is hands-on. As per standard internal procedure, utilities present their ERC filings to various levels of government before submission to the regulator, including the ministerial level.[8] The KERC was acutely aware of this conflict of interest. As a senior official rhetorically asked 'Will the MD [of the utility] listen to government or regulator?'[9]

Low Credibility with Incumbents

Since the KERC operated in parallel to an already entrenched and conflicting authority, the initial orientation of the KERC to the sector was all the more important. The government's lack of effort to establish the KERC's authority and relationship to the bureaucracy, ministries and utilities undermined the regulator's initial credibility, particularly in the eyes of the regulated utilities.

The KERC itself initially received mixed signals from the two governments as to its authority vis-à-vis the bureaucracy and related perquisites.[10] The KERC leadership was initially given to believe that the KERC would have significant responsibility and the 'government would be nowhere' in its path.[11] The KERC would stand by side with the Energy Ministry. However, the new government, elected soon after KERC's establishment, took a contrasting view. For example, it attempted to reduce the perquisites to the regulator, though the CM eventually withdrew the executive order that would have done so.[12]

The utilities initially perceived the regulatory agencies at best as superfluous and at worst as a threat. The regulator possesses powers of a High Court judge, but performs tasks that utilities felt they routinely conducted in-house.[13] Utilities reluctantly cooperated in the first tariff-filing process. That the government did not brief the incumbents on the purpose and benefits of the regulator quite likely contributed to this contempt. Ironically, consultants to the KPTCL claimed to spend significant time with utility executives and even bureaucrats, convincing them of the importance and need for engaging with the regulator.[14] Yet, their lack of cooperation continued, albeit at a more subtle level. For example, senior utility management avoided interaction with the regulator and sent junior officers to meetings in their place.[15]

Mutual wariness between the regulated and regulator is not uncommon, even expected. But in Karnataka it seems that the initial circumstances around the regulator's establishment set in place a particularly non-cooperative relationship. Another factor that greatly influenced the initial interaction between the two was the nature of KERC's staff and member composition.

In summary, government control of utilities remained strong due to structural aspects of state-owned utilities and their operating relationship with government, with fair overlap in oversight with KERC. The government's proposed privatisation structure and the lack of proactive efforts to orient the incumbent government agencies and utilities to the KERC sent mixed signals on the importance government placed in KERC. Taken together, a combination of symbolic and actual infringements on KERC's powers at the outset weakened KERC's legitimacy and alienated them from the rest of the sector. The first Chairperson's perception of his tenure sums up this impact: 'the regulatory system is an unwanted child'.[16]

Institutional Structure and Capacity

In newly established institutions, the approach of influential personnel plays an important role in moulding work culture, and the credibility of the organisation. In Karnataka, the first Chairperson and Secretary heavily influenced the image and culture within KERC. Stakeholders both outside and within KERC questioned the integrity of the member selection process. Staff were drawn largely from the regulated utilities. They came across as a small, well-knit cadre with a strong sense of solidarity and a perception of self-sufficiency. As the KERC began implementing provisions of the Electricity Act 2003 related to open access, the Director of Tariffs and a few junior staff assumed an influential role in drafting discussion papers and regulations. In this phase, the breadth of required expertise stretched the staff capacity to a point that may have brought up the limits of their culture of self-reliance. Although in most years KERC did not spend their budget of 2-3 crore, the scale of the task suggests that KERC could very well benefit from an expansion of resources if they were properly deployed.

Member Selection and Process

All the members of KERC came from government. Given the influence of individuals within State Electricity Regulatory Commissions (SERCs), the Member selection process gains importance. Of primary interest is the independence of the process from external influence. As in all states, member selection entails a two-step process, involving first a short-listing of two candidates from a pool of nominees by the Selection Committee, followed by a final appointment by the chief minister. The transparency of the process rests, therefore, on the Selection Committee's process of short-listing. The KERA has broad and general bases for selection that focus on candidates' independence and on ensuring candidates fill technical roles, one from engineering and two others from law, finance and economics. The KERA includes no formal requirements for the method and final justification of candidates or their publicity. That the Selection Committee consists of members of the bureaucracy (including the Chief Secretary and Energy Secretary) and is chaired by a member of the judiciary shields the process from political interference, at least in theory.[17]

We interviewed several government officials and ERC members to understand people's perception of the process and its efficacy. Two government bureaucrats and one member expressed suspicion that the government influenced several appointments. One member spoke unequivocally of the manipulation of another's appointment to counter strong voices in the Commission.[18] In the case of staff, although the KERA places the responsibility of staff appointments with the Commission, the government on occasion (as discussed later) has recommended staff appointments and threatened withdrawals, such as suggesting a Secretary appointment.[19]

Whether founded or not, the overwhelming perception of government interference in the selection process of regulatory Members and Directors indicate a lack of transparency and general mistrust of the selection process. If these perceptions are accurate, regulatory institutions run the risk of absorbing candidates who may feel indebted, or have a history of compliance to governmental authority. This could manifest as a lack of willingness to issue directives or orders that carry politically unpalatable consequences.

KERC Composition and Selection

The KERC drew staff almost exclusively on deputation from the utilities (see Table 2). The first Chairman considered it important to hire staff from within the state, and take advantage of the 'old boys network' by hiring those familiar with and having networks in the utilities. Most key (Director level) staff were hired from KPC, but had also previously worked at KPTCL. After a few years, KPTCL staff were taken as consultants for more specialised positions (e.g. investment, distribution). Officials stated that they did

Table 2: KERC Composition and Characteristics

Parameter	*FY00*	*FY01*	*FY02*	*FY03*	*FY04*	*FY05*
Total Staff	16	25	32	32	30	28
Staff (Non-Administrative)	8	6	11	12	13	12
Utility Background	8	6	10	11	12	11
On Contract	3	3	6	7	6	3
Total Budget (Lakh)	49.5	294.3	233.6	215.2	200.2	193.9
Consultancy Expenses (Lakh)	15.2	21.75	1.66	9.47	5.0	
Vacancies	4	6	2	2	2	2

Staff are either on contract (consultant) or on deputation. No permanent staff advertise for non-governmental applicants. However, they were unable to attract enough applicants with suitable qualifications.[20]

As Table 2 shows, KERC had no permanent staff. Directors were on deputation from utilities, while other specialists were hired full-time, but on a contract basis. At the same time, KERC built its staff to near full capacity in two years, after which they maintained a low vacancy rate of 2 positions.

Staff selection in general shows that the regulator relies heavily on utility personnel from the former Karnataka State Electricity Board. To what extent this reflects the applicant pool and hiring strategies could not be determined. The implication of a utility-dominated staff will be discussed later in this report.

Institutional Culture

The Secretary, supported by the Chairperson, established a culture of self-reliance and transparency that remains with KERC to date. Many regulatory staff concurred with this view. KERC developed a Consumer Right to Information regulation in 1999. It is the only SERC in India to have created an Office of Consumer Advocacy. The KERC seems unique amongst Indian regulators for its sparse use of consultants. Moreover, the entire staff stood out as a well-knit, coherent cadre with similar outlooks on their responsibilities.

After being dissatisfied with their first experience with consultants for the first tariff order, the Commission put in place an unwritten policy to write their own tariff orders and rules, and conduct supporting analysis and research themselves. They hired consultants for specific analyses and field research on a one-off basis. KERC has hired as an in-house employee only one non-utility financial consultant on a contract basis. Due to their emphasis on self-sufficiency, KERC put significant effort into capacity building of all staff and members. All staff attended multiple conferences or training sessions over the course of their deputation, according to their Annual Reports. KERC regularly sent staff to training sessions organised by The Energy Research Institute (formerly Tata Energy Research Institute) and Administrative Staff College of India. Senior staff also attended international training seminars, which were either in the US or conducted by USAID or US regulators in India.

The KERC at the outset made transparency part of their modus operandi, by taking seriously the annual reporting requirement and maintaining a relatively well populated web site. The Commission included in annual reports all formal communication between government and the Commission, as well as tabulation of all training activities.

Another important stance was to promote the consumer interest as a fundamental responsibility of the Commission. One senior official stated that they entered a sector with an inherent and long-standing bias toward government, given the Indian tradition of state-owned utilities. This made it incumbent on them to protect consumers' interests.[21] Even though all staff did not share this, it appeared to prevail.[22] That this stance manifested in KERC actions as well reflects no better than in the KERC Chairman's comment that the utility complained of the KERC being 'hijacked by the consumer'.[23]

Thus, key personnel created a culture for the KERC based on their convictions, competencies and personalities. These had a long-standing effect, although regime change brought in some changes, as discussed subsequently.

Tariff Review Process

Regulatory Style

The absence of a formal structure for regulatory process has strongly influenced the regulatory style of Indian regulatory institutions. Procedures set in place through the Conduct of Business Regulations (CBR) or the Electricity Act lack the detail to offer guidance to the Commission. For example, technical validation sessions are not mandatory. No requirements or procedures have been laid down for the nature of interaction between utilities and the regulator. No specific requirement guides the documentation or disclosure of meetings. For example, the CBRs have guidelines on the above for KERC proceedings, which the regulators interpret as formal court proceedings or public meetings, not all internal meetings.[24]

In the ARR process, the procedures for obtaining and analysing data and interacting with the utilities are critical, since the regulator relies on this information to effectively regulate costs. Without formal procedures, regulatory style evolved from the ideas and motivation of key personalities, and their exposure in training to other regulatory models. The KERC developed a process culture based on self-reliance, with occasional use of consultants. Procedural aspects of the regulatory process, such as the format of tariff orders, and in-house financial models, persist to date, in part due to staff continuity and habituation to procedures set in place. By the same token, other softer aspects related to interaction with utilities changed under the second Chairperson.

Culture of Self-Reliance

KERC stands out as a regulator that produced four tariff orders (including an Amendment) and several regulations without retaining a full-time consultant. They built and have retained till today this culture of self-reliance, with occasional use of consultants for either specific expertise or for field research. This culture was bred not just from a wariness of consultants, but also from the personalities present in its formative first few years, as mentioned earlier.

The reluctance to use consultants stemmed from their experience with an initial consultant hired to produce the first tariff order. The experience fell short of their expectations due to, among other things, the consultant projecting an unrealistic loss reduction trajectory for the utilities.[25] Following the experience, the staff developed the financial models for the ARR calculations in-house.[26] According to the utility consultants, the KERC also had access to the models used by the utilities in preparing their ERC filings, and interacted with them often.

After this initial dissatisfying experience with consultants in the first order, KERC did not use a 'side-by-side' consultant again, except on a one-off basis for specific tasks. As a result, consultants played a far smaller role in KERC than in Andhra Pradesh and Delhi. The expenditure on consultants alone suffices to show this. KERC has spent about 0.5 crore total to date.

The culture of self-reliance persevered past the terms of its initiators into the second regulatory regime (see Table 2). Key staff, such as Directors whose deputations straddled the two terms likely influenced this carry over in culture. This persistence is notable in light of the significant increase in their responsibilities that accompanied the Electricity Act, on matter such as open access, trading, and quality of service, which have their own separate expertise and knowledge requirements. Furthermore, a small subset (2-3) of the staff bore the bulk of this additional burden. Not surprisingly, staff feel the pressure of acquiring expertise to keep pace with their rule-making function.[27]

In supporting their analyses, KERC staff relied indirectly on external sources of expertise consultants hired by other entities (such as the regulated utilities) or government planning and policy documents. Notably, many of these sources – government reports, utility consultants, and expert committees – are drawn from government, and specifically the electricity establishment. This may derive from the utility-dominated composition of the KERC and their own preference for known entities/persons. For example, in the early years, KERC staff consulted Government of Karnataka Plans (MTFP, FRP) for benchmarks on loss reduction. They relied in part on Ministry of Non-Conventional Energy Sources calculations of supply costs from renewable energy technologies, in addition to government approved charges, to arrive at their own estimates. To review transmission, KERC often relied on reports prepared by KPTCL's primary transmission consultant. As one staff member mentioned, they use its report as their 'bible'.[28] In the open access rule-making process, KERC also consulted developments in other regulatory institutions, particularly APERC.[29]

The two chairpersons saw varying roles for these external consultations. The first Chairperson saw consultants as filling 'expertise-gaps'.[30] He formally hired consultants on a few occasions to conduct studies, but also invited experts informally to make presentations, particularly on new market-related issues brought on by the Electricity Act. The second Chairperson saw them as a source of credibility.[31] For example, he hired a consultant to conduct study on agricultural pump sets with the intention of extrapolating the (expectedly lower) estimates of agricultural consumption to Karnataka at large and incorporating them into tariff orders. He stated that this study provided a basis to credibly challenge utilities' consumption estimates, which are known to be inaccurate. A similar argument justified the use of an expert committee to approve a large investment proposal (see section 'Investment').

In summary, the KERC opted to develop tariff orders and regulations themselves, where they drew on external sources of expertise at their discretion. This style continued despite the increase in complexity of the regulatory tasks after the Electricity Act. This approach contrasts with other states we studied where regulators rely heavily on consultants. This approach enabled significant growth of staff, who were forced to acquire expertise in new areas. Annual reports reveal that KERC invested heavily in their training. This investment would reap greater benefits with permanent staff. However, without them, the institution always runs the risk of losing acquired knowledge with departing staff. The potential trade-off of relying on internal staff is that the knowledge base within the KERC is constrained by the staff's background, networks and their motivation to seek out alternative sources. Second, as developed in later sections, the regulator may be less inclined to pioneer approaches, and defer to those with established precedents, or which are specified in policy.

Arms-Length Review Process

The modus operandi of KERC in the ARR process can be summarised as analytical more than investigative. In the words of a senior official, 'it is not regulators' job to conduct its own micro-studies of energy estimation'.[32] The Commission and staff rarely ventured into the field or conducted field visits to verify data submitted by the utilities (but for meetings with distribution companies). As with most states, the uncertainty in agricultural consumption was the Achilles heel of all tariff orders. Yet, in its tenure to date, the KERC has only undertaken two field studies of agricultural feeders', the first was too small and unreliable to use in a formal order, and the second was undertaken only in its sixth year (see section 'Agriculture Consumption Estimation').

Instead, KERC staff focused on studying the ERC filings, ensuring consistency with past filings, validating data and checking calculations.[33] Utility staff and their consultants acknowledged that KERC staff were thorough, asked the right questions, and in the early years were highly interrogative in technical validation sessions, walking through documents separately with personnel from each relevant department.[34] The overall impression was one of competence and reasonable adherence to procedure.

But stakeholders also had the impression that the KERC didn't probe below the surface of ERC filings, or conduct enough pilot studies in the field.[35] Government and KPTCL officials claim that despite the proactiveness in target-setting, the regulator has not been able to break into the systems of subversion and data concealment that permit inefficiencies to persist. One government official with several years of experience in Karnataka stated that regulators do not lack the capacity to make such breakthroughs. All it requires is for them to trace specific projects, identify specific areas and demand data on them from the field. However, the real reason for this failure, he claimed, is the lack of regulatory will to disturb the institutional setup.[36] A KPTCL official agreed with this position, citing the lack of evolution in the method of data collection over the years. A few sophisticated consumers with a good perspective on reforms indicate that they have learned that regulators focus more on tariff-related issues and avoid fundamental reforms. They indicate regulators could easily conduct more field visits, estimate IP set consumption, and understand consumer grievances and track implementation of their own regulations and directives.[37]

Thus, the overall process of scrutiny in ARR process can be characterised as relying on limited internal staff for resources, and on ERC filings more than on investigative research. On this basis, staff conducted thorough, but limited analysis, focusing on internal self-consistency rather than on comparison with external benchmarks.

Stakeholders perceive the regulator as increasing its tariff setting role in process but not in spirit. That is, regulators exercise restraint in exploiting their powers to the extent necessary to bring about institutional change in the regulated utilities.

Relationship with Utilities

There are indications that relations between KERC and the utilities were strained from the outset. As discussed earlier, the utilities were initially resentful of the regulator and reluctant to participate in the regulatory process. Perceptions of the first Chairperson as high-handed coupled with his inexperience with the sector, caused relations to remain distant and sour through the first tenure.[38] This may explain why the utilities challenged the regulator's orders in court, rather than seeking an alternative way of resolving disputes. Junior staff, though wary of the Chairperson's authority also respected the procedural thoroughness the KERC brought to technical validation sessions and formal hearings.

The second Chairperson's image was the opposite, a person with a career in the energy sector and who employed a less formal approach. In his tenure, the nature of interaction changed. Technical validation sessions in the ARR process all but vanished.[39] The regulator and utilities had clashes, but over substantive issues. Otherwise, relations were maintained, interaction was informal. Senior directors and the Chairperson were known to each other, since the Chairperson was Energy Secretary during the tenure of the first Chairperson. The consequence of this congeniality was a less strained relationship with utilities, but the second Chairperson was also seen as more sympathetic to the utility perspective than was the first Chairperson,[40] as discussed later in several sections.

In conclusion, KERC illustrates a workable model of tariff review in India without dependence on consultants. But this process evolved and varied with changes in leadership. Some of these developments, such as the de-emphasis of technical validation sessions, may risk loss of scrutiny. On the other hand, the awkward relations between the utility and Commission in the first regime reduced cooperation, which exacerbated information asymmetry. We observe similar variations in the implementation of the participatory process in tariff review. The degree of continuity in the review process due to the continued presence of senior staff from the early years may not be sustained when KERC staff return to their utility postings. The salient lesson from KERC's internal tariff review process is that the absence of a more formal structure in procedure reduces institutional memory and its capacity to build and establish effective review practices. Such formal rigour can also provide a legal basis for greater proactive action than simply relying on regulatory discretion.

Agricultural Consumption Estimation

The first challenge of KERC, as with other regulators in India, is agricultural consumption estimation. The KERC's approach was arms-length, adjudicatory, and ultimately not very effective. The KERC took this role seriously and industriously at first, summoning data, holding a public hearing, issuing numerous directives to meter IP sets and improve estimation. But these efforts met with little success. For example, the KERC directed ESCOMs to provide sample metering on distribution feeders, as well as on individual irrigation pump sets on the sampled feeders so that actual line loss and IP set consumption could be estimated. While deploying a sound method, KERC could not get the ESCOMs to provide adequate data to comply.[41] The Commission expressed frustration at changing methodologies and numbers provided by the utility in response to their requests.[42]

In the absence of any reliable data, KERC was forced to rely on utility estimates, knowing their unreliability. The second Chairperson expressed a grudging impotence at the ability to expose obfuscations within the utility without credible data.[43] This reliance has continued until 2005, when the KERC has initiated its first comprehensive independent study of IP set consumption.

The regulator has been strict in issuing directives to improve IP set consumption estimates, introduce better distribution meters and reduce unauthorised connections. However, officials at KPTCL and government indicate that these corrections are superficial.[44] For example, in the FY 2006 tariff order, KERC rejected an estimate correction in IP set consumption because BESCOM failed to correctly calibrate meters. KERC ordered BESCOM to recover the deficit resulting from this rejection from increased collection revenues. Several such instances indicate ostensible progress in forcing transparency in agricultural consumption. However, KERC has not attempted to determine IP set consumption directly at a field level until its FY 2005 study. KERC had conducted a cost of service study in 2002 that did produce sample consumption estimates as a by-product, but staff did not consider these reliable.[45] Several farmer groups have pointed out that based on their consumption patterns (e.g. months of usage) and number of IP sets, the estimates appear exaggerated.[46] But the tariff orders do not contain any discussion of these to indicate that they were noted or followed up. Apparently the extent of error/deception in these estimates may exceed what KERC used in tariff orders. KERC has been aware of this, according to the regulator and farmer representatives.[47]

Only in 2005 did the KERC hire a consultant to undertake a one-year study to monitor actual agricultural consumption at the feeder level on a select set of feeders that fed primarily pump sets. Special meters were installed on these feeders (owned and operated by the ESCOM). The consultant was to independently read these on a daily basis, and from this compilation and the profile of IP sets on each feeder, estimate IP set consumption. At the time of conducting this research, KERC received its first set of data from the consultant. The KERC stated they studied the data submitted, but didn't doubt or check the veracity of the actual readings. At the same time, a distribution company official stated that they had been providing KERC's consultant with data from their newly installed meter reading software for agricultural feeders calling into question the independence of the consultant's estimates.[48] Interviews with various utility and KERC staff revealed an apparent confusion in the extent to which the consultant relied on utility data.[49]

The point of interest here is that KERC may not have had a pulse on the implementation details of the project. The lack of staff capacity to undertake field-level scrutiny may explain this, among other factors. But it also reflects an underlying disinterest in hands-on monitoring, which seemed to stem in part from an implicit faith in the consultants' and utilities' competence and integrity.

One senior bureaucrat offered another explanation, which had to do more with an interpretation and implementation of the regulatory mandate. In its very design, he notes, the exercise fails to capture the larger, endemic problems with IP set consumption errors and their policy implications.[50] Such a study does not address the root of estimation errors, the political motivations behind them, and their implications. In other words, the KERC appears to carry out its role in the agricultural consumption as a technical exercise, not one laden with political content. This is one example where the regulator has to embrace the role of an agent of institutional reform if it is to root out the malaise of the agricultural sector. Perhaps this may be an unreasonable expectation of a nascent regulator, especially without political support toward this end. The encouraging aspect of KERC's proactive efforts, though, is that they brought out the utilities' clear attempts at obfuscation, and have reduced the margin of error in estimating agricultural consumption.

Performance Review

Performance review entails the regulation of utilities' year-to-year financial performance, which includes overseeing operating and related upgrade costs and collection (on the revenue side). The underlying purpose is to discipline utilities to improve performance and financial viability of the sector. The parameters of interest here are transmission and distribution loss reduction (both commercial and technical), capital investments in upgrading the grid, and general, indirect management-related investments (such as metering, and energy management systems) to improve monitoring and auditing. Utilities have been able to conceal their inefficiencies because of an impenetrable system where data are not generated and maintained, let alone shared. From the outside, agricultural consumption cannot be distinguished from unauthorised usage or technical losses. Thus, this function requires regulators to penetrate an established, entrenched institutional culture.

In assessing KERC's regulation of utilities' performance, we are primarily concerned with understanding how KERC went about this process, what forces and influences drove this process, and what impact they had.

The KERC inherited a utility system devoid of proper monitoring systems and data, and with loss estimates that the Commission judged as unreliable.[51] At the same time, left with few alternatives, the regulator had to use assessments by the utility or its consultants as starting points and force improvements in data management for subsequent years. The Commission in its 2000 order best expresses this dilemma:

'While the Commission agrees that this represents a very unsatisfactory state of affairs, the Commission has had to take a realistic view of the entire situation. It would not be practical for the Commission to insist on setting right all the numerous deficiencies in the statistical data base of the KPTCL before taking up its ERC and Tariff filings for consideration' (Tariff Order 2000).

The first tariff order shows considerable analysis and assimilation of different data sources to assess a reasonable starting point for a breakdown in transmission *vs* distribution, technical *vs* commercial losses, and agricultural consumption *vs* actual losses. At the outset the Commission directed the utility to submit loss-related data in 46 towns in Karnataka (which was in FY 2005 expanded to 54) in order to develop a benchmark for urban distribution losses. However, they relied on data provided by field offices, despite their known unreliability. Based on these data, they directed ESCOMs to reduce distribution losses in these towns to below 15 per cent.

Right from the outset the regulator issued stern performance-related directives to the utilities. Indeed, these were so comprehensive that in subsequent years tariff orders dealt mainly with their monitoring rather than new issuances. These directives dealt with some of the vital lacunae in utility customer management, such as metering, auditing, IP set consumption estimation, and management information systems. The regulator directed the utilities to take up studies to determine the cost to serve for each category of consumers. In addition, the regulator issued loss reduction requirements, as shown in Table 3. In the initial years, the KERC relied on the government's own loss reduction estimates, as reflected in the FRP, but staff claim these quickly got outdated.[52]

Table 3: KERC Loss Reduction Measures

	FY00	*FY01*	*FY02*	*FY03*	*FY04*	*FY05*
T&D Loss ERC Proposed (%)	38.0	36.5	34.1	32.0	30.6	29.8
T&D Loss Approved (%)		31	31	28	28	
T&D Loss Actual (%)	38.0	35.5	35.9	32.1	30.5	

In summary, the initial stance of the KERC was proactive, reasoned and set a tone of seriousness about its business.

Poor Directive Compliance

Figure 1 tracks directive compliance over time. Most directives were issued in the initial year 2000, and a few additional ones in FY 2002. Thereafter, no substantively new directives were issued. According to KERC's tracking

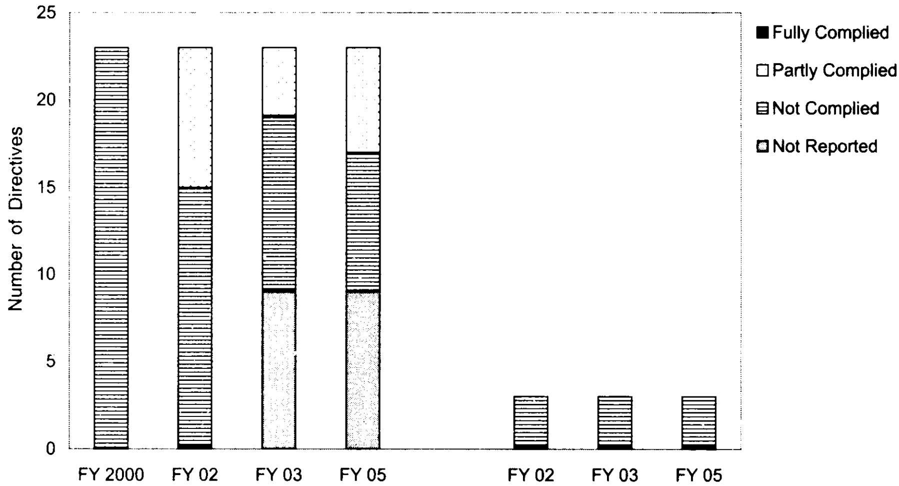

Figure 1: KERC Directive Compliance

Note: Each cluster of bars tracks compliance and reporting status – fully complied, partly complied, not complied and not reported – for directives issued in the first year of the cluster. Thus, the first cluster of bars tracks and reports on directives issued in FY 2000, and the second covers FY 2002. The data are drawn from successive years of KERC tariff orders.

in tariff orders, no directives were fully complied with to date, and less than half were partly carried out. As mentioned earlier, KERC initially took a strong stance against noncompliance, which waned over subsequent orders. A senior KPTCL official stated that they had inadequate incentives to implement many KERC directives. He suggested that many KERC directives were good suggestions, but not high priority to them, because they wouldn't enhance their revenues (for example, IP set metering), and therefore to them represent wasted investments.[53]

Improvements in certain parameters regulated by KERC, however, would benefit the utility, such as loss reduction. This also shows consistent underachievement with KERC's targets (Table 3). Notably, in FY 2003, the utilities showed a turnaround for the first time in losses. This was driven by improvements in MESCOM and BESCOM – particularly urban Bangalore – while performance stayed the same or deteriorated for the other companies.[54] Not surprisingly, these areas represent areas of rapid growth and high-revenue customers. The CMD of KPTCL stated that these improvements were entirely driven from internal management decisions – KERC 'had nothing to do with it'. [55] He cited as an example a transformer audit they initiated, without any directive by KERC. He felt that KERC has not had much of an impact on the ground.

Enforcement

Very quickly the Commission found that its orders and directives were either challenged in court (in the former case) or ignored (in the latter case). Subsequent orders saw the Commission use sterner language, threatening noncompliance with future rejections of tariff filings.[56] But these were never carried out. The most KERC did was to write a strongly worded letter to the Energy Secretary, summarising the utilities' consistent underachievement of targets and asking for the government to take action. [57]

When questioned on the lack of enforcement of the Commission's threats and directives, the first Chairperson commented that utilities did not make reasonable efforts at compliance. But he also seemed to have been at a loss for enforcement measures. He was against using punitive measures, because he felt then 'the sanctity is gone'.[58] Senior regulatory staff, who felt that placing punitive measures on government-owned companies would be akin to penalising the public, echoed this sentiment. The second CP stressed that punitive measures would only burden paying consumers.

As a pragmatic matter, punitive orders would likely end up in court and have stay orders issued, as with many KERC orders. He did mention that with government support utilities could have been threatened with punitive measures. But in Karnataka, the government did not have the backing and platform for dialogue with utilities and government that Naidu created in AP.[59]

In the second regime, even the pretense of threat in tariff orders was replaced by factual notings of noncompliance and reiteration of directives.[60] Noncompliance persists for years, with few showing progress towards compliance, as would be expected from the utilities' ubiquitous response that the directives were of a 'continuous nature' and being slowly complied with.

The regulatory tone in tariff orders, lack of government initiative on the matter, and utilities' response, all point to a perception that the Commission's attempts at forcing performance improvements are futile. Weak enforcement makes it difficult for the Commission to make demands on utilities. But their unwillingness to exploit their powers to their full extent, such as in using their investigative judicial powers, also emerges. They are reluctant to implement drastic enforcement mechanisms, such as rejecting tariff proposals and imposing fines, based only on noncompliance. In no small measure, this futility comes from the lack of government support of the regulator, and likely exacerbated by the absence of cooperative dialogue between the utility and government and the regulator. The senior regulatory official stated that 'strengthening regulation is not possible while the utility remains a government company'.[61]

Investment Review

Capital Expenditure (CapEx) review is the most challenging, yet influential, function of the regulator. As in Andhra Pradesh, distribution networks in Karnataka are underinvested and poorly managed. Technical loss reduction requires network upgradation. Theft reduction and better management require system to monitor, retrieve and analyse information about the physical grid and usage. Despite these imperatives, investments may lack cost prudence through poor planning or if politically initiated. The simultaneous conditions of information asymmetry, genuine need and political pressure make CapEx review particularly challenging. The difficulty in estimating project benefits further compounds review complexity. In some cases, the data doesn't exist to allow benefit assessment (e.g. loss reduction), and in other cases, the benefits are indirect and diffused Thus, we investigate here the bases regulators use to scrutinise CapEx and tackle political pressures.

Technical Review

Investment review suffers from non-transparency because it lies partly outside the tariff review process. This allows for sufficient discretion for KERC to devise its own approach to scrutiny. Consistent with its overall proactive, authoritative approach at the outset, KERC took an initial approach of reviewing every scheme. They appointed an expert committee to conduct this review. KPTCL complained of micro-management, and pushed back strongly on KERC's review process.[62] Very soon, KERC and KPTCL negotiated and agreed to limit scrutiny to projects above a threshold (Rs 5 crore for transmission, 1 crore for distribution).[63]

KERC have one to two in-house staff dedicated to review project schemes. Their review focused on budgets, calculations and procedure.[64] They check calculations for consistency, verify equipment costs against Schedule of Rates, assess practicability of budget proposals based on historical expenditure, and identify procedural errors. For example, KERC returned all seven of KPTCL schemes in Tariff Order 2005 on procedural grounds. As in AP, the grounds for modification usually revolved around procedural errors, unrealistic implementation schedules and annual expenditure targets.

KERC documents in its tariff orders the schemes submitted for approval, and KERC's ruling along with their rationale. However, they do not contain detailed descriptions of the schemes, their justification or their cost-benefit analysis.

With regard to substantive aspects of review, it appeared that the KERC struggled to get a good handle on utility investments financing. They would spot inconsistencies in project budgets and capitalisation, but could not trace their origin. For example, the first Chairperson mentioned that many projects showed time overruns, but also under spending. This could only mean money from projects was being diverted, but the regulator could not trace diversions.[65] A utility senior official summarised the problem as one of regulators not tracing projects 'from source to implementation'.[66] He claimed that if regulators were to trace the money on individual projects, they would reduce fund diversion, and significantly enhance the accountability of project implementation.

Regulators similarly do not evaluate whether projects deliver intended benefits. Such ex-post project tracking is absent from tariff orders. Insufficient resources and information asymmetry play some part in this. Some government and utility officials interviewed perceive regulatory staff as having sufficient knowledge and expertise to conduct or supervise investigative research to identify project irregularities. The regulator could also have hired third-party auditors, but the regulator chose to err on the side of caution.[67] And the caution was exercised in not alienating government, or in not risking an 'anti-reform' image with the public. The first Chairperson, therefore, chose to 'pick battles, look for the investments that stand out'.[68] The second Chairperson stated that they risk tarnishing their public image if they appear to contradict political promises and inhibit much needed reform.

In Karnataka, both regulators were sensitive to political pressures. The first Chairperson revealed a self-regulated pragmatism to challenge the government within bounds, which led to a selectively proactive, but overall cautionary stance. In the second tenure, the Commission faced overt pressure and demonstrated a conciliatory mindset towards investment review. Nowhere is this pressure more evident than in large investment projects. Both regulators indicate that for such large projects, regulators must consider broader ramifications of their decisions.

Large Investments: Carefully Treading

Conspicuously large projects undergo a different review process, having higher visibility and importance. Decision-making here becomes more political and less technical, due to higher stakes.

The first regulator received only one major proposal from KPTCL, involving an investment budget that would have almost doubled its asset base.[69] This proposed scheme came directly from the government through a Government Order.[70] The Commission chose to pick this battle, due to its unprecedented size. He sent regulatory staff to the field to examine the cost-benefits of the proposed scheme (Own-Your-Transformer). They eventually rejected the scheme, after finding that the payback period proposed by the utilities was ambitious and unrealistic.[71]

In the second regime, two projects reveal the political nature of decision-making. The first project involved installing microcontrollers on distribution feeders in agricultural areas to allow operators to remotely regulate supply to IP sets.[72] For several months, KERC interacted with BESCOM seeking clarifications and project details, culminating in a request to the utility to conduct a one-year pilot before seeking approval for the project.[73] In interviews, the staff stated a concern for the potential sabotage of such devices based on similar experiences in AP. The utility did initiate a pilot, but put repeated pressure on the Commission over several months to approve the entire project, citing Board approval and third-party studies of benefits from similar projects, culminating in a long, strongly worded letter from the KPTCL to the Commission, accusing the Commission of retarding the development of the sector.[74] The Commission responded to this letter with an immediate approval, with no justification for its turnaround.[75] Internal memos show that one member, until the receipt of this letter, expressed opposition to the project in the absence of a full pilot study.

In another project, involving a 2,700-crore transmission investment in a year (in this case, over five times the level of any previously realised annual investment), the regulator faced overt and immediate political pressure to approve the project, but the unprecedented nature of the investment also behooved a thorough review.

The Commission chose a path pursued earlier of setting up an expert committee. This committee gives the regulator 'some semblance of credibility' in reducing what everybody knew was an impractical level of investment in one year.[76] Many aspects of this project and its review suggest that the Commission's review process was a political balancing act as much as an independent, technical review. First, many sources within government and the KPTCL (preferring to remain anonymous) implied that the project developed from a politically motivated investment thrust onto KPTCL, with one source referring to it as 'campaign finance'. In such cases, KPTCL engineers would select projects to fit the spending directive. A senior official at the Commission mentioned that the government placed pressure on the regulator upon formation of the committee.[77] The Commission was made aware of the stakes.

The Commission constituted the committee with a strong utility representation. A retired bureaucrat who ran the utility for many years chaired the committee. He spoke of having faith in the fundamental premise of the proposal, and believed his role was to lend a dose of pragmatism to the project.[78] One other member was a representative from the consulting organisation who drafted the proposal. His role, according to the Committee Chair, was to provide data for the review. The third member was a former member of the KERC. That the background of the first two represented a potential conflict of interest did not seem an issue to the Chairperson or the regulatory staff. The Committee's expert report recommended staggering the project's implementation, reducing the annual outlay from 2,700 crore to 1,750 crore on practical grounds, but did not question its fundamentals.

Although the Commission held a hearing on the matter, many interveners claim their objections and information requests were not responded to or incorporated by the Committee in its final report or in any other forum.[79]

Yet, despite the apparently lenient pushback on the project, the KPTCL interpreted the KERC's ruling as outside the scope of its mandate, and successfully challenged its order in the Appellate Tribunal.[80] This verdict is crucial. It is the first judicial interpretation of the regulatory commissions' mandate regarding investment review, and contradicts the practice and implicit understanding of most regulators to date of capital investment as a critical component of tariff, and therefore well within the regulator's purview.

In summary, the KERC had to contend with explicit infringements on its independence in regulating investments, and it did so with an undercurrent of seeming reluctance to challenge investment fundamentals. The review process in both regimes reflected an underutilisation of the Commission's potential for scrutiny, independent review and investigative powers. Technical aspects of projects were left alone, budgets and rates of implementation were tempered based on defensible, safe grounds, such as historical expenditure.

Both Commissions were also mindful of the public image of the regulator. They compromised scrutiny in part to avoid appearing 'anti-development'. In publicly visible projects, the Commission made sure that it satisfied expectations of its mandate, by setting up a Committee, and downsizing the investment, but within safe bounds. Stakeholder intervention appeared to be treated perfunctorily, such as by documenting schemes in tariff orders, but not scrutinising them publicly, and by holding a hearing for a large investment but being unresponsive to interventions. If the Appellate Tribunal decision is an indication of the prevailing mindset, regulators face an uphill battle in interpreting, let alone implementing, their mandate with respect to investment review.

Tariff Setting

Tariff setting is usually the most political of all regulatory activities, and the most visible litmus test of a regulator's independence. In Karnataka, KERC has had to contend with a poorly functioning utility with heavy outstanding dues to the government, and a sector with a reputation of heavy-handed government involvement. In this environment, KERC's greatest challenge was to demonstrate autonomy in tariff setting. KERC's approach to tariff setting included an aggressive protection of its tariff-setting autonomy, as well as an aversion to raise tariffs after an initial controversial set of tariff hikes.

KERC approved two consecutive tariff increases of over 16 per cent each (2000, 2002) on average, with 60 per cent increases or more for subsidised categories, followed by a 2-3 per cent increase in 2003. This led to agitations across the state.[81] Since then, it has not increased tariffs. However, these increases represented substantially lower levels than those proposed by KPTCL in its filings, which were closer to 30 per cent. It met the discrepancy through a combination of cost reduction, loss reduction targets and power purchase adjustments. Despite this, tariff increases were met with significant opposition, particularly in rural areas in all its early tariff orders.[82]

In subsequent orders, it seems that the KERC avoided increasing tariffs. The agitations likely contributed to this caution. Moreover, given that up to that point KERC had approved a cumulative increase of over 40 per cent, and that the public complained from the outset of having to pay for utilities' inefficiencies, the Commission would have been hard pressed to justify further cost increases without suffering political damage. In some cases the Commission used the true-up to avoid increases. For example, in the 2003 Amendment Order, the KERC approved power purchase increases due to poor hydro availability that could have led to a tariff increase beyond that proposed by the utility. However, it deferred to the next filing the bulk of this so as to remain within the nominal tariff increase it projected.

Aside from actual tariff movement, KERC did assert its authority strongly in the tariff setting process, in cases overstepping its own boundaries. The KERC made clear in its early orders (Tariff Order 2000) its interpretation of the delineation of responsibility between KERC and the government. KERC moved costs toward average cost for all customer categories in keeping with its obligations under the E-Act. But it rejected pleas from the public to calculate tariffs based on income, deferring this issue to the government as a policy matter. At the same time, recognising the poor targeting of subsidies as potential discriminatory pricing - a matter within its ambit - it attempted to define a methodology to create differential tariffs within farmers, to identify a 'creamy layer'. This was met with significant opposition, and was challenged in court. This position reveals another instance of a proactive position. By experimenting with a methodology for differentiating farmers, it ventured into a grey area of policy in a controversial area and without much precedence. This stands out as an exception to a general reluctance to proactively make policy.

KERC also resisted publicly, in the first regime, perceived infringements of its tariff-making authority to manipulate prices for political gain. For example, KERC rejected the government's lower estimate of Bhagya Jyoti (BJ)/Kirit Jyoti (KJ) consumption for subsidy estimation, and instead used its own estimate.[83] The government had also issued an order to lower the rate category for the information technology sector, which the regulator challenged and eventually succeeded in having it withdrawn. Both these also arguably fall in the grey area between policy and tariff setting, but nevertheless reveal a clear signalling by the regulator of its domain.

In other less ambiguous cases, KERC fought an uphill battle against frequent government actions that undermined its credibility. Some cases were not as ambiguous as the above examples. In February 2005, the government passed an order to modify the tariff for wind power plants, in direct contravention of KERC's January 2005 order. The government also directed the utilities to disobey KERC's orders to charge subsidised customers higher tariffs, even as it withheld subsidy payments toward them.[84] Given conflicting directions from two governing authorities, the choice was apparently clear to the utilities - obey your owner.

In the second regime, the Commission also forayed into policymaking, but less openly. The Commission initiated an unprecedented initiative to differentiate tariffs between urban and rural areas, by nominally increasing tariffs for select categories in Bangalore urban, on the basis that they enjoyed a higher quality of power. This followed an unsuccessful attempt to formally introduce differential tariffs across ESCOMs through a discussion paper and public hearing, wherein government, utilities and the public opposed the concept.[85] In conversation, the Chairperson pointed to this as a symbolic step toward differential pricing to encourage competition among ESCOMs.[86] This initiative raises the conflict between means and ends; that is, between a desirable, proactive action by a regulator and one that builds on analysis and stakeholder input. The motivation and intent of this policy direction appear sound, but from a process perspective lack justification.

Overall, the experience of KERC's tariff setting in Karnataka reveals a general willingness to allow techno-economic criteria to govern tariff decisions, but within politically safe bounds - without raising tariffs beyond utility proposals, and without following through on threats of outright rejections of tariff increases for noncompliance. The KERC exhibited proactive exercise of autonomy, particularly in response to government's infringements, which rendered some of the Commission's efforts futile. On occasion, the Commission undertook suo motu actions bordering on policymaking.

Generation Planning and Power Purchase

Power purchase costs have grown to over 80 per cent of the total rate base.[87] Of this, Independent Power Producers (IPPs) costs constitute only 2-5 percentage points, while costs of existing generation and short-term purchases make up the rest. Yet, the KERC has received far greater attention for its review of IPPs than for power purchase.[88] We focus here on IPP review, due to their political nature, and because it sets an important precedent for future IPPs, as their share of the generation mix increases.

IPP Review: Hijacked by the Consumer?

As per the KER Act, the regulator has exclusive authority to approve PPAs between Independent Power Producers (IPP) and buyers (ESCOMs, previously KPTCL), except those concluded before KERC came into existence. KERC found itself in the awkward position of inheriting a controversial PPA, over which it had no legal control. Besides this, KERC has had to develop a buyback policy and review several non-conventional energy (NCE) projects and a few thermal projects in various stages of development.

KERC's review of PPAs took on two different hues. Its review of large thermal projects, including one controversial inherited [Tannir Bhavi (TBPCL)] project, was detailed, sophisticated and aggressive in protecting consumer interests. KERC's orders on TBPL dominated public perception of KERC, namely one of a consumer-biased regulator. But in its NCE tariff determination order, the debate over terms of purchase was relatively thin.

The Tannir Bhavi Power Corporation Ltd (TBPCL) PPA was concluded, but in dispute, upon KERC's formation. The dispute revolved around an ambiguous fixed charge definition in the PPA - a matter of 1,040 crore over seven years - that went to arbitration as per the PPA dispute resolution provisions.[89] KERC's treatment of this PPA was particularly forceful and consumer-driven, but according to the utilities, capricious. The public perceived this project as locking in unjust and highly inflated costs in a legally enforceable contract. The public looked to the KERC for redressal, even though legally the KERC prima facie had no grounds to do so. The initial position of the KERC was to defer pass through of the disputed fixed costs pending as arbitration panel's verdict.[90] The panel found favour with the IPP, but apparently did not address the substantive grounds of the dispute.[91] The KERC, evidently hoping for a reversal by the panel, was not willing to surrender to an unsatisfactory judgement.

Instead, KERC took a controversial stance by going against the decision of the arbitration panel, using an innovative legal interpretation of the KER Act. The KERC ruled that the PPA could not be considered a 'concluded' contract under the Act, because this implies mutual consent to the terms therein, which was belied by the dispute and the arbitration proceedings.[92] Thus, the KERC found a way to take matters into its own hands, justifying its decision based on its obligation to protect the public interest. In this capacity, it ruled that the fixed cost should not be passed on to consumers.

Given the legal strength of the PPA, governmental pressure and arbitration outcome, the Commission may have easily justified passing on the costs to the consumer. That it did not reflects an aggressive exercise of regulatory discretion, and a clear interpretation of its principle duties (namely, public interest protection).

In another new IPP project (Jindal), controversy surrounded the fixed costs again, this time hinging on the concern that the project passed its entire capital cost through to consumers when a portion was for self-use. Here too the KERC took an aggressive stance, issuing a detailed, forceful order that reduced allowable rates, though it did not change the basis for the fixed cost calculation. KERC also held the KPTCL to a high standard for justifying generation plans with detailed demand projections.

Non-Conventional Energy Project Review

The KERC's NCE order on tariff determination stands out as an exception to the detailed, consumer-driven rulings preceding it. Although the Commission forced cost prudence in the buyback rate calculations (some developers filed petitions for the review of Commission-determined rates),[93] many other important terms of purchase that would impact all projects, such as merit order dispatch, and single *vs* two-part tariffs, lack detailed, balanced argumentation in comparison to other states' orders on the same issues, [94] and to KERC's own orders on TBPCL and Jindal, and contain outcomes favourable to developers. [95] Some stakeholders expressed the concern that the Commission faced pressures from developers.[96] Representatives attending the hearing conducted on the matter included only developers, developer associations and KPTCL.[97] Even though the Commission invited public comments in response to a previous consultation paper and received objections from consumer representatives, albeit few, the order lacks citations to consumer or public interest representatives. Even if these were not considered useful, the failure to mention them is nevertheless noteworthy.

What explains these contrasting approaches and public perception of KERC? A few senior members of the KERC, including the Secretary and Technical Member, heavily influenced its stance on IPPs.[98] The Commission passed the NCE tariff determination order, on the other hand, after the departure of both the Secretary and first Chairperson. The difference in public visibility may also explain this difference, since regulators perceive their credibility at stake with higher visibility projects, such as the TBPCL case.

The lesson learned from IPP review is twofold: key individuals influence outcomes, as does public visibility or pressure (or the lack thereof). The KERC experience also illustrates the extent to which regulators can stretch their powers and challenge government if they have the will. Overall, the KERC did create and exploit a public platform for debate, where in addition to the role of an arbiter it more often than not it took on the role of protecting the public interest. In all cases and under both Chairpersons, the orders on individual projects and NCE policies reveal the rationale and level of scrutiny behind decisions. These represent a far greater level of transparency in generation planning than would otherwise exist without KERC, and stand as precedents for future decisions.

Rule-making and Policy

KERC promulgated over 20 regulations in its tenure, initially for procedural and internal matters, pursuant to the KER Act, and later for policy-related matters related mostly to intra-state open access and market development, pursuant to the E-Act. This thrust KERC into the domain of policy to a greater extent than any other function. To make matters difficult, the E-Act laid down few guidelines for some of the undetermined, but critical, aspects of markets, such as to which and how many consumers to offer open access, in what time frame, and what surcharges to charge them.[99]

The KERC pursued its mandate to develop competition regulations strictly by following precedent or Central Government policy with little exercise of discretion. This approach was safe, and conservative (with respect to shepherding change).

Rule-making Process: Internal Drafting, External Content

The KERC stands out among Indian regulators for consistently following a process for promulgating its regulations on policy matters. Despite this process thoroughness, the judgements reflect deference to higher authority, usually government policy. Draft discussion papers receive minimal stakeholder feedback compared to the tariff process, and contain modest independent analysis by the regulator.

In the rule-making process, KERC drafts discussion papers, typically on its own, circulate them widely for comments for a period of 3 weeks. It subsequently holds a public hearing, on the basis of which it drafts a regulation and order, and posts this for a limited period before finalising the regulation.

KERC continued its culture of reliance, and drafted most regulations and discussion papers on open access in-house. A few key staff members would rapidly ascend the learning curve through research and reading for each forthcoming issue, including going on training sessions. The only exception was the Multi-Year Tariff regulation, for which the discussion paper was drafted by a consultant. Interestingly, KERC hired the same organisation that they hired for the IP set study as well for drafting the first tariff order. Interviews did reveal a preference for a known entity, and a general skepticism of the value addition from conventional international consulting firms.[100]

However, the substantive content of the regulations and discussion papers almost always came from other sources. Andhra Pradesh was a common source for learning potential options and directions, since they were typically one step ahead of other regulators. For direction on intra-state Availability Based Tariff (ABT),[101] the KERC relied on papers drafted by the Central Electricity Regulatory Commission (CERC). On surcharge – the most contentious and important determinant of open access – the KERC adopted the 'default' approach (average cost basis) in lieu of the approach recommended in the Electricity Act (cost-to-serve), which they could not compute in the absence of adequate data. When the Ministry of Power issued guidelines in its tariff policy that included a suggested, practicable method, they adopted the recommendation included therein. For the minimum purchase obligation for renewables, KERC adopted the previous government and MNES policy guidelines, as well as other states' purchase prices.

In all cases, the KERC proceedings did not attract a wide array of intellectual inputs. For example, the proceedings on the various charges for open access, involved about 22 written sets of comments, almost none of which were interventions by industry experts, academics or other regulatory institutions. The groups included utilities, industry and industry association representatives, government and very few consumer representatives or individuals.[102] The KERC did occasionally invite experts and consultants to make informal presentations, but these were to educate the members and staff rather than to provide formal analysis and options for evaluation purposes.

KERC's approach reflected a general reluctance to promulgate reform-related regulations without the endorsement of a government entity – either a regulator or ministry. This reluctance may stem in part from the utility mindset dominating the KERC internally, as well as (understandable) capacity limitations. The orders reflect a preferred deference to credible, external sources.

Decision-making: Constraint Driven

The open access related regulations placed heavy expectation on the regulator to climb a learning curve of electricity market development. The staff scrambled to keep up with developments, by perusing web sites of other regulators, attending conferences and workshops. As mentioned earlier, the Director of Tariffs and a couple of key staff handled all the open access issues, making the expertise requirements challenging, by any standards.

The staff gained sufficient knowledge to assimilate the background issues, policy alternatives and objectives of market design aspects from various sources, and therefore draft discussion papers in-house. Yet, technical utility staff felt that the Commission had a limited understanding of the technical implications of open access rules.[103]

This capacity constraint manifested in several important orders. With surcharges, KERC did not have the option to calculate surcharges based on cost-to-serve (COS) – as prescribed by the E-Act – because of the absence of sufficient data on customer profiles. The KERC repeatedly directed the utilities from 2000 onwards to develop a reliable COS model and data to feed it, but in vain. So, unlike AP, who made this an integral part of tariff orders from the first year, KERC had no data with which to analyse COS. Thus, surcharges were calculated based on average cost, and later, based on Central Government recommendations. Similarly, the intra-state ABT issue was highly technical in nature, and another area where KERC released a discussion paper on this once the CERC released a presentation and recommended implementation mechanism for ABT to all regulators.[104]

The Commission proactively pursued a Multi-Year Tariff (MYT), but a policy did not get promulgated until after the release of the National Tariff Policy, which issued guidelines for implementing MYT. KERC had issued a discussion paper on MYT in April 2003, solicited comments and held a public hearing. However, government in parallel spearheaded its own deliberations on MYT in the context of privatisation as an amendment to the KER Act, where KERC was just a participant. The proposed Amendments were controversial, and diminished the role of the regulator considerably. The KERC, under the first regime, publicly opposed the Amendments, bringing attention instead to its own deliberations.[105] The KERC did not publicly pursue the matter further until almost three years later, once the Central Government issued a guideline in its tariff policy to implement MYT, after which the KERC drafted regulations.

The KERC grudgingly took on the role of a policy maker, particularly as a first mover in a sector with immense resistance to change. But in the presence of guidance and/or precedence, it proceeded with rule-making in a timely and efficient manner. This is understandable, given their limited capacity, and not unlike most regulators. Given their proactiveness in learning and adherence to procedure, their restrained approach to rule-making only indicates the need for greater guidance and support from government and coordination between regulators on policymaking.

Stakeholder Participation

An essential component of regulatory governance and accountability is the space for stakeholder participation. In theory, stakeholder involvement can provide additional information, lend credibility to regulatory proceedings, and help inform regulators on the likely public response to their decisions. In this section we examine stakeholder participation in KERC, including the dimensions of transparency, participation, accountability and impact.

KERC has the reputation for taking a strong public stance in support of consumers, as discussed earlier, a position that was driven by a few influential senior officials. The first Secretary felt that a handicap had to be given to the consumer to compensate for a history of practices against it.[106] KERC was the first (and only) regulator to institute an office of Consumer Advocacy, who was an independent consultant that straddled the fence between the KERC and consumer groups. He was responsible for serving as a conduit to channel stakeholder participation into KERC proceedings, as well as ensure that the KERC created the space for consumers, through active training, information dissemination and availability.

Transparency

KERC's information culture, as reflected in its regular Annual Reports, strong web site and procedural regulations demonstrate a commitment to transparency and stakeholder participation. The KERC from inception maintained a relatively informative web site, and responded to consumers' feedback. For example, KERC posted chapter-wise links to tariff orders on request of a consumer. As a specific demonstration of its commitment to transparency, the Commission included in every Annual Report all formal correspondence with government.

The Consumer Advocate publicised papers and addressed consumer grievances when other avenues were exhausted. For example, the Consumer Advocate publicised the strategy paper written by consultants on privatisation and related amendments to the KER Act. KERC diligently posts its discussion papers for rule-making on its web site. As the result of these efforts, consumers who participated actively in regulatory proceedings expressed strong support for the Consumer Advocate and the transparency of KERC.

Stakeholder Participation

On the surface, Karnataka appears to have an active and broad public voice in the regulatory process. In the three Tariff Orders between 2002 and 2005, over 8000, 6000 and 5000 objections respectively were filed. However, the large number of objections belies the true breadth of participation, because in all these orders farmer representatives arranged to inundate the regulator with multiple versions of the same objection.[107] For example, in FY 2002 99 per cent of objections were on behalf of IP set owners or

IP set/domestic consumers.[108] The number of non-duplicate objections ranges between 100 to 300 in each order for all companies together. The number of active interveners in Karnataka has been smaller, and reasonably constant over time (See Appendix). The handful of active interveners positively influenced regulatory proceedings, but mostly in the tariff process, and hardly participated at all in policy-related matters. Despite their small number, regulators and regulatory staff rely on public objections in tariff orders, even while both stakeholders and regulators expressed wariness of each other's capacity.

Stakeholder Composition: The largest share of objectors comes from industry, comprising 43 per cent in KERC. Over 40 per cent of total issues raised in filings consistently arise in industry representatives' objections. The Federation of Karnataka Chambers of Commerce and Industry (FKCCI) publishes and circulates information booklets to raise awareness of the power sector issues. However, participation is not widespread across industry. An FKCCI representative in KA indicated that out of over 3,000 members, only 25 or so attend their energy summits, of which only a few small-scale industry representatives actively contribute to tariff filings. Large industries do not participate at all. This may seem surprising considering that KA has one of the highest industrial/commercial tariffs in the country. However, industries for whom electricity comprises a high share of production costs have found exiting the system more expedient than engaging in drawn out and uncertain regulatory processes.

Consumer groups include NGOs, farmer organisations, individuals and resident associations. Karnataka had 37 consumer groups, including 7 farmers/farmer associations. The data show that among consumer/farmer organisations, more than half operate individually, without institutional support.

Regional Disparity: The demographic breakdown of objectors shows stark regional disparities, particularly along urban/rural lines. Consumer representatives are unevenly distributed across ESCOMs. Gulbarga has less than five consumer representatives, while MESCOM, which includes densely developed areas along the Karnataka coast (e.g. Udupi), has the widest breadth and largest number of consumer representatives.

Urban consumer participation, particularly from Bangalore and Mangalore cities, is relatively small, but includes several active and influential consumer groups/representatives.[109] Interviews with consumer groups reveal that urban residents, in general, either find the burden of electricity bills insufficient to bother with reforms, or have little faith in the regulatory system or in reform.[110] This is supported by the observation that most of the concerns expressed in BESCOM objections relate to grievances by industry on tariff levels or slabs.

Farmers in rural regions comprise the bulk of individual interveners in the process. This is not surprising, since they have the most at stake, and have no alternatives (unlike industry, who may also have as much at stake). Urban areas have few active individual interveners, but do include some of the active consumer groups. Industry groups unsurprisingly come from industrial areas around Bangalore and the coastal regions.

Evolution of Public Participation: We found an increase in the depth and sophistication of objections from FY 2002 to FY 2005, even though the number of participants did not change. Almost all objections in Karnataka in FY 2002 were grievance-related, and not substantive. Most of these came from farmer groups who protested the rate increases, and classification of rate categories. Many objected generally to the imposition of utility's inefficiencies on consumers in the form of tariffs. However, the range of issues to which substantive objections have been made in FY 2005 increased to tens of technical issues, some delving into depths of cash flows statements, quality of service, inconsistencies in filings, excess expenditures, T&D losses, and others. This has been observed in comments from industry, utilities and consumer groups.

KPTCL utility and regulatory staff corroborated this observation of increased sophistication of objections. They claim that they have been forced to pay closer attention to their filings, as objectors find mistakes. They point to a handful of regular objectors, whose objections they now look out for, or to whom they pay particular attention.[111]

A few farmer representatives indicate that their involvement in the regulatory process has given them the awareness to understand the detriment of 'free power'. One such representative learned that 'farmers don't know their own problems'. Allegedly, this awareness has led to lower agitation.[112]

Commission Advisory Committee: The KERC formed a Commission Advisory Committee (CAC) pursuant to the KERC Act. This group consisted of various stakeholders, including representatives of consumers, unions, utilities, government and industry. They have met 14 times, typically on a quarterly basis (as required by the Act), except for one extended gap between February 2004 and January 2005. This coincided with state elections (May 2004), and the end of the first Chairperson's term (November 2004).

The CAC deliberated broad, policy-level issues, including the development of rural power supply technologies, irrigation schemes, multi-year tariff, and other changes brought about by the E-Act. It is not clear to what extent the Commission gained from or responded to CAC deliberations in its decision-making. Meeting minutes contain a summary of presentations by various stakeholders, but do not contain any deliberations or conclusive comments by the Commission. On a few occasions, as indicated in tariff orders, CAC members raised suggestions material to Commission's deliberations.[113] In the FY 2005 order, the Commission attributed the idea of the differential urban/rural tariff to the advise of the CAC, even though the idea has been closely associated with him personally. This would indicate that the new Commission viewed the CAC as a vehicle of credibility.

Accountability Mechanisms

Of greatest import is the KERC's commitment to their Annual Reports. Unlike many states in India, KERC published Annual Reports every year in a consistent format, providing comprehensive information on the Commission's activities, financial accounting, consultancy, training, promulgations, and correspondence with the government. In addition, its documentation of hearings and stakeholder responses has evolved, as described below.

Documentation of Public Participation: The record of stakeholder participation in tariff orders shows a steady evolution that reflects its increasing importance to KERC. This record has evolved in detail and style. Early orders contained a few summary pages of objections without references to individual objectors. By FY 2005, the Commission comprehensively documented the issues raised in most objections in detail with attribution to individual objectors. All tariff orders show a breakdown of objections by ESCOM. Annexes of the orders list all objectors who participated in hearings. They have provided useful aggregation of objections by district and by objector type, but only in some orders.

However, many noted the lack of responsiveness in public hearings. Consumers expressed a desire to engage and debate with the utility (typically, the respondents), rather than just airing their objections to the Commission, with no certainty of satisfactory redressal.[114]

Impact of Public Participation

From a policy perspective, public participation is an instrument of accountability. How effective has it been in this regard? Overall, public participation in the regulatory process has not forced action. Regulators tactically rely on objections at their discretion, and mainly on technical aspects of the ARR process, but not on larger reform issues.

The regulatory process, as embodied in the CBR, other procedural regulations and the KERA do not have explicit mechanisms for ensuring regulators' responsiveness to stakeholder interventions. Though in recent orders the Commission documents objections thoroughly, they respond to them in the order at their discretion. The public hearing process is also of a form that encourages interventions, but not interactive debate on issues. Utilities submit written responses to public objections of ERC filings, but are not required to respond in hearings to the objections. Regulators themselves respond to objections at their discretion, in some cases hearing them, but remaining silent.

Consumers expressed concern that the Commission is not responsive to public objections on a number of issues (as in the case of the investment proposal discussed earlier).[115] Consumers, particularly those that have elevated themselves above rate issues, feel the regulator is not proactive, and avoids tackling fundamental reforms in the sector. These consumers felt they have brought to the attention of the regulator several substantive irregularities in utility filings, which the regulator has neglected to pursue.[116]

Regulators' limited regard for public interventions helps explain their limited responsiveness to the public. Regulators and regulatory staff claim to not gain significantly in their analysis from consumer participation. Regulatory staff indicate that regulators generally do not read consumer objections thoroughly.[117] Instead, staff summarise and write synopses of objections for tariff orders, which then regulators may refer in their final discussions.

The regulators' perception, corroborated by staff, is that public participation is not particularly 'enlightened'.[118] They do not understand the broader context of reform, and therefore cannot appreciate the time and complexity in improving the sector. Consumers' own experiences bear out this perception. Some consumers in Karnataka feel disrespected by regulators, based on their interaction in public hearings and personal meetings.

However, this stands in contrast to the earlier discussion on KPTCL's view of consumer participation as increasingly useful. On closer reading of the tariff orders, on several occasions KERC has cited and agreed with consumer objections in articulating its position on some issues. Often the Commission relies in part on consumers' objections to explain or defend a position.

Despite the increased sophistication of objections, interviews with regulators and consumer groups reveal that tariffs remain the primary entry point for consumers into the regulatory process. Consumers' growing capacity and regulators' increasing reliance on consumer objections fall primarily in the domain of cost recovery and reduction, not policy. Consumers as yet have insufficient capacity, exposure or even the time to understand or comment on tariff filings from this larger policy context (barring few exceptions, of course).

Potential Opportunities with Public Participation: Consumers' and regulators' perceptions of each other are similar: they lack capacity, focus mostly on rate issues, but are critical for reforming the sector in the long run. Nevertheless, consumer representatives voice optimism about the benefits of the regulatory process, amidst their criticisms of regulatory responsiveness and capacity. Regulators too encourage and support consumer participation contingent on consumers increasing their awareness and capacity.

As discussed above, regulators often exploit consumer interventions, even if they do not rely on them for their analysis. Interviews with stakeholders indicate that such reliance on consumer inputs may be stronger than indicated in the tariff orders. The regulator welcomes consumer objections as a basis for them to raise concerns with utilities in matters they may not feel otherwise comfortable. Having sensitive issues raised in formal public objections allows regulators to deflect any criticism by invoking their obligation to represent the public. In other words, it allows them to operate as mere instruments of the law, rather than self-styled (and potentially unpopular) reformists. An alleged statement by a regulator to a consumer advocate in Karnataka epitomises this attitude: 'If you bring something up, I will consider. Suo motu, I will not take administrative action.'[119]

The regulatory staff proactively encouraged outside experts and interveners to submit formal objections, so that the Commission would have a basis to raise issue with the project. This was a regular occurrence particularly on generation planning issues, and indicated the staff's desire for outside backing to give the Commission a pretext for challenging the government. Staff were fully aware of the political pressures in decision-making, and saw stakeholder intervention as a means to surmount this. For example, regulator staff expressed awareness and tacit support for the weak basis for many proposed generation projects in the state. When asked why they have not raised technical arguments against the utility, they requested that consumers file formal objections making technical arguments against these projects, so that they may have a reason to raise the matter in the next tariff filing.[120] In this regard, public participation can benefit greatly in bringing to the public record issues that the regulator may avoid.

Thus, public participation can play a supportive role to the regulator in carrying out its mandate. But regulators still rely opportunistically on such participation. Public participation does not as yet force the regulator to confront issues, particularly when other compelling pressures seem overwhelming.

Conclusion

The KERC is a new institution intended to be a core component of a reform plan that never fully materialised. KERC was established based on the US model of independent regulation to depoliticise tariff setting for the benefit of future private investors in distribution utilities. With privatisation never getting off the ground, and the passing of the Electricity Act, regulators ended up as focal points of power sector reform, and consequently as de facto agents of institutional (distribution utility) reform.

In this role they have struggled to make an impact. Though the KERC exhibits a relatively strong commitment to reform and to regulatory process, their decision-making comes across as constrained. External constraints in the form of weak enforceability and lack of government support contribute to this, but some of their constraints are also self-imposed. Regulators have exercised restraint in exercising their powers, either out of a perceived futility to challenge the establishment, or as a deliberate tactic toward enhancing their agency by setting less ambitious goals. While KERC did stretch its powers on occasion, it did so due to the influence of individuals. The participatory process in KERC has evolved, strengthened and contributed to decision-making, but has not forced it. Active intervention in the regulatory process by the public has reduced or remained constant, but increased in sophistication. Stakeholders contribute largely to tariff-related issues, with little contribution to policy.

An important insight from the KERC's experience is that regulators' perception of their credibility in government's and the public eye drives their decision-making. In matters with higher visibility, KERC undertook greater levels of scrutiny, such as with the Tannir Bhavi IPP case, and a 2,700-crore transmission investment. But even in these cases, scrutiny was internally driven, and sometimes perfunctory. The participatory process offers significant opportunity to exploit this concern for credibility as a mechanism of accountability. But it needs to evolve to force responsiveness of the regulator to stakeholder interventions, and bring into the public domain certain review aspects that have slipped through the cracks of public scrutiny, such as investment review and directive monitoring and compliance.

Institutional and Political Context: Lack of Government Support

The KERC suffered not only from a lack of political support upon establishment but also actions that undermined its authority during its tenure. Nobody in the electricity establishment was prepared for the regulator, and the government did little to ease the transition. Utilities had little respect or understanding of the regulator. The government signalled its weak commitment to the regulatory institution by first providing conflicting messages to KERC on its authority and perquisites, and later attempting to dilute its powers in its proposed amendments of the KERA to facilitate privatisation.

The government's oversight authority over utilities (as owner) created an overlap in operational oversight between government and the KERC (as regulator). Right from the outset, the utilities had to answer to two authorities, and KERC very quickly learned that they occupied second place. Rather than strengthening oversight through a common purpose, this overlap often undermined regulatory authority, such as when government would hold back subsidy payments as an instrument of performance enforcement, and simultaneously order utilities to ignore regulators' directive to fill the gap by increasing agricultural tariffs. In other cases, this overlap rendered regulatory directives superfluous, such as with loss reduction targets or investment directives.

KERC particularly struggled with its autonomy in investment review. A recent Appellate Tribunal decision quashed its authority over investment review. This landmark decision throws wide open the interpretation of tariff regulation, and will likely foreclose any future review of investments until further judicial review of the matter.

By weakening KERC's legitimacy, government also reduced KERC's ability to enforce directives. With limited political support of the regulator, it came as no surprise that utilities regularly challenged KERC's orders in court. This, coupled with the culture of an authoritative and consumer-oriented Commission strained relations between KERC and the utilities and reduced cooperation, making their task more difficult.

Regulation in Practice: Self-Imposed Constraints and Limited Exercise of Powers

KERC's self-perception of their practical powers fell short of their legal powers. They were against imposing punitive penalties on utilities. Enforceable instruments of discipline were also not carried out. KERC threatened to withhold rate increases, but despite persistent non-compliance they never followed through. They carried out agricultural estimation and directive monitoring in an adjudicatory and arms-length manner, without exercising their search and seize powers or conducting hands-on field investigations, which resulted in limited success but greater frustration with utilities' obfuscatory tactics.

KERC, like most regulators in India, do not have the capacity or expertise for such extensive hands-on investigative research, but do have the option of outsourcing these activities. They conducted few such studies, but only recently on a wide scale. The KERC developed a culture of self-reliance and hired consultants on occasion, which speaks to their competence and proactiveness, but was also suited to a hands-off style of regulation. That the KERC comprises almost entirely of staff either on deputation from or with histories in utilities, contributed to a mindset of deference to government on areas of overlapping oversight.

Role of Stakeholders: Underutilised Instrument of Accountability

KERC's commitment to its mandated governance style of transparency and participatory process was commendable and pioneering. KERC's Office of Consumer Advocacy served as a communication bridge between consumers and the regulator. KERC maintained and provided information proactively, both on their web site and upon request. They conducted hearings, solicited public comments and circulated discussion papers for rule-making consistently.

However, stakeholders took limited advantage of this process. Their participation evolved, from one dominated by widespread outrage against tariff increases and customer segmentation in early years, to more substantive interventions in later years. Farmers and farmer groups have consistently been the most active interveners, relying on an apparently successful strategy of inundating the regulator with thousands of duplicate comments. Filtering this out, though, reveals a stakeholder set with significant regional disparity, and dominance by industry and a few consumers and consumer representatives. Rural and semi-urban areas outnumber urban interveners by a large margin.

Stakeholders' and regulators' mutual perceptions of each other are that the process has so far been useful only in tariff setting, not in policy issues (such as open access). The format of the process also lacks interactive debate and engagement between interveners and utilities and regulators.

Notes

1. The companies included KPCL (Genco), Bangalore, Mangalore, Hubli and Gulbarga Electric Supply companies (BESCOM, MESCOM, HESCOM, GESCOM). In 2006 KERC carved out a new sixth Distribution Company in Chamundeshwari.
2. Centre for Infrastructure Management, *Restructuring of the Electricity Industry in Karnataka* and *Regulatory Framework for Karnataka Power Sector*, ASCI, 1997.
3. Interview with former Regulator, corroborated by staff, 30 January 2006.
4. Memorandum of Understanding between the Ministry of Power, Government of India and Government of Karnataka on 12 February 2000.
5. Government Order No. DE 36 PSR 2002, issued 18 November 2002.
6. KERC's comments on the Proposed Amendments to the KER Act for Introduction of Multi-Year Tariff.
7. Financial Restructuring Plan, Government of Karnataka, 2001.

8. Interview with consultant to KPTCL, corroborated by KPTCL staff, 17 February 2006.
9. Interview with senior regulatory official, 14 October 2005.
10. The KERC was formed and the Chairman appointed in the closing days of the J H Patil Government, but started operation under the S M Krishna Government.
11. Interview with first Chairperson, 13 October 2005.
12. Interview with first Chairperson, 13 October 2005.
13. Interview with KPTCL staff, corroborated by utility consultant, 12 April 2006.
14. Interview with consultant to the KPTCL, 14 February 2006.
15. Interview with regulatory Affairs Staff, KPTCL, 14 February 2006; and consultants, 17 February 2006.
16. Interview with first Chairperson, 13 October 2005.
17. Selection Committee consists of a retired High Court or Supreme Court Chief Justice (Chair), the Chief Secretary of the GoK, and the Chairperson of the Central Electricity Authority (CEA) or Chairman of the SEB holding the post for longer than three years. The Committee is convened by the Energy Secretary of GoK, Karnataka Electricity Reforms Act 1999.
18. Interview with regulatory Member, 13 October 2005.
19. The First Chairperson did not accept government recommendation, Interview with Chairperson, 30 January 2006.
20. Interview with senior regulatory official, 9 May 2006.
21. Interview with senior regulatory official, 9 May 2006.
22. Interview with regulatory staff member, 29 January 2006.
23. Interview with first Chairperson, 30 January 2006.
24. Interview with regulatory staff, 14 October 2005.
25. Interview with regulatory staff, 14 October 2005.
26. Interview with senior regulatory official, 9 May 2006.
27. Interview with regulatory staff, 14 October 2005.
28. Interview with technical staff, KERC, 29 January 2006.
29. Interview with technical staff, KERC, 14 October 2005.
30. Interview with first Chairperson, 14 October 2005.
31. Interview with second Chairperson, 10 April 2006.
32. Interview with senior regulatory official, KERC, 10 April 2006.
33. Interview with regulatory staff, 14 October 2005.
34. Interviews with regulatory affairs staff, KPTCL, 14 February 2006 and utility consultant, 17 February 2006.
35. Interview with regulatory affairs staff, KPTCL, 14 October 2005.
36. Interview with senior government bureaucrat, 16 February 2006.
37. Consumer Focus Group, 22 March 2006.
38. Interview with KPTCL senior official, 14 February 2006.
39. Interview with regulatory staff, 20 April 2006; and utility officials, 14 February 2006.
40. Interview with senior utility official, 14 February 2006; and senior bureaucrat, 16 February 2006.

41. The Commission had ordered the metering in its Letter No. I/11/02/1830, 11 July 2002, but continued to pursue the matter through next Tariff Order (2003).
42. See Annex 2, Tariff Order 2002.
43. Interview with Chairperson, 10 April 2006.
44. Interview with senior utility official, 14 June 2006; and senior bureaucrat, 16 February 2006.
45. Interview with senior KERC official, 13 October 2005.
46. Consumer Focus Group, 22 March 2006.
47. Interview with first Chairperson, 10 April 2006; and Bharati Kisan Sangh Consumer Focus Group, 22 March 2006.
48. Interview with BESCOM official, 13 February 2006.
49. A utility staff claimed that the consultant was 'doing nothing'. Interview with KPTCL staff member, 9 June 2006. The KERC staff maintain that the utility was providing data for only select feeders that had no pump sets on them. Interview with regulatory staff, 20 April 2006. Other senior officials appeared unconcerned about the consultant's possible use of data provided by the ESCOM. Interview with second Chairperson, KERC, 10 April 2006.
50. Interview with senior Karnataka bureaucrat, 16 February 2006.
51. 'Transmission & Distribution (T&D) Losses', Tariff Order, 2000.
52. Interview with Director, KERC, 14 October 2005.
53. Interview with senior official, 14 June 2006.
54. Distribution Loss & Energy Audit for each ESCOM, Tariff Order, 2005.
55. Interview with senior official, 14 June 2006.
56. Tariff Order, 2005, Chapter 1, Page 30.
57. Letter from KERC to Energy Secretary, GoK, 21 February 2005, Annex 2.9, Annual Report 2004-5.
58. Interview with first Chairman, KERC, 13 October 2006.
59. Interview with first Chairman, KERC, 13 October 2006.
60. See Annex 1, Tariff Order, 2005.
61. Interview with second Chairperson, KERC, 14 October 2005.
62. Interview with first Chairperson, 30 January 2005.
63. 5 crore is also the limit above which KPTCL is required to seek government approval for a guarantee to back financing.
64. Interview with first Chairperson, 30 January 2005.
65. Interview with first Chairperson, 30 January 2005.
66. Interview with KPTCL official, 14 February 2006.
67. Interview with first Chairperson, 30 January 2005.
68. Interview with regulator, 30 January 2006.
69. The Own-Your-Transformer (OYT) scheme proposed investments of 4,900 crore, KPTCL's assets in FY 2001 were worth about 5,000 crore.
70. Karnataka Government Order No. DE 59 PSR 2003, Bangalore, 21 October 2003.
71. Government officials claim that they themselves abandoned the scheme after finding the results of the pilot unsatisfactory.

72. Project was called Rural Load Management Scheme (RLMS).
73. Letter from KERC to BESCOM on 17 November 2004, No. X/02/4/1924.
74. Letter from BESCOM to KERC on 22 June 2005, No. BESCOM/MD/PS/BC1/T1/2005-6.
75. Letter from KERC to BESCOM on 19 July 2005, No. X/02/4/1059.
76. Interview with senior regulatory official, 10 April 2006.
77. Interview with senior regulatory official, 10 April 2006.
78. Drawn from discussions with Expert Committee Chair, June 2005.
79. Perceptions of interveners in the hearing process expressed in Consumer Focus Group, March 2006.
80. Appeal No. 84, August 2006.
81. 'Power Tariff Hike Deceptive: BJP', *Times of India*, 9 May 2002.
82. Consumer Focus Group, 22 March 2006.
83. Tariff Order, 2005, p. 323.
84. Interview with CMD, KPTCL, 14 June 2006.
85. Chapter 9, Tariff Order, 2005.
86. Interview with second Chairperson, 10 April 2006.
87. Consolidated ERC of ESCOMs, Annex 11, Tariff Order, 2005.
88. The former Chairperson pointed out that in retrospect power purchase represents the area where the Commission has had the least impact. We don't assess this aspect because uncontrollable aspects of purchase costs (e.g. fuel) drive purchase costs to a large degree. The controllable elements (e.g. quantity of purchase) fall in the technical realm, and offer less insight into process and decision-making than does KERC's review of IPPs.
89. KERC Tariff Amendment Order, para 11.3, p. 7.
90. Tariff Order, 2003. Note that taxpayers would pay for these costs anyway. KERC only dealt with the matter of passing it to electricity consumers directly.
91. Interview with senior regulatory official, 9 May 2006.
92. Mutual consent referred to as consensus ad idem, Tariff Amendment Order 2003, para 11.18, p. 17.
93. Review Petition filed by the following in the matter of tariff determined by the Commission in respect of Non-conventional Energy Sources, 20 July 2005.
94. Andhra Pradesh and Tamil Nadu NCE Orders.
95. Order on Determination of Tariff in respect of Renewable Sources of Energy, issued 18 January 2005.
96. Interviews with Former KPTCL officials, 14 February 2006; and Consumer Focus Group, 22 March 2006.
97. Annex 2, 'Order on the Matter of Determination of Tariff in Respect of Renewable Sources of Energy', January 2005.
98. Interview with senior officials, 13 October 2005 and 9 May 2006.
99. Surcharges are exit 'fees' imposed on customers opting for open access to mitigate the loss of the cross-subsidies they provided, which were to be phased out as tariffs were rationalised.
100. Interviews with Directors, KERC, 14 October 2005 and 30 January 2006.
101. Availability based Tariff, a method of inducing grid discipline and settling imbalances.

102. KERC Order on transmission charges, wheeling charges, and cross-subsidy charges, 9 June 2005.
103. Interview with KPTCL engineer, 9 June 2006.
104. Discussion paper on Intra-state ABT issued on 26 December 2005 following CERC's presentation on 24 November 2005 to Forum of Indian Regulators (FOIR).
105. See KERC Comments on the Proposed Amendments to KER Act for Proposed Multi-Year Tariff, 2003.
106. Interview with senior regulatory official, 9 May 2006.
107. This was confirmed by one instigating group in a Consumer Focus Group meeting, March 2006.
108. KERC used the category 'IP Set/Domestic', which probably refers to groups that represents interests of rural consumers at large, and not just IP set owners, KERC Tariff Order 2002, p. 17.
109. Consumer groups indicate that even in MESCOM objections come primarily from rural and semi-urban coastal areas, Consumer Focus Group, March 2006.
110. FKCCI representative, KERC Consumer Forum, March 2006.
111. KPTCL Regulatory Affairs, February 2006.
112. Bharat Kisan Sangh representative, Consumer Focus Group, March 2006.
113. Tariff Order, 2002, p. 136; Tariff Amendment Order 2003, p. 43.
114. Opinion of FKCCI representative, Consumer Focus Group, March 2006.
115. Consumer Focus Group, March 2006.
116. Such as the capitalisation of consumer deposits, and unjustified increase in A&G expenses, FKCCI and farmer representatives, Consumer Focus Group, March 2006.
117. Interview with KERC Consumer Advocate, 22 March 2006.
118. Interviews with Former Chairperson, KERC, and Delhi regulator, 30 January and 24 March 2006.
119. Karnataka Consumer Focus Group, March 2006.
120. Interaction with regulatory staff, February 2006.