

The Politics of Power Sector Reform in India

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1. Introduction

In this paper, we provide an analysis of the social and political context in which power sector reforms have taken place in India. We focus on the character and effects of those reforms, and the roles and responses of different players. We have tried to place these issues within their institutional context and examine the extent to which the political interests shaping the reform agenda have addressed public benefits. By public benefits, here we mean pricing of electricity, expanding services to rural areas and environmental dimensions of providing electricity. We also place emphasis on the governance processes necessary to achieve these objectives.

The decade of the 1990s in India is significant in economic terms for the growing interest in privatization and the actual transfer of ownership of assets in many areas from public to private hands. This period is also remarkable for the transformation that took place in governance patterns from direct regulation by the state to independent, para-statal regulation. Many of these changes were evident in major sectors such as finance and banking, insurance, telecommunications and power, where state ownership was, until recently, widely justified on grounds of “natural monopoly” and “public service.”

While the recent shifts in the discourse on public policy, as well as changes in ownership and governance structures seem to reflect international trends, there are broadly divergent views on their causes and impacts. Supporters of restructuring maintain that it is essential to respond to serious fiscal and credibility crises. Public divestment, even in service-oriented sectors, is necessary because government can no longer afford to support loss-making enterprises. Also, the conflicting roles of government as owner, provider and rule-maker in these enterprises have led to corruption and poor performance, deepening the suspicion that more government cannot be part of the solution. Thus, it is argued, a competitive private sector would relieve the government of its losses and allow it to divert its resources towards its primary development and governance functions (such as health care, education and sound monetary policy). Similarly, independent, transparent governance would reduce the scope for corruption while regulating private monopolies or partial monopolies¹. In opposition to this view is an argument gaining some popular momentum, as reflected in the growing political reaction to globalization, which states that these changes are driven by vested interests to allow powerful multinational corporations to buy off the state's resources at bargain prices, and that they would ultimately pave the way for them to gain control over public programs and policies. From this perspective, the fiscal and governance crises in many public enterprises are overrated and, where not, may be addressed through internal reform that has not been seriously considered.²

In between these positions, of course, are less sanguine as well as less cynical views on the reforms, many of which are represented in policy discourse. We suggest that rather than debating the merits of such narratives, it is more productive to explore how the actual course of events is shaped by the relative influence of different players and the effectiveness with which their interests are represented in policy making. In addition, as we show in this paper, outcomes are shaped not

¹ See, for instance, World Bank (2000)

² See, for instance, CPUC (2000)

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only by interest groups, but by institutional and technological path dependencies, political opportunism, socio-economic structures and unforeseen contingencies. All of these play vital roles in defining the politics, and determining the outcomes, of reform processes.

We shall present an historical account of what we identify as four major moments in the reform process, examine their most likely antecedents, and follow the trajectories of identifiable interests connected with the associated events. Through this approach, we hope to draw a rough political map of the power sector reforms in India to examine the opportunities for protecting public benefits that have either been put to use or ignored. The narrative is based on numerous official documents, newspaper and journal articles, and several interviews that were conducted with present and former bureaucrats associated with power sector reform, donors, consultants, activists, scholars and journalists. Unless recorded elsewhere in published documents, the individual comments of these actors are not attributed by name or the organization they represent, partly to preserve confidentiality, but also to highlight the fact that the comments can only help illustrate the arguments presented here and ought not to be assumed to exemplify particular standpoints.

The paper is organized chronologically to highlight four overlapping but distinct periods of power sector policy: pre-1991, the 1991 IPP policy and its aftermath, the World Bank-led restructuring policy that began to be implemented around 1993 in Orissa, and finally, the period shortly after 1998, when the restructuring model was scaled up through national legislation and state-level reforms.

2. Background – The State Run Electricity Sector Pre-1991

2.1. Institutions and Organizations

When India gained independence from British colonial rule in 1947, private companies or local authorities supplied more than four-fifths of the total generation capacity in the country, which amounted to slightly less than 1400 MW (World Bank, 1993c). The Electricity Supply Act of 1948 subsequently brought into state purview all new power generation, transmission and distribution facilities, thereby limiting some of the provisions of the 1910 Electricity Act, which had primarily set up licensing rules for generation for private as well as public operators.

As a result of the 1948 Act, nearly every state and territory organized its own vertically integrated entity or state electricity board (SEB). Most SEBs were financially structured entirely through state government loans and operated as extensions to the states' energy ministries, "indebted in perpetuity" to the government, as one former planning bureaucrat described them³. By 1991, SEBs controlled over 70 percent of power generation and virtually all distribution. They controlled most of the transmission lines within states, and a national transmission grid company was developed to share power among regions. There were also a small number of private companies that continued to provide electricity services to some cities, including Calcutta and Bombay, but which largely purchased power directly from SEBs.

³ Interview with former senior member of Planning Commission on 18 July, 2000. Throughout this paper, unless used in context to indicate other sources, short phrases in quotes refer to private conversations with senior bureaucrats, planners and others who were closely involved with the power sector during the reforms.

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Under the Indian Constitution, electricity is considered a concurrent subject, meaning that both state and central governments have jurisdiction over the sector. Administratively, therefore, central government organizations and the states have traditionally regulated different aspects of planning, sectoral policy, financing and operations through a fairly non-contentious division of labor (see Figure 1 for a schematic). Thus, for instance, the 1948 Act demarcates tariff authority to the SEBs except when central generators supply electricity to one or more states, in which case the central government prescribes a tariff based on a negotiated power purchase agreement with the SEBs. The legislation expected the SEBs to function commercially and achieve a minimum 3 percent return on capital.

In several important ways, the pre-1991 institutional arrangements were remarkably effective in accelerating the development of electricity services in India. Between 1948 and 1991, they were responsible for increasing generation capacity by over fifty times, at a breakneck speed of 9.2% per year, which was at least twice India's admittedly sluggish economic growth rate during that period (except for the 1980s, when economic growth rate was about 5.5% per year). Much of the economic expansion was in capital-intensive sectors like infrastructure and manufacturing as well as in agriculture, and much of this growth could be attributed directly to the availability of electricity. By 1991, official reports could also make the surprising claim that the electrification rate was 80 percent, and that in some states like Karnataka and Punjab, it was 100 percent. This often meant, however, that the grid had reached most hamlets, but not that every household in them was electrified; in fact, official figures showed that even in states claiming 100 percent electrification, fewer than one in two rural households received electricity from the grid⁴.

2.2. The Politics of Agriculture Subsidies

Two parallel developments starting the 1960s and 1970s, one broadly driven by technology and the other by politics, can help explain the emergence of crisis-like conditions in this seemingly robust situation. By the late 1960s, India had entered a period now referred to as the Green Revolution, which involved the widespread use of high-yielding crop varieties, with significant increases in inputs of water and fertilizer in fields that had hitherto been almost solely dependent on rainfall. In states like Tamil Nadu and Punjab, this meant that 2-3 crops per year could be harvested, significantly raising farm productivity and profits. Much of the early irrigation projects were large, publicly funded ones involving surface water resources, but especially in the 1980s, groundwater pumping on individual farms using electrical or diesel pump-sets became increasingly popular. Irrigation of both forms was widely credited with significant increases in food production in the country.

Irrigation had broad appeal because it seemed to be accomplishing two important political goals: achieving food security while increasing the profits of farmers who could thereby be organized into large vote blocs. Politics was indeed quite crucial in determining events related to the power sector in this period, and subsequently led to a type of institutional lock-in with profound impacts on the sector⁵. In 1967, the Congress party split and for the first time the model of a dominant

⁴ Various annual CEA power surveys.

⁵ Throughout this paper, we reserve the word "institutions" to stand for practices, habits, rules, etc., following the convention of New Institutional Economics (e.g. North, 1991). The self-reinforcing nature of certain types of practices or rules can lead to "lock in," whereby it becomes very expensive in political terms to revert back to prior

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party in the Indian political scene, both at the center and in the states, was seriously challenged. Regional parties in the south quickly came to power on populist platforms and, for the next several years, recovery of those constituencies became a major pre-occupation for the ruling faction of the Congress Party under Indira Gandhi. The mid-1970s were another tumultuous time in Indian politics, because the country was in the midst of high inflation in the wake of the international oil crisis and Indira Gandhi, to avoid facing a corruption trial, imposed a national Emergency in which political foes were imprisoned, constitutional rights abrogated, and the press placed under strict censorship. In 1977, confident of being able to consolidate political support, the government ended the Emergency and announced national elections, which the Congress party lost badly, having to relinquish its power in Delhi for the first time in 3 decades.

According to one long-time observer of the power sector and senior bureaucrat, the first use of electricity subsidy as a political tool may have occurred during the 1977 elections, when the Congress-led Southern state of Andhra Pradesh offered flat-rate tariffs (tariffs based on capacity of the pump rather than on measured consumption) to farmers as an election promise to help Congress get re-elected⁶. This may have had a demonstration effect for the neighboring state of Tamil Nadu, where a new non-Congress party (the ADMK) that had just come into power in a fragile 4-way election, decided to offer free electricity to some groups of farmers. But here, as one scholar explained, “the proximate cause of the lowering of electricity tariffs was a large and violent agitation by the Tamil Nadu Agriculturists Association (led mostly by large farmers who wanted better “terms of trade”) in the late 1970s, to which [the chief minister] responded first by ordering police firing and then offering a progressive tariff structure providing free electricity only to small farmers.”⁷ Subsequently, political leaders in Maharashtra, Karnataka and elsewhere began to view the entitlement *per se* as a remarkably effective political device, in part because of the growing political power of backward rural communities and the rise of a middle-class farmers’ movement. In many states, a flat-rate tariff, rather than free electricity, has been offered, but in both cases, existing meters are no longer monitored or are simply removed and returned to the SEBs, in part because there was outright opposition to metering but also because the transactional costs of such non-remunerative monitoring and meter installations for new connections were starting to seem unreasonable⁸.

Power subsidies became routine political instruments all through the 1980s especially in agricultural states, and were adopted as late as 1996 in Punjab, in spite of the tremendous negative implications at time for attracting multilateral donor funds to the state. While the political claims for many

institutions. Examples of institutional lock-in are frequently found in fiscal policy; for example, when taxes are reduced during times of prosperity, it becomes politically very difficult to raise them again if necessary to combat deficits.

⁶ Interview with senior bureaucrat, 20 July, 2000.

⁷ Arun Swamy, personal communication. The move in Tamil Nadu, he argues, was a typical case of “sandwich politics,” on the part of the ADMK, which being in close competition with the DMK, was trying to form alliances between the rich and poor communities against the middle, upwardly mobile or “kulak” groups. Similar tactics were not used in other states. “However, after the 1980 elections, in which a DMK/Congress alliance swept the national elections and then lost narrowly to ADMK in the state elections several months later, the chief minister of Tamil Nadu started to expand the provision of free electricity out of (a misplaced) fear that he was losing farmer’s votes.” See also Swamy (1998).

⁸ See Prayas (1999: 5), where it is pointed out that the transaction costs resulted from “the high cost of metering (due to the geographic spread) and low revenue (due to low consumption).”

agricultural power subsidies are typically made on behalf of poor farmers, several studies confirm that the constituencies at stake are so-called “kulak” or landed classes, to whom the bulk of the subsidies are directed, and who are most likely to invest in irrigation and use the surplus water either to grow high value crops or sell to other farmers (Sant and Dixit, 1996). In fact, it has even been reported that there is considerable popular *opposition* among the rural poor to provide free electricity to farmers, which is seen as a way of further empowering the rich.⁹ Also, since the quality of power actually delivered to farmers has for long been extremely poor, it is widely accepted that most farmers are “likely to prefer metered and priced reliable electricity to unmetered free (or low-tariff) unreliable electricity” (Reddy, 2000). Yet, given the fragile electoral position of political parties in most states since the mid-1980s, few have the ability to take risks that could concede space to the opposition. That is to say, even though the constituents who stand most to gain from the supply of free electricity may be in the minority, they have appeared thus far to be those who maintain just enough swing power to capture the attention of most political parties.

With the growth of agricultural connections in states where subsidies were being offered, the reliability of consumption estimates also became increasingly suspect. For instance, in Karnataka by the early 1990s, it was estimated that less than half the electricity produced was being metered, the rest being attributed to agriculture and transmission and distribution (T&D) losses (Reddy and Sumithra, 1997). Indeed, this situation generated a perverse benefit to SEBs, because they could hide their losses under the category of agriculture¹⁰. In any case, this situation quickly became a race towards unsustainability because there were virtually no incentives or regulatory checks to save either energy or groundwater resources¹¹.

From a broad historical perspective, it could be argued that the indiscriminate extension of subsidies in many sectors of the economy, but foremost in agriculture in the 1970s and 1980s, became the major cause of fiscal crisis in the 1990s. In 1989, subsidies were almost a quarter of all government expenditures (Chibber, 1995), but the expansion of government had almost become

⁹ See, for instance, P.S. Verma (1999): “Many *dalit* leaders raised their voice against the decision of giving free power to farmers . . . as it had created a wide gap between the farming community and those living in urban areas and *dalits*. Some *dalit* leaders, among others, also threatened that landless residents would start taking direct electricity supply unless the state gave at least 100 units free to all landless households as farmers were being given free electricity for irrigation.” (*Dalits* refer to those in extremely poor, backward communities, the “victims of being untouchable, . . . the Indian expression of apartheid,” www.dalits.org)

¹⁰ The Karnataka Electricity Board, for instance, had shown steadily improving T&D losses and increasing agricultural consumption in its annual reports until around 1997. In an independent study, the International Energy Initiative showed how the actual losses were likely to be much higher than reported, and the agricultural consumption, correspondingly lower (Reddy and Sumithra, 1997). In fact, extremely high transmission and distribution (T&D) losses, and not subsidies, were responsible for the Karnataka SEB’s financial difficulties. It turns out that this practice of “hiding behind agriculture” was widely used in states with significant agricultural use and was later exposed by consultants in the course of preparing SEBs for privatization. An interesting question, in the present reform scenario, is how much “gaming” in the other direction is likely when setting a high baseline level for losses would be advantageous to private distribution companies.

¹¹ Almost any indicator of groundwater use in India is alarming. The number of shallow tubewells doubled roughly every 3.7 years between 1951 and 1991. Several states are witnessing problems of increased salinity, fluoride contamination, and/or declining well yields and increasing pumping costs from deepening of wells. Harvest yields from fields dependent on groundwater are also depleting in regions where problems of drawdown or water quality are prevalent. World Bank (1998) and other sources.

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essential in order to maintain fragile political majorities. But by 1991, even these majorities were no longer viable and the era of coalition governments became entrenched in Indian politics.

2.3. Power Sector Players and Interests -- Dissension and Differences

Throughout the 1970s and 1980s, for different though overlapping reasons, power industry bureaucrats and staff, planners, and some classes of consumers became increasingly frustrated with the functioning of the sector. The main complaint of SEB managers was that, as government appointed officials, their elected superiors were providing them directives that interfered with day-to-day operations. They were also frequently transferred out of the sector based on the whims of their superiors or the vagaries of elections. Such interference frequently included demands for *ad hoc* extensions to the grid to address the needs of particular constituencies, which worsened the performance of the distribution network and increased the potential for theft.

The combination of structural inefficiencies introduced through political interference and forced subsidies without government compensation led to a situation where most SEBs were often in serious financial trouble. The only way many of them could meet their statutory requirement of 3 percent annual return on capital was through discretionary state government support. Since SEBs were already faced with serious cash flow problems, they often had no other option than to introduce cross-subsidies, such that industrial tariffs were high relative to the average or even marginal cost of supply to compensate for near-zero revenues from a growing agricultural sector.

Cross-subsidy undoubtedly caused disaffection among industrial consumers, who finally found it expedient to set up their own captive generation plants to supplement, if not replace, grid supply. Thus, while industrial consumption constituted nearly two-thirds of total SEB sales in 1960, by 1991, its share dwindled to about 40 percent, in part because of the rapid growth in agriculture (whose share meanwhile jumped from about 10 to 25 percent), but also because many industrial consumers had cut back on their consumption from the grid (TERI, 1993). The net result was that cross-subsidies were not sufficient to compensate for shortfall in revenues¹². With most SEBs having negative cash flows, staff development has also been an issue: real wages through 1991 in most SEBs were stagnant or negative and sales per employee were registered as being among the lowest in the world (Guitierrez, 1993). Other operational problems showed up as high technical and "commercial" losses (a euphemism for theft), and because many connections that were subsidized were also left un-metered, there was a growing gray area of the sector that was using power but not paying for it. In due course, the inefficiencies in the sector began to manifest themselves as poor power quality in the form of frequency fluctuations, brownouts, and blackouts, which not only rankled but also caused inestimable financial losses to all users.

At various points in the 1970s and early 1980s, planners in the central government, donor institutions and individual scholars engaged their energies to address the crisis that appeared to be unfolding itself with a relentless logic of its own. In 1975, apparently in an attempt to build a coherent power development framework by controlling sizeable generation capacity and, in the

¹² As reported by Reddy and Sumithra (1987), this may have been possible had T&D losses been substantially smaller than they actually were. Note that in 1991-92, the only SEBs with gross operating *surplus* were those of Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, and West Bengal, which roughly cover the states undergoing the most significant reforms in recent years (TERI, 1993).

words of a recent World Bank evaluation of its power sector policies, "to become a model of modern operational practices that the SEBs could emulate," the central government established the National Thermal Power Corporation (NTPC) and the National Hydroelectric Power Corporation (NHPC) (World Bank, 1999b). The Bank was very supportive of this move and directed the bulk of its sector lending over the next several years almost exclusively towards NTPC projects.

Close to half of the more than 7 billion dollars approved by the World Bank for power sector projects in India between 1970 and 1991 were for large thermal power plants built by NTPC (*ibid.*, p. 27-30). A senior bureaucrat interviewed for this study considered this lending policy to be seriously lopsided, arguing that had equal emphasis been placed at an early stage on network planning and transmission and distribution infrastructure, many of the power quality problems of subsequent years might have been avoided¹³. Nonetheless, there is wide agreement that NTPC itself, which is now the world's sixth largest thermal power generating company, has turned out to be a model public sector corporation, and a benchmark for the power sector, with some of the most efficient coal power plants in the country. NTPC was overtly rebuffed during the post-1991 period of private power development, however, when various project sites earmarked for its projects were "handed over" to independent power producers (IPPs). A former NTPC manager and at least one senior bureaucrat concurred rather bitterly that a level playing field, with NTPC being offered the same incentives (for instance, high rates of return, see the next section for a discussion) as the IPPs, would have avoided the "wasted decade" of the 1990s¹⁴.

In the Bank's analysis, part of the reason its strategy of infecting SEBs with good institutional practices from the outside failed was that its demand for a two-part tariff structure for purchases from NTPC that would "send proper signals to the SEBs on merit-order dispatch" was not followed by the SEBs (World Bank, 1999b, p.12). The two-part tariff structure was meant to include a fixed part (to cover fixed costs, including a reasonable return on capital) and a variable part (mainly to cover fuel costs related to actual generation). The idea was to have train SEBs to dispatch their own baseload and peakload power from sources with low and high variable costs, respectively. By the 1980s, the Bank decided that more substantial SEB reforms were "essential for the long term viability of India's energy development program," (*ibid.*) and directed modest loans to SEBs for financial restructuring, tariff adjustments, improved metering and collection, in short, to improve distribution efficiency. Between 1989 and 1994, through IFC, it also experimented with support for private power generation and system expansion through loans and equity investments in four integrated private power companies. While the Bank's focus was on improving the performance of SEBs, it also continued to focus on the need for new generation capacity, even though its own analyses had indicated that peak shortages did not reflect a deficit in capacity but poor system load management and regional disparities.¹⁵ But by 1993, the Bank had apparently decided that institutional reform of the SEBs without changes in ownership was a lost

¹³ Interview with senior bureaucrat, 20 July, 2000.

¹⁴ Interviews on 18 July and 20 July 2000.

¹⁵ What was worrying about the peaking shortage problem was that even though the installed capacity in 1990-92 was nearly 70,000 MW, the system could only provide about 37,000 MW of peak power out of a total demand of 44,000MW (World Bank, 1993c). This meant that the system load factor was as low as 53%, largely because of poor load dispatch, regional disparities in generation capacity, inadequate transmission systems and other system inefficiencies. This peaking shortfall of between 15-20% has remained through the 1990s despite some overall system improvements and enhancements in capacity. See also Roy (1993).

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cause. It shifted its focus to a new reform strategy, in conformance with a broader Bank-wide energy policy to promote private participation in the power sector and particularly in distribution.

The planning bureaucracy in India, meanwhile, had also embarked on its own analyses of the power sector, and proposed using different models for long-term demand and resource assessments for the country as a whole to help streamline generation needs. A series of reports on tariff reform appeared, many of which urged the reintroduction of agricultural tariffs and metering, but were ignored by state governments. As late as 1996, at a conference of chief ministers, a minimum tariff of Rs.0.50 per kilowatt-hour (\$0.015/kWh) was proposed on the recommendations of a commission formed to address fiscal reforms, but no state actually implemented this norm. In 1991, an independent team of scholars published the DEFENDUS (DEvelopment-Focussed, END-Use oriented, Service directed) model, an integrated resource planning (IRP) approach with supply and demand-side options weighted by life cycle costs and environmental impact¹⁶. Analysis for Karnataka using DEFENDUS showed, for instance, that the requirements of electricity and installed capacity would only be about 40 per cent of those in a conventional projection commissioned for the state, with comparable reductions in investments in new capacity and emissions. But, administrators only seemed to have perfunctory, academic interest in IRP, which was never seriously examined despite several appeals to develop long-term power policy for the country.

By the end of the 1980s there was broad consensus that the power sector was in dire straits, and that major reform was needed to change its functioning. There were peaking shortages in many parts of the country, severe financial burdens imposed on state governments because revenues did not match costs, and poor quality of supply. While donors, planners, academics and activists had proposed competing analyses of the situation and options, none were seriously explored, in part, because the sector was already entangled in too many knots. Political considerations did not allow any significant withdrawal of subsidies, for which political control over SEBs was essential. This led to cross subsidies, system inefficiencies, losses and theft, and poor morale among employees, which caused revenues to drop, in turn exacerbating many of the above impacts. All the while, unbridled agricultural consumption, increased use of captive power plants at low capacity utilization and unplanned system expansion led to worsening emissions, increased resource use, and energy loss.

The situation urgently called for change in the sector. Given the broad agreement on the diagnosis of the problems in the sector, this would have been an opportune moment to step back and chart a new course. In particular, if there was a moment to seriously consider re-regulation of the sector to re-assert the independence of SEBs from their political masters, devise mechanisms of accountability to match the conferral of independence, and to make a serious attempt to cut through the Gordian knot of politically influential consumers pampered by subsidies, this was it. This however, proved, not to be the moment for considered reflection on policy. India was set to press the accelerator to motor into the next century. This was a moment to develop and demonstrate nimbleness, to show the world, but particularly foreign capital, that India was a good

¹⁶ Reddy et al. (1991). DEFENDUS was a unique Integrated Resource Planning approach because it emphasized access and equity. It modeled its framework on energy services by examining supply expansion as well as efficiency improvements, and allowed for environmental costs to be internalized.

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place to do business. The power sector was chosen to be at the forefront of the new liberalizing India.

3. Power Surge that Never Was: The IPP Debacle

3.1. Architecture of reform

The year 1991 has become a watershed of sorts in the history of India's macro-economic reforms, because of the broad policy changes that took place that year to reduce government control over diverse sectors in the economy. The immediate impetus for these shifts was a serious crisis in balance of payments, whose implications turned out to be far-reaching because it reduced the country's bond rating in international credit markets and therefore severely restricted the government's ability to use short-term external borrowings to address the problem. Coming as it did, at the end of an extended period of moderate recession, the crisis precipitated remarkable external and internal pressure to deregulate, if not privatize, major segments of a vast economy that had been tightly controlled for nearly a half century of independent democratic governance following colonial rule.

There were also circumstances within the administration, as well as ideologies beyond it, that helped to steer the minority Congress-led government under Narasimha Rao towards implementing individual measures, which included policies to free up currency and capital markets, reduce government controls on banks and other financial institutions, drastically cut back on licensing requirements for industry, and allow the entry of private players in electricity generation¹⁷. The media tends to credit Harvard-educated bureaucrats and an enlightened minister in the finance ministry for playing the catalyzing role in building momentum for the reforms. Elsewhere, it is often claimed that the unraveling of the Soviet Union actuated a world-wide paradigm shift away from ideas of social democratic governance towards those of market liberalism, which infected even socialist politicians with a strong dose of realism (e.g., Jyoti Basu of the Communist Party of India-Marxist in West Bengal). Thus, once the country found itself painted into a corner by mid-1991, "reforms"-- signaling privatisation--were the only way out¹⁸.

For the power sector, reform began in October 1991, when the Power Ministry of the Government of India began to publish a series of notifications seeking to encourage the entry of privately owned generating companies into the electricity sector. These government orders, some of which were later enacted in Parliament to become the Electricity Laws (Amendment) Act of

¹⁷ Echeverri-Gent (2000), for instance, argues that politicians led India's reform because it offered favorable trade-offs between increasing resources under their control and the relative strength of their opposition. In the early 1990s, globalization seemed to present new opportunities, and therefore reform proponents incited little opposition among political parties, who at that time were also anxious to keep a fragile coalition together.

¹⁸ Reddy and d'Sa (1999) also refer to explicit warnings from the donor community about the global constraints on the availability multilateral finance: "The World Bank had stated in 1989 that requests from the electricity sector of developing countries added up to \$100 billion per year. In response, only about \$20 billion was available from multilateral sources, leaving a gap of about \$80 billion (Churchill and Saunders, 1989)." This point was re-emphasized in a later Roundtable with Electricité de France on power sector reforms (World Bank, 1993a), but the donors' potential contribution was reduced even further, to ten percent of the requirement. In concert with the country's lowered credit rating, it appears that there were clear signals from the international financial community that earlier levels of debt-based public financed development in the sector would no longer be realizable.

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1991, radically revised prevailing legislation by permitting private entities to establish, operate and maintain generating power plants of virtually any size and to enter into long-term power purchase agreements with SEBs. The initial government notification also provided generous incentives to these independent power producers (IPPs), the most noteworthy of which was a guaranteed minimum 16 percent (repatriable) return on equity for plants that operated at their rated capacity for at least 6000 hours in a year, with additional bonuses for improved capacity utilization. Other attractions for potential investors included a five year tax holiday, a two-part tariff (the first part covering fixed costs including the assured return, the second covering variable costs), equity requirements that were as low as 20 percent of project costs, and selective counter-guarantees from the central government to cover payment default by SEBs. The rules were clearly intended to attract *foreign private* capital into the sector, because they allowed 100 percent foreign equity but insisted that Indian financial institutions not provide more than 60 percent of the total debt component of any given project.

As a defining moment in the history of electricity in India, the 1991 policy immediately spawned a broad spectrum of reactions to it, and many of them have evolved significantly since that time. From both domestic and international investors the response to the incentives offered was overwhelming. By mid-1995, there were about 189 offers to increase capacity by over 75GW, involving a total investment of over US\$100 billion. Of these, 95 projects for a total installed capacity of 48,137 MW had reached the stage of Memoranda of Understanding (MOUs) or Letters of Intent (LOIs) with state governments. But meanwhile, since none of the projects had yet reached financial closure, the central government introduced another set of carrots, granting "fast-track" status to eight of the most promising projects and agreeing to offer them counter-guarantees. Overall, though, for all the excitement with which it was launched, the reform program turned out to be a dud: against a target of over 40,000 MW in the period 1992-97, less than 17,000 MW were added, but that was hardly its most controversial aspect. As we shall see below, like the institutional impacts of lowered agriculture tariffs and de-metering in the 1970s and 1980s, the IPP policy of 1991 created new forms of lock-in with serious implications for all subsequent reform efforts.

3.2.Perspectives and Reactions

Given the sharp departure from prevailing patterns of power sector governance that the 1991 policy represented, it provides a useful baseline against which to identify several of the main interests currently being represented in the power sector: IPPs and related private enterprises, donors and consultants, central and government ministries and associated politicians and bureaucrats, SEBs, including their management and employees, and civil society players including NGOs, academia and the media.

The initial mood with respect to the reforms in various quarters of government and business throughout the early 1990s was reportedly quite "euphoric"¹⁹. In 1992, a delegation led by the Power Minister made a special trip abroad to apprise potential investors of the vast investment opportunities that were now available in India. Elected officials in different states from across the

¹⁹ Interview with senior bureaucrat, 20 July 2000.

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political spectrum went to extraordinary length to woo IPPs, in some cases signing MOUs with their representatives within hours of their arrival in the country²⁰.

Yet, there were several signs of discontent right from the start, amounting to a serious "lack of trust" on both sides (Pillai and Krishnamurthy, 1997: 71). IPPs, consulting organizations and related supporting companies, while remaining the most vocal supporters of the policy, were indignant about delays in obtaining clearances and hurdles to securing adequate fuel supply, and were generally apprehensive about recovery of dues from SEBs and the country's overall political stability.²¹ In 1995, partly to fill an apparent communication gap between industry and government, the Independent Power Producers Association of India (IPPAI) was started as a "neutral pro-active forum"²². IPPAI increasingly took on a self-consciously strategic role to lobby government on behalf of private sector participation to help shape the direction and pace of institutional change and organized numerous conferences and workshops in several cities around the country on a large number of topics, ranging from financing, fuel allocation and regulation to environmental and consumer concerns. But outside of the op-ed columns of the financial newspapers, IPPAI's meetings did indeed provide an important space for the articulation of concerns about the reform process among IPP promoters, investors and lenders, bureaucrats, academics, NGOs and the media, albeit within the restricted format that its members' principal agenda would permit. In some quarters of government, though, there was apparently a "negative opinion towards IPPAI"²³, whose growing influence in being able to win special favors to IPPs was becoming unmistakable.

Even the original IPP policy had its detractors within the central government, notwithstanding the clout of its boosters among politicians of virtually every shade. While it had clearly been approved at the "highest levels," it appears that there were some senior bureaucrats at the Finance Ministry who were strongly opposed to the extravagant concessions offered to IPPs and contended that they would in fact generate net *outflows* in foreign exchange. In particular, some of the individual power purchase agreements were considered to be outrageously lop-sided, with unjustifiable risks having to be borne by the SEBs and, eventually for projects with counter-guarantees, by the central government (see box on Enron). Yet, there is no evidence of any serious resistance from these quarters ever having manifested itself, other than the occasional withdrawal (or perhaps forced transfer?) from the power sector by a handful of senior officials who felt uncomfortable with implementing the policy²⁴. In contrast, by the late 1990s, when a minor paradigm shift seemed to have taken place on IPP policy, the broadening consensus among both former and functioning

²⁰ Abhay Mehta (1999) reports, for instance, that the Enron team signed an MoU with the Maharashtra 3 days after it visited the state and reviewed potential sites in 1992, calling it "an extraordinary deviation from all established convention in similar cases the world over" (p.22).

²¹ Following the assassination of Rajiv Gandhi in 1991, the Indian polity has functioned primarily through coalition governments. The Narasimha Rao government, which was itself a minority Congress Party in power between 1991 and 1996, was replaced by the 13-party United Front government, which had three successive prime ministers in 1996-1998, before being replaced by the 25-party National Democratic Alliance in 1998. Many states, including those that are undergoing power sector reforms, have also been witness to similar political upheavals during the past decade.

²² <http://ippai.org/about.html>.

²³ Interview with senior bureaucrat, 20 July 2000.

²⁴ In one recorded instance, a state-level bureaucrat who refused to provide environmental clearance for a power project was threatened with suspension and had to resign. There is a sprinkling of anecdotes about other bureaucrats at the state and central government who found themselves in similar situations.

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bureaucrats was that the IPP policy was very "flawed," although it had been the "most promising option at that time"²⁵. The general opinion, in any case, would be that the IPP policy was railroaded by the Power Ministry against the better judgement of both financial and energy experts.²⁶

In the course of trying to implement the IPP policy, however, the Power Ministry often seemed adversely affected by its own legacy of not having consulted other agencies within government prior to issuing its directives. It frequently confronted what investors considered the recalcitrance of other departments of the government, but would be defended by officials as a well-established, if complex, network of rules relating to fuel security, import policy, environmental protection and the like. There were also instances where the legacy of older institutions hindered IPP development. For instance, the IPPs found it complicated to secure contracts for Indian coal because the vertically integrated SEBs had traditionally defaulted on payments to public companies managing coal and railways. Neither the Coal Ministry nor the Railways Ministry were willing to change their procedures radically to accommodate IPPs, because they continued to perceive payment risks. But many IPPs preferred to seek imported fuel for their projects, in spite of import tariffs, because fuel costs were typically passed through to SEBs purchasing power from them. Still, even these options were sometimes limited by fuel import restrictions (particularly for petroleum products) set by the Commerce Ministry. Eventually, the Petroleum Ministry allowed naphtha to be used as an interim fuel for gas-based projects and so-called short-gestation projects, a policy that was itself subject to criticism from many quarters because of the choice of fuel and the complicated allocation requirements relating to imported and domestically produced naphtha²⁷.

For those elected officials in state and central governments who were anxious to retain the interest of foreign investors in a political and institutional setting that was starting to appear increasingly burdensome, their own environmental departments and the CEA often seemed to present the most annoying hurdles. As per existing legislation, the major forms of authorization needed for the power projects included a techno-economic review and approval from the CEA and environmental clearances from the central Ministry of Environment and Forests (MoEF) and the state environment departments. In 1996, under a newly elected government, the Power Ministry announced that CEA and central environmental clearances would no longer be required for projects with an investment of under Rs. 10 billion (about USD 300 million), which gave enormous relief especially to a large number of IPPs who intended to set up liquid-fuel projects²⁸. The Ministry began announcing a series of other moves to accelerate the enhancement of new capacity.

²⁵ Interview with former power sector bureaucrat, 13 July 2000.

²⁶ However, the power ministry was also not a monolith, and there appears to have been strongly held, if not very vocally expressed, disgruntlement with the IPP policy by some civil servants.

²⁷ Naphtha is a low density and volatile product of petroleum refining and is used typically as a feedstock for the petrochemical industry and almost never as a fuel for power generation. However, uneven petroleum product demand in India (high demand for diesel, motor oil and kerosene) had created a relative surplus in naphtha, the Petroleum Ministry decided in late 1996 to allocate it and heavy distillates to meet the requirements of about 12,000MW of power generation capacity. This was proposed as part of a general policy to speed up the increase in capacity through "short-gestation" projects.

²⁸ A number of "barge-mounted" projects were included in this group. This itself is an interesting category because they were to be set up off the coast as "partially removable assets" and, in case of SEB default, could literally be floated away by their owners! Against the protests of several environmental groups, a few barge-mounted plants reached "environmental and financial closure" and are under construction in southern India.

Lenders, meanwhile, who had been cautious about the “bankability” of projects but were generally satisfied as long as counter-guarantees were offered, began to seek new ways to finance IPP projects when the central government announced that these would be limited to the fast track projects. It was clear to lenders that the long term viability of the new arrangements would depend on stable revenue streams from distribution, and began to seek mechanisms like escrow accounts for prime distribution areas, limited debt guarantees from multilateral donors²⁹, using the Power Grid Corporation as the prime purchaser and, ultimately, restructuring of SEBs. Escrow quickly began to be seen as the most attractive of these options, and against the objections of several planners and bureaucrats who were concerned about the further burden on SEB creditworthiness this would involve, several state governments began to set up escrow accounts for IPPs. But that too reached its limit very quickly, when it was realized that most SEB revenue streams were too thin to support escrow requirements of all the IPP projects that were seeking to come on line.

As the CEA slowly found itself getting shunted out of electricity policy altogether, with fewer allies than ever in government, many former bureaucrats from the organization and elsewhere who had been connected with power planning began to express alarm about the implications of the new power policy. These erstwhile officials, together with a few energy experts in academia and NGOs and a handful of informed journalists, were among the few early critics of the 1991 reforms within civil society. Their judgement was harsh and was based on several points of contention. First, they gave loud voice to the private admission of many senior government officials who felt that the extra enticements offered to IPPs were extravagant. In fact, they were quite unnecessary even to attract foreign power generators, who were already looking to invest in Asia since power markets elsewhere were in decline. Second, they argued that the possibility of giving SEBs true financial and administrative independence from state governments with phased solutions to the agricultural subsidy problem was never really explored; these might have strengthened existing institutions and generated internal resources for capacity addition. Instead, in the name of reform, many successful institutions and organizations in the sector were being dismantled and replaced with untried and formidably expensive alternatives.

Third, existing public sector generating companies like NTPC were not being offered a level playing field with the IPPs even though their performance and capabilities had been well-established. Fourth, least-cost planning, considering all possible options, including energy efficiency improvements for production and end-use, ought to have been conducted to estimate actual capacity needs at the regional level, instead of the now reckless attempt to expand capacity at any cost. In the process, the country was getting locked into long-term power purchase obligations which locked the country into certain technologies for lock periods, without first exploring available options for more sustainable energy paths, include demand management. Finally, the policies generated new opportunities for rent-seeking and corruption and flagrant violation of environmental norms. The projects typically did not go through competitive bids, MOUs and PPAs were kept secret, and the public often had no clear knowledge of its future obligations, which were sealed for decades through "take-or-pay" contracts.

²⁹ This was an idea that the Bank had initiated, according to Pillai and Krishnamurthy (1997: 73).

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Environmentalists and social activists were also alarmed about the evident haste and secrecy with which numerous project MOUs were signed, and the enormous pressure that promoters and politicians seemed to have placed on government agencies to clear them quickly. In several instances, they felt that environmental norms were not being applied properly³⁰. Agency staff were quite unprepared to cope with the complex and inter-related environmental issues relating to resource use, pollution and ecology that they were being asked to evaluate within a very short period of time. The project promoters, on the other hand, were using an army of experienced consultants to prepare professional environmental impact assessments that required skilled interpretation. Most significantly, the evaluation process allowed virtually no public inputs even from project-affected people. While most of the environmental opposition to IPP projects was organized at the community level, a few national campaigns were also conducted, one famously resulting in a Supreme Court verdict directing a national environmental research agency to review the environmental clearance³¹.

³⁰ Many thermal power projects, including one by Cogentrix and the Mangalore Power Corporation in Karnataka and numerous barge-mounted projects were seen to have been given arbitrary clearances by state and central government environmental departments because there was no clarity on how the environmental impact assessments were to be evaluated (see footnote 33 below and Rajan, 1997).

³¹ Public interest litigations were filed against the Cogentrix project in Karnataka on grounds of violations of environmental and planning norms. The Supreme Court appointed a commission of enquiry involving the National Environmental Engineering Research Institute, which subsequently criticized the environmental clearance granted to the project by the Ministry of Environment and Forests.

The Enron Affair

It is impossible to capture the intrigue, counter-plots and ultimate tragedy of the Enron affair in the space of a few paragraphs, but no study of India's power sector reforms would be complete without at least a brief account of what took place³².

In October 1992, the Congress-led government of Maharashtra announced to the world that it had signed an MOU with Enron Corporation for an LNG plant of about 2000 to 2400 MW capacity and to purchase electricity for 20 years. The site chosen was one that had been earmarked for NTPC to set up a coal power plant. The MOU was completed with alacrity and secrecy, despite the considerable size and financial implications of the project (amounting to expenditure of roughly \$1.3 billion per year).

Despite reservations from the CEA, some state and central government bureaucrats, and the World Bank (who expressed their concerns in a confidential memo to the state government), the project was cleared and a PPA was signed for a first phase of the project. Just as lending arrangements were being concluded, the new BJP-Shiv Sena government, whose election platform in 1995 had stressed national self-reliance (but not anti-reform or privatization as such), cancelled the contract and proposed to invite competitive bids. This single act brought international attention to the project, although the response was primarily negative towards the Indian polity, with solicitous concerns expressed about the "seriousness of India's reform program."³³ By this time, Indian energy analysts and journalists had begun to explore the implications of the project and had found indications of astonishing complicity among officials to bend laws to accommodate Enron's demands and obtain clearances *{examples?}*.

Within 2 months of the project being cancelled, following the recommendations of a government-appointed renegotiation committee, a new PPA was signed, this time for two planned phases, and with virtually no other changes. All clearances, including counter-guarantees, were subsequently awarded. A public interest lawsuit was filed by Abhay Mehta (a private citizen) and the Center for Indian Trade Unions challenging the final clearances that were given to the project and alleging fraud. While final outcome of the suit is still pending, the first phase of the project has been commissioned for 690 MW.

More or less as analysts had predicted, the Enron project has already started to generate financial problems for Maharashtra. The SEB discovered in 1999 that the average production cost of electricity in the state was about half of that provided by the Enron plant, but was forced to back down the former, with an estimated loss of about \$100 million per year³⁴. A newly constituted regulatory commission in the state has, however, directed the SEB to follow "merit order purchase," and pay Enron only for fixed charges. This has created another minor storm of controversy, questioning whether or not this decision would violate the PPA. But in Abhay Mehta's words, "the sordid saga [of Enron] is still not complete and the last chapter is yet to be written." (Mehta, 1999: 176).

LATEST DEVELOPMENTS TO BE ADDED.

The environmentalist campaign against individual IPP projects often dovetailed with the broader criticisms of IPP policy by other activist organizations and the intellectual analyses provided by journalists and the former bureaucrats already mentioned. Their views were mostly articulated in numerous NGO-organized workshops and seminars, newspaper commentaries and occasional

³² Abhay Mehta (1999) provides a fascinating and up-to-date account of the events, with exhaustive references to other analyses and commentaries. See also Sant et al. (1995), Reddy and d'Sa (1995), and <http://www.altindia.net/enron>

³³ This phrase was used in various business journals like the Economist, Business Week and the Wall Street Journal throughout latter part of the 1990s, with repeated reference to the Enron case. *{Need more clear footnote}*

³⁴ "MERC faces public scrutiny on its proposed tariff hike," *Times of India*, April 13, 2000.

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television programs. While not always speaking with a single voice, these groups frequently called on state and central governments to review the policy as a whole.

By and large, though, civil society remained quite divided on the new power policy. A standard opinion expressed in the media was that old-style bureaucratic delays had hampered the progress of the reforms and that valuable opportunities for enhancing power supply were being squandered by incompetent and possibly corrupt governments. Several urban middle-class consumer groups entered the political fray angry about the lack of progress on privatisation and believing strongly that the public sector was incapable of improving electricity supply. These groups helped bolster the lobbying efforts of industry associations, who were among the early advocates of privatising the entire sector, including distribution, arguing also that some segments of industry ought to be allowed to take care of its own power needs, through captive or "merchant" plants.³⁵ But even when these themes appeared to become dominant in the mainstream discourse, corruption scandals and judicial findings in favour of environmental groups seemed to present a dark side of the IPP policy, at least as evidenced in the shifting tides of newspaper editorials and other opinion makers³⁶.

One of the more intriguing aspects of this period of relative disquiet in the electricity supply industry is the position adopted by multilateral donors, whose prior dominance as patrons of the Indian power sector was, by all accounts, expected to be displaced by private investors once the floodgates of competition were opened. But what they witnessed from the sidelines, as it were, was the dismal failure of investments in new capacity to be anywhere near the expansion that took place in previous decades. IPP projects did not rely on multilateral funding and therefore donors were not obligated to comment on the policy. Yet, while being coy about making any direct analysis of IPP policy, they continued to express concerns about the broader elements of the sector relating to its financial and technical performance and appeared, as we shall examine in the next section, to be embarking on a parallel, though related agenda, involving an unbundled power sector.

To what extent donors sanctioned or were at all involved in helping encourage the initial 1991 policy also remains unclear, but they clearly welcomed the "private power initiative" that the policy seemed to represent (World Bank, 1991). And while neither the World Bank nor other donors had yet used any conditionalities relating to privatisation in the power sector, they were providing cautious comment on particular projects.³⁷ For example, a memo from the World Bank to the

³⁵ Merchant producers, sometimes also referred to as "outside-the-fence" captive generators, are independent power producers that specialize in delivering power directly to a small set of users, but who may use the grid and pay wheeling charges. Merchants are characteristic of the power trading regime known as "retail competition."

³⁶ In the mid-1990s, attempts to privatize the telecommunications sector were forestalled when a corruption scandal involving extraordinary levels of cash transfers was unearthed. Public confidence in the ability of the government to manage privatization at a large scale was unmistakably damaged by this experience, but whether such impressions were transposed to the different form of restructuring taking place in the electricity sector (where no sale of assets as such was yet being proposed) is not well established. Indeed, two instances where corruption charges were leveled against government concerning IPP contracts were never ultimately resolved in legal or political terms. However, the fact that these cases were taken up at all by higher courts seemed to have resulted in some consternation among middle-class supporters of the IPP policy, although many felt angry towards the plaintiff-citizens for needlessly causing delays.

³⁷ A memo imputed to be from the World Bank to the Government of India commenting on the Enron project, while strongly criticizing the basis on which the project was chosen, nevertheless urged the government to "explore possible ways to sustain the interest" of the project sponsors and went on to state that the Bank "strongly" supported the

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Government of India on the Enron project, while strongly criticizing the basis on which the project was chosen, nevertheless urged the government to "explore possible ways to sustain the interest" of the project sponsors and went on to state that the Bank "strongly" supported the "government's private power initiative and [was] keen to consider other private power project proposals, including a reshaped Dabhol project, ... for Bank financing." (Mehta, 1999, and personal sources). Thus, while expressing cautious enthusiasm for the country's liberalization of sector, in late 1993 the World Bank articulated some concerns about the process of selection of promoters and the absence of competitive bidding but also side-stepped making any public comment on the broader incentive structure of the IPP policy itself.³⁸

The donors' relatively muted public stance on IPP policy during this period is problematic given that they were concurrently engaged in a long-term parallel reform strategy, whose ultimate outcome was directly affected by the economic and energy implications of the numerous PPAs that were being signed across the country. While most donors would agree that the subsequent reform package could not be successful without bringing some type of financial closure to the so-called "IPP hangover," namely, the enormous financial obligations that state governments had encountered as a result of their romance with IPPs, they tend to fall back on the view that as lenders, they were in no position (unless explicitly called to do so) to intervene in the government's policy agenda and no role to play even as advisors of the broader policy framework.

This line of argument is somewhat tenuous, however, because the Bank began direct lending to some SEBs to improve their operational practices and financial viability *prior to and through the period* that they were signing binding, long-term contracts of a serious nature with IPPs. These contracts surely had negative implications for the long run success of the Bank's attempts at SEB reform. Many of these loans were suspended in the early to mid-1990s when SEBs were unwilling or unable to take measures such as tariff rationalization. Perhaps the best explanation of the Bank's relative tight-lippedness in public about the IPP policy is that Bank staff sought to walk a fine line between criticising both the unfavourable terms and the actual policy of seeking IPPs, even while signaling their support for Government of India's attempts at liberalization.

Eventually, national support for the IPP policy, even among the elite who had been promised more and better power faster, was eroded by the mounting evidence of its incoherence. Over the period of nearly a decade, very few projects were finalized, and even fewer were actually commissioned.³⁹

"government's private power initiative and [was] keen to consider other private power project proposals, including a reshaped Dabhol project, ... for Bank financing." (Mehta, 1999, and personal sources).

³⁸ In a workshop convened by the World Bank on the Indian power sector in Jaipur in 1993, the country director offered, in the medium-term, to make "imaginative use of the Bank's guarantee powers to catalyze improved access to capital market funds from inside and outside India [for] the stronger, more solvent sector units." (*ibid.*, 232). The Bank had also expressed its willingness to provide guarantees for IPP projects, citing the example of Pakistan's Hub Power project. Curiously, a recent evaluation of the Bank's energy lending strategies over two decades avoids any reference to the 1991 IPP policy and its aftermath, even by way of describing the background of subsequent state-level institutional reforms (World Bank, 1999).

³⁹ According to the Power Ministry, close to 100,000 MW of capacity are at various stages of negotiation and clearance, but only about 5000MW has been commissioned so far (September 2000), and another 5000MW are under construction.

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But more significantly, the energy costs from these projects, even in the original agreements, frequently turned out to be between one-and-a-half to twice that of comparable NTPC and SEB projects. Moreover, few of them were designed to meet peak demand even though that was the most pressing need of the hour. PPA obligations and a falling rupee have hiked these costs even further and, moreover, many plants were being run to fulfill base loads, backing down cheaper options. In Maharashtra, the Enron-Dabhol project today constitutes surplus capacity in the state, and the dilemma for the SEB is now to try and sell the excess power it is *obliged* to buy at high rates to neighboring states in order to recover losses.

The higher costs have translated into deepening fiscal woes for SEBs, and higher tariffs in some states. The environmental consequences of the IPP projects are no worse than those of conventional projects, but adherence to the policy has meant that efforts to introduce DSM or IRP have been set back. Also, technology choice became an arbitrary decision left to the whims of the negotiations between state governments and IPPs, which effectively locked in large fossil-fuel based technologies in many instances, although a few renewables-based IPPs also entered the scene, as a consequence of parallel developments initiated by the availability of GEF funding and MNES programs. Overall, from diverse points of view, the IPP policy did indeed produce a “wasted decade” for power policy, whose legacy continued to confound later developments in the reform process.

4. Privatization by example – The “Orissa Model”

4.1. A Bank Leads the Way

As we discussed in previous sections, reforming SEBs to improve operational efficiency and revenue collection had long been a core concern among power sector planners, donors and academics involved with the sector. Many of the early proposals in the 1980s had called for tariff rationalization as the underpinning of any reform; yet, implementing it had seemed like an impossible bootstrapping exercise, because of the strong political underpinnings of the prevailing tariff regime. The IPP policy, as we saw, only exacerbated the situation by introducing a new type of drain on the SEBs' finances and, worse, by locking them into expensive and long-term contracts to buy power that was, in some cases, redundant to serve the needs of their users.

By the early 1990s, the World Bank felt compelled to revisit its earlier policies of supporting generation and of later trying to effect internal reform of SEBs, contending that the “business-as-usual” solutions were no longer adequate. Concurrently, “getting the prices right” had become the underlying mantra for its sectoral policies worldwide, for which new strategies to introduce competition were being developed. Apparently influenced by the privatization of the power sector in the U.K., where the notion of the electricity sector being a “natural monopoly” had been challenged by the separation of the utility into separate and mostly privately owned business units for generation, transmission and distribution to facilitate regulated competition, the Bank began to approach privatization as a serious policy option for the sector as a whole⁴⁰. Chile and Argentina

⁴⁰ The Bank's interest in applying the UK model in Latin America had already been criticized by energy analysts: “In the absence of new state activity, the World Bank proposals could be interpreted as a recipe for foreign capital to earn

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had recently undergone changes similar to UK, with the main impetus for the change there having been to improve efficiencies and reduce average costs. And, in Argentina at least, the results were starting to look promising in the 2-3 years since the restructuring had begun.

In early 1993, the Bank reviewed its historical role in financing the power sector and recounted the dismal tale of poor technical and operational performance, mounting losses and bad governance that the Indian power sector exemplified all too well (World Bank, 1993b). Such problems, it suggested, were the logical outcome of a conflict of interest "between government's role as owner and its role as operator of utilities." The consequences were the all too familiar instances of "opaque command and control management, ... poorly defined objectives, government interference in daily affairs, and a lack of financial autonomy." (*ibid.*, p.12)

The document went on to provide the guiding principles for power sector reform. The underlying institutional framework needed was transparent and independent regulation to remove the conflict of interest that governments found themselves in, which would then allow efficiency improvements to be implemented and also address environmental problems. Commercialization and corporatization would be the "necessary first steps in the process of restructuring and attracting private sector participation." (*ibid.*, p. 13) This could only be sustained through competition in power supply (and increasing reliance on the capital market for funds), and could include "the participation of private generating companies, the private contracting of construction, maintenance, and various other services, or restructuring and complete privatization." (*ibid.*, p. 17) The Bank would try to use its lending leverage to push for these reforms, and governments needed to "realize that the time of 'business-as-usual' [was] over and that they [would] not be able to roll forward financial and performance covenants to successive Bank lending operations." (*ibid.*, p. 17) Finally, referring explicitly to IPP concerns about payment and fuel supply risks, it offered to "use some of its financial resources to support programs that [would] facilitate the involvement of private investors." (*ibid.*, p. 18)

This approach was relatively new. It had been stimulated by attempts in the UK and Chile at creating competition in the power sector, which was subsequently emulated in several industrialized countries. However, the approach was untried in the context of inefficient power sectors, limited institutional capacity, and low proportions of access to the grid faced by many of the Bank's borrowers. In a roundtable convened to discuss this new policy, various critics, but notably the French utility Electricité de France (EdF) had raised serious doubts about the efficacy of privatization and competition for power sector reforms (World Bank, 1993a: 16). First, it was conceded that electricity reform was urgent in the developing countries and that governments ought to redefine their roles in the sector, private ownership needed regulatory mechanisms that would be "more complex and more cumbersome than in an integrated monopoly." (*ibid.*, p. 16) Second, critics questioned whether developing countries possessed the "institutional maturity and balance of power" to sustain independent regulation. Third, they were concerned that privatization and competition may not, in fact, attract long-term investors in developing countries having few resources. Fourth, unbundling, it was feared, would distort the advantages of economies of scale and scope needed to expand the sector. Finally, and perhaps most significantly,

substantial and secure profits from ownership of significant tracts of developing country power systems" (Oliveira and MacKerron, 1992, p.162)

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privatization would introduce “contradictions of interests between the shareholders and the essential public goals,” (*ibid.*, p. 27). Under these circumstances, weak or corrupt governments might collude with private interests, leading not only to the loss of any advantage associated with privatization, but also to harmful effects on social welfare.⁴¹

The Bank's contention seemed to be that its framework was flexible enough to address these and similar concerns about the ill-effects of privatizing the sector. For instance, it proposed that for countries whose institutional characteristics were weak to begin with, there would be no need to unbundle the electricity sector or have an independent regulatory authority; the main reform objectives would be to restore reliable electricity services and reduce costs. The full range of options, right up to full or predominant private ownership would only be suitable for those countries with a “well developed power sector, active private sector, nascent capital market [and] significant institutional capability.” (*ibid.*, p. 77)

In 1993, in an early attempt to draw attention to its new policy position, the World Bank sponsored a conference in Jaipur for Indian policy makers, clearly cognizant of India's new liberalization policy. In addition to reviewing the prevailing dismal conditions of the Indian power sector, the conference also highlighted the experiences of ongoing experiments to reform the power sector in Argentina, China, UK and the US. The presentation of these cases appeared to be relatively muted, however, in part because the country studies were hardly unambiguous in indicating a solution for the Indian context, and several constraints to implementing full-fledged restructuring along these lines were also discussed in the conference. Nevertheless the Bank announced that it would finance or guarantee power projects to begin structural adjustment lending to “support the boldest, ... most deserving *state-level power sector reforms* [original emphasis]” provided they engaged in commercialization, tariff reform, regulatory reform and reduction in distribution losses (World Bank, 1993c: 232). The Bank also presented an ultimatum: it would “no longer finance or guarantee power sector projects in states that were not undertaking restructuring efforts, including, at a minimum, (i) unbundling and corporatization of generation, transmission and distribution; (ii) establishment of a regulatory authority with responsibility for tariff reform; (iii) privatization of distribution activities; and (iv) private sector participation in new generation facilities⁴²” In short, this was the formula developed in its policy paper.

In contrast to the IPP policy, then, the new state level restructuring approach to the power sector in India was not home grown. In order to pursue this approach, the Bank needed political support among states. Starting in 1993, very soon after the Bank's policy was crafted, the Bank held meetings with government officials from different states to review the state of their power sector. Following this, five state governments “agreed to request Bank funds for help needed to prepare their own restructuring program” World Bank (1999: 19). Evidently, the “review and acceptance process [was] slow, with many hesitant steps and political setbacks,” but Orissa and Haryana

⁴¹ At the same time, EdF felt that if serious attempts to improve a regulated integrated monopoly were not feasible, some level of competition at the generation level could be envisaged. “This form of competition [would be] compatible with long-term coordination of investment choices, which is critical to efficiency in the power sector... [and] would not require restructuring the sector, with all the difficulties that would entail.” (*ibid.*, p. 45)

⁴² Cited in World Bank (1999: 19). It's not clear, however, whether this ultimatum was presented at the Jaipur conference or at separate meetings.

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became the most promising candidates for implementing the Bank's reform strategy. Although the Bank had no new power sector loans for approval between 1993 and 1996, it used existing project credit and mobilized resources from bilateral donors (primarily, the UK and Japan) who were also supportive of the Bank's plan, to promote legislative change. Although Haryana was initially considered the prototype, and consultants first went there to investigate the application of the reform model, the focus shifted to Orissa because of a perceived recalcitrance on the part of the Haryana government to comply with specific reform measures.⁴³ Orissa thus became an unlikely pioneering state, the first state in India to launch an overhaul of its power sector.

4.2. The Makings of the Orissa Experiment

The power sector in Orissa was undoubtedly in a shambles, by some measures more so than other states. Generating plants were being inefficiently run at 36% (1993-94), transmission and distribution losses were estimated at 43%, the proportion of bills collected was a miserable 17%, and the ratio of customers to staff was an astonishingly low 29 (1993-94), the lowest in the country (A. Thillai Rajan, 2000, p. 660).

But the main reasons that Orissa was the pioneer were political. First, and perhaps most significant, was strong support from Chief Minister Biju Patnaik for reforms. In other states, notably Haryana, politicians demonstrated little appetite for a menu of short term costs, including electricity price increases and lay-offs, for the promise of long-term benefits. Initially, the proximate cause for the Chief Minister's attention to reform was a World Bank hint that funding for a hydroelectric project heavily favored by him would be more readily forthcoming if the state undertook broad reforms in the sector.⁴⁴ However, this should not be read as continued support for reforms only under duress.⁴⁵ According to a senior former public official, the Chief Minister clearly saw impending bankruptcy looming, and quickly came to see the Bank's proposals as the only way out.⁴⁶ Significantly, the succeeding Chief Minister, JB Patnaik, maintained this strong level of support. Second, Orissa had no strong farm lobby that could act as a political brake on reforms. Agricultural consumers accounted for an insignificant 5.7% of total sales, as compared to around 40% in many other states (A. Thillai Rajan, 2000, p. 666). Finally, some have argued that the World Bank chose a relatively poor state, with a small power sector, low levels of political mobilization and a minor national profile as an "experimental rat" that would fly below the national radar screen. We believe the Chief Minister's support was likely the crucial factor in thrusting Orissa to the fore. However, while it may not have been part of the design, low visibility and low national stakes cannot but have been helpful to the Bank as it steered India toward uncharted reforms in a critical sector.

⁴³ *Ibid.* One version is that while one chief minister was a reformer, his successor stopped the program. According to other sources, the Bank explicitly told the Finance Minister of Haryana that the state would have to raise tariffs by 50% in one shot to get the promised funds. When he suggested achieving the same effect by shuffling budgets around, "the Bank said no, and basically pulled back." But another factor may have been important too: Haryana is a largely agricultural state and the Bank may have wanted a less complicated test case (see below).

⁴⁴ Interview with senior state officials, July 20, 2000. This account is also confirmed by A. Thillai Rajan, 2000.

⁴⁵ Ironically, senior World Bank staff were among those most skeptical of the depth of the Chief Minister's sustained support for reforms (Interview with World Bank staff, 6 July, 2000).

⁴⁶ Interview with senior retired government official, 25 July 2000.

Political support within the state notwithstanding, the World Bank was the driving force for reform and the most consistent motivation for change.⁴⁷ Indeed, tariff increases prior to reforms were undertaken at the behest of the Bank to lay the ground for reforms.⁴⁸ Within the World Bank, officials candidly describe their role as overcoming “natural resistance to change” within the state. Within India, power sector reform consultants, NGOs and government officials in a variety of departments refer to reforms in Orissa as the “World Bank model”.⁴⁹ Notably, this proactive role of the World Bank was not entirely viewed as a negative; there were those who appreciated the role of the World Bank in building the momentum for change. Some particularly praised individual staff members for the considerable time they spent in the state, and their perceived commitment to the reform process.⁵⁰

The reform process was designed to bring together government officials, power sector officials and donor agencies, and to incorporate views of employees and consumers. Specifically, reforms were designed and implemented through a series of Working Committees at the state level, and guided by a Steering Committee, which reported to the Orissa Secretary of Power. Consultants prepared the work submitted to these committees. As part of this process, consultations were carried out through a council that included the state government, the electricity board, and consumer groups (World Bank, 1996). Finally, public officials organized meeting with power sector employees to inform them on the process, and attempted to reach out to consumers through newspapers and television.⁵¹

Critics argued that the goal of this process was to “achieve consensus on a model rather than to evolve a model through a consensus process.”⁵² Our interviews support this perception. The efforts to reach out to broader constituencies were, by and large, *ex post* attempts to explain forthcoming changes rather than seek input into design of those changes. In the process of NGO consultation designed to solicit inputs, there was a perception that the views of those with local experience did not count for much. For example, expressions of concern about impacts on the poor did not appear to result in any changes to the approach. Thus, the NGO consultation process was viewed as a “way of reducing tension”.⁵³

Public officials and national consultants (many of whom are former public officials) felt that the reforms were single-mindedly focussed on financial issues, and on privatizing the sector. International donors, felt one, were obsessed with removing subsidies and increasing tariffs.⁵⁴ Another characterized the donor stance as “privatization must be done; let’s do it somehow.”⁵⁵ A

⁴⁷ Interview with Orissa state official, July 20, 2000, and interview with former national power sector official, July 18, 2000.

⁴⁸ Interview with former national public official, 18 July 2000.

⁴⁹ Interview with former national power official, 18 July, 2000, interview with public official, 20 July 2000, and interview with academic, 26 July, 2000.

⁵⁰ Interview with public officials, 18 July, 2000, 20 July 2000, 25 July 2000.

⁵¹ Interview with Orissa public official, July 25, 2000 and World Bank (1996).

⁵² Interview with NGO, 22 July 2000.

⁵³ Interview with academic 26 July 2000.

⁵⁴ Interview 18 July, 2000.

⁵⁵ Interview with Orissa power sector official, 15 July 2000.

representative of a donor agency confirms this perspective when he describes the Orissa reforms as “basically a bankruptcy workout.”⁵⁶ International consultants emphasize that they received instructions to promote rapid privatization, and to “create a process that was irreversible.”^{57 58} It is clear that donor agencies saw financial issues at the heart of the restructuring, and privatization as the best solution. However, donor agencies were not alone in this view. Some senior national and state officials subscribe to the same position without reservation, while others agree, but reluctantly and only because they feel that all other options have been exhausted.⁵⁹

Orissa Reforms Chronology

- In September 1993, the SEB hiked issued a steep tariff hike.
- In November 1993, the chief minister formally communicated to the Bank the government's willingness to attempt to reform its power sector under the Bank's guidelines. Soon after, the World Bank allowed diversion of some finances from a loan for the aforementioned hydroelectric project for assistance on power sector reform.
- With additional grant support from the U.K.'s Overseas Development Administration, and financing from the Asian Development Bank, the state government selected international consultants to prepare background studies and develop a reform agenda and legislation.
- A reform plan was completed in two phases through 1995, by which time three separate enterprises for handling transmission and generation were formally incorporated. Meanwhile, two more tariff increases were carried out, primarily for the domestic sector, in an effort to reduce cross-subsidy.
- In November 1995, the government enacted the Orissa Electricity Reform Act, without much difficulty in the legislature, thereby authorizing these enterprises to take over separate functions of the SEB. The bill also provided for the formation of an independent regulatory commission and the divestment of equity in generation and distribution to the private sector.
- In April 1996, shortly before Bank sanctioned its first restructuring loan, the SEB was formally split three-ways, into the Orissa Power Generation Corporation (OPGC), Orissa Hydro Power Corporation (OHPC) and Grid Power Corporation (GRIDCO). All three companies were initially in government hands, but were earmarked for partial or complete divestment.¹ GRIDCO subsequently prepared to privatize its distribution business by dividing the state into 4 zones and soliciting bids.
- The Orissa Electricity Regulatory Commission (OERC) was established in 1996 under the provisions of the 1995 Reforms Act, with three members selected by a government-appointed committee. OERC had a broad mandate to govern the electricity sector in the state, to issue licenses, regulate the purchase and use of electricity, set tariffs and ensure quality of service and maintain consumer interest and promote competition.

The passage of the Orissa Electricity Reform Act was a significant landmark in that it marked a departure from the framework for the power sector enshrined in national laws. There was reportedly some consternation in New Delhi when confronted with the Act. Some within the central government, notably the Home Ministry, argued that the Orissa Act was unconstitutional. There was also little support from the Ministry of Power, and outright hostility from the Central

⁵⁶ Interview with donor agency staff, 7 December, 2000.

⁵⁷ Interview with international consultants, 13 September, 2000.

⁵⁸ Indeed, the Bank adopted the “reform mantra ‘Failure is not an Option’ ... to emphasize the importance of relentless pursuit of reform implementation at times of difficulties.” World Bank (1996, Annex 5.3 p.5).

⁵⁹ Interview with Orissa public official, 20 July 2000 and 25 July 2000, and interview with former national power sector official, 27 July, 2000.

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Electricity Authority, who presumably saw an erosion in their responsibilities as a result of the law.¹ The law only cleared the central government after active lobbying by the Orissa Chief Minister.

While some key officials did sign on the reform agenda, the process was by no means designed to build a broad public consensus. Instead, it was designed to usher through reforms rapidly, based on a political judgement that a long process would allow vested interests in the sector to politically mobilize and oppose reform. Indeed, both donor agency staff and some national officials suggest that if they had waited for resolution of priorities and approaches in an open debate, reforms may never have proceeded in Orissa. The Orissa case thus raises a possible trade-off between political expediency and democratic process, which we will return to below.

The Orissa case not only set the precedent for states to deviate from the well-trodden public national path in the power sector, it also created a “model” that the World Bank hoped to reproduce in other states. The World Bank’s loan to Orissa “sets a model for state-level regulatory reform tailored for Indian conditions ...” which “...may be eventually adopted nation wide...” (World Bank, 1996). While the World Bank and the British government provided the money, and the World Bank and the government of Orissa mobilized the political support, the process of “tailoring” reforms to Indian conditions was the province of the international consultants hired by the World Bank.

The World Bank’s Orissa Model for Power Sector Reform

- a) Unbundling and structural separation of generation, transmission and distribution;
- b) private sector participation in generation and transmission utilities;
- c) privatization of generation and distribution;
- d) competitive bidding for new generation;
- e) establishment of an autonomous regulatory agency;
- f) reform of electricity tariffs at the bulk power, transmission and retail levels.

Source: World Bank, April 19, 1996, Staff Appraisal Report: Orissa Power Sector Restructuring Operation.

It is hard to overstate the role of international consultants in Orissa. In their own words, they were the “primary shapers” of the reformed power sector, responsible for large design features, as well as for many of the operational features that determined how the system would function.⁶⁰ For example, it fell to the consultants to decide how far down the track to go toward a competitive market system. They opted for a single-buyer model based on an assessment of the underlying technical, institutional and commercial base in the state, and its relative inability to support wholesale or retail market forms. In another example, they decided how to structure the regulatory process, based on a combination of the U.K. system of licenses, with features of the American system designed to encourage transparency. The various reform committees reviewed many of these decisions, but given the committee members’ limited experience with private ownership and competitive power markets, there appear to have been few modifications to the consultants’ proposals.

⁶⁰ Interview with reform consultant, 13 September 2000.

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In making these decisions, consultants had to draw not only on their technical knowledge, but also had to make assessments of the specific socio-political and institutional context in which reforms were being carried out. For example, in unbundling the State Electricity Board, they were acutely aware of the need to minimize lay-offs to avoid opposition by unions. At the same time, they had to balance this requirement against the need to develop new institutions with markedly different institutional cultures and incentive structures.

Our focus on independent consultants is not intended as a commentary on their performance in the job – an important topic but one beyond the scope of this paper – but to highlight their role as a, if not *the*, node of decision-making in the reform process. Several national actors questioned the appropriateness and the ability of consultants to play this central role. One set of comments focussed on the level of understanding of the Indian context that expatriate consultants could realistically develop in a short time period. The consultants, said one domestic public official, sought to “fit Orissa into their patterns.”⁶¹ Another central national actor in the reforms caustically said that they were “applying principles of aviation to a jeep”.⁶² Specifically, national consultants and Orissa power officials questioned the international consultants understanding of both the domestic social and political constraints to reform, and the social objectives of reform. An emphasis on the mechanical process and on financial issues, they felt, would fail to address social issues. Moreover, expatriates alienated power professionals in the state by treating them as “scoundrels”, thereby losing the opportunity to learn about local conditions.⁶³ When local consultants were used, they were placed in junior positions.⁶⁴ International consultants, they concluded, lacked “national feeling.”⁶⁵

These comments should not be uncritically accepted at face value. National consultants are competitors of international consultants, and local power officials face redundancy as a direct result of recommendations by international consultants.⁶⁶ Nonetheless, the grumblings by national actors do indicate both a lack of domestic “ownership” of the process, and a sense that more attention to the national context was required. Indeed, one international consultant volunteered that a downside of using expatriates was that “subtleties ... got past us.”⁶⁷

The Orissa process, then, was designed to address the immediate financial crisis in the state’s power sector. Reform consultants were instructed to focus on these issues, and on privatization as a way out of the problem. Solving the financial problem was seen as synonymous with, or at least as the single most important step toward, enhancing provision of public benefits.⁶⁸ Did this prove

⁶¹ Interview with Orissa public official, 26 July, 2000.

⁶² Interview with Orissa public official, 25 July 2000.

⁶³ Interview with national consultant, July 15, 2000.

⁶⁴ Interview with academic, 26 July 2000.

⁶⁵ Interview with national power sector consultants 12 July 2000, and 15 July, 2000, and interview with Orissa power official 15 July, 2000.

⁶⁶ Moreover, these comments are representative of a broader dissonance in outlook. For international consultants, local actors did not appreciate or respond to the basic incentive structures of a market economy.

⁶⁷ Interview with international consultant, 9 September 2000.

⁶⁸ As the Bank’s Staff Appraisal report says, “the reform program would indirectly help the poor by freeing up state funding for higher priority use in the social sectors.” (World bank, 1996, p. 32).

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to be the case? Were there any explicit attempts at addressing public benefits in the course of the reform process? We turn to these questions next.

4.3. The Orissa Experiment – What Role for a Public Benefits Agenda?

An evaluation of Orissa has not, as yet, been undertaken, and indeed, several issues are still in play.⁶⁹ Any comprehensive analysis is confounded by the enormous devastation wrought by the “super-cyclone” of October 1999, which left the power infrastructure in tatters. While this paper focuses on the process rather than the outcomes of reform, in this section we do briefly discuss four issues around reform that either have been prominent in the debate, or that we view as interesting outcomes from the reform process. However, this discussion should not be read as a complete balance sheet on the Orissa experiment.

The Challenges of Privatization

Privatization in Orissa has not proved to be a short-term panacea; it is too early to tell what the long term benefits will be. From the beginning, privatization efforts were confounded by a chicken and egg problem. Since the utility was in bad financial, technical and institutional shape, there would be few potential buyers unless the situation was improved. Yet, many involved in the process felt that only privatization could bring about positive changes.⁷⁰ How was this conundrum resolved? In large part, it was not. Instead, some rapid efforts were made to improve public utility performance, following which the utility was rapidly privatized despite the lack of dramatic improvement in performance. The results were considerably flawed.

The most problematic dimensions of what were a very complex set of transactions are quickly summarized here. The process of utility reform was initiated under public ownership by placing the utility under a management contract with Bombay Suburban Electricity Supply (BSES), a requirement of the World Bank loan. This proved to be a misguided move. BSES was perhaps “unwilling to undertake the management contract without an assurance about continuity beyond the contract period,” and wanted a “free hand” in the deployment of the employees, who were officially still under government payroll and who had appealed to an administrative tribunal to retain their lien on the state government (Mahalingam, 1996). In addition, BSES was interested in taking over the distribution business, and so had little incentive to improve performance and subject itself to a higher price in the future.

Next, in attempts to place the finances of generation and distribution utilities being prepared for privatization on a sound footing, financial liabilities were effectively transferred to the only segment destined to remain in state hands, the transmission company, GRIDCO. Specifically, generation companies were allowed to increase the price charged to GRIDCO, but the price GRIDCO charged to distribution companies was under the control of independent regulators, and

⁶⁹ A review was commissioned by the World Bank, but the result is widely seen as a disappointingly general overview that lends few insights into the Orissa specific experience.

⁷⁰ As one consultant put it, to reform the public utility requires certain “control techniques” in place. Specifically, one has to presume “they are if you take money away.” In Orissa, he suggested, the structure of the system did not provide this basic incentive (13 September 2000).

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did not increase commensurately. Thus, GRIDCO quickly racked up enormous liabilities. Next, steps taken to provide GRIDCO with a sufficient asset base and to resolve past payments owed by the state to GRIDCO left the utility with a cash crunch.⁷¹ Finally, in order to make the distribution companies attractive to potential buyers, GRIDCO took on the vast majority, Rs.1950 crore of the shared transmission and distribution liability, while the four distribution companies together shouldered Rs.650 crore.

After all these efforts to make investment attractive, privatization of distribution resulted in far from a text-book outcome. In the course of distribution privatization, one company, BSES, obtained control of three of the four distribution zones, leading to an effective horizontal re-integration of distribution. Moreover, AES Transpower, which was awarded the fourth distribution zone, also owns substantial generation facilities in Orissa, which has led to a measure of vertical reintegration as a result of privatization.⁷² This horizontal and vertical re-integration threaten to undermine the competition-inducing purpose of unbundling and restructuring efforts. Finally, reform advocates have expressed disappointment that in the (admittedly brief) two years since privatization, the new owners have not brought either funds or discernable management skills to the newly established companies.⁷³

There is one hopeful outcome from the privatization experience in Orissa. Privatization has allowed decentralization of responsibilities with an attendant improvement in performance. For example, the Xavier Institute of Management in collaboration with BSES has established village collectives to manage and organize bill collection tasks. The initial experience suggests that rural residents respond very positively to control over electricity management at the village level. For example, newly formed village committees achieved a 100% increase in bill collections over a six month period.⁷⁴ Certainly, this approach needs to be subject to greater scrutiny to ensure that decentralisation does not transfer power into the hands of local elites. Nonetheless, this limited experience does suggest that aside from the debated benefits of privatization, there are potential collateral benefits arising from the greater scope for decentralized forms of organization in the sector following a loosening of state control.

⁷¹ The specifics are rather complex (Mahalingam, 2000). When transmission and distribution were unbundled from generation, the former were left with liabilities of Rs. 2,400 crores. In an unprecedented move for a state electricity board, assets were re-valued upward based on depreciated replacement cost (World Bank, 1996). In addition, receivables from the state government were transformed into equity leaving GRIDCO with a cash crunch (GoI, 1999). The goal of the exercise was to provide GRIDCO a capital base of a sufficient size to absorb debt to be used for future technical upgrades.

⁷² Indeed, AES was "persuaded" by the government to purchase this company because there were no other bidders in the first round. Although BSES bid for the fourth zone in a second round of bidding, it was not selected "in order to introduce a degree of competition among the various distribution zones" (Mahalingam 2000: 96). The prevailing explanation for AES being allowed to have stake in both generation and distribution in a supposedly unbundled and competitive post-reform situation is that this was the most expedient solution to the problem of privatizing the fourth zone, CESCO. Evidently, there was a broad consensus among reform advocates that by taking over CESCO after forming a separate business entity, AES would find it in its best interest to ensure that revenues would flow smoothly to its generation business. Indeed, although AES had secured a counter-guarantee from the government, there is some speculation that it may have considered it "prudent to take over CESCO" under government pressure to ensure that its guarantee would not be jeopardized (Mahalingam, 2000:97).

⁷³ Interview with former Orissa power official, 25 July 2000.

⁷⁴ Interview with Xavier Institute of Management, 26 July, 2000.

Establishment of a Regulatory Commission

The establishment of an independent regulatory commission (OERC) was a highly significant outcome. OERC had a broad mandate to govern the electricity sector in the state, to issue licenses, regulate the purchase and use of electricity, set tariffs and ensure quality of service, maintain consumer interest, and promote competition. Since past problems in the power sector are directly associated to the effective capture of power sector institutions by vested interests, the regulatory commission is a lynchpin in a new model aimed at independent operation.

The OERC has set impressive standards for transparency in India. So far, its performance with respect to access to information, and consultation has been strong. Notably, the OERC has set up a comprehensive web site to disseminate information, to complement information dissemination through more conventional means. On several issues, the OERC has held open hearings, at which a range of labor and consumer groups have represented their interests.⁷⁵

The regulators have also demonstrated a degree of independence from pressures for tariff increases. For example, the World Bank's staff appraisal report makes assumptions about increases in GRIDCO's tariffs, based on which the finances of the restructuring effort was worked out. While OERC did issue annual tariff increases since its inception, it also contested GRIDCO's proposals by effectively forcing it to reduce its expenditure on power purchases, arguing that these were high as a result of excessive T&D losses.⁷⁶ The OERC thus effectively protected consumers from part of the tariff increases associated with system inefficiencies and theft. Moreover, at one point the World Bank explicitly urged the OERC to approve tariff increases to "provide comfort" to investors just before privatization, a request that they rejected.⁷⁷ The difficulty, of course, is that by establishing the independent regulator, reform advocates lost control over tariffs as an tool in the reform tool-kit. The OERC could not be both regulators and reformers. Curiously, the OERC regulators have come from bureaucracies with no great tradition of independence or public participation and consultation. Yet, by many accounts, they have taken with great zeal to a role of principled public oversight in what one observer called, tongue firmly in cheek, "the Seshan effect".^{78 79}

At the same time, critics have pointed out that the promising provisions requiring transparency and public consultation that guide OERC functioning are by no means sabotage-proof (Dixit and Sant, 1998). Principles of good governance are diluted by granting the Commission discretionary

⁷⁵ Interview with representative of consumers group, 25 July 2000.

⁷⁶ For an analysis of GRIDCO's tariff proposals and the Commission's responses, see Sankar and Ramachandra (2000). Note that privatization of distribution in Orissa led to the sudden recognition that T&D losses could no longer be clubbed with subsidies but had to be computed accurately. Thus, while pre-reform estimates of these losses were in the order of 15%, by 1997, GRIDCO was claiming these were as much as 41 percent, while the OERC was allowing it to assume losses of only 35 percent, which had been GRIDCO's earlier estimate.

⁷⁷ Interview with public official 20 July, 2000 and with consultant, 13 september, 2000.

⁷⁸ T.N. Seshan is a former government bureaucrat who rose to prominence as Chief Election Commissioner by promising and implementing sweeping changes in the country's election procedures.

⁷⁹ Note that this is not true of all the regulatory commissions that have been set up in various states, some of which have established a tradition of working in a relatively non-transparent fashion.

powers that allows them to circumvent application of these principles in a variety of ways, if they deem it necessary.⁸⁰ To the credit of the OERC, they have made mandatory public procedures for approval of PPAs in explicit acknowledgement of this criticism (Interview with regulator, 20 July, 2000). The broader point here is that the effective regulation of the power sector cannot rely on a paternalist model that relies on an unimpeachable and unaccountable government body to always act in the peoples' interest.⁸¹ Indeed, it was precisely such a model that led to the present crisis in the sector. The pressures for political accommodation remain as strong as before, as both regulators and government officials unofficially acknowledge. As one official put it, "There is not only one God in the Indian pantheon. Any regulator who does not talk to the government is living in a fools paradise."⁸²

Finally, the OERC appears to be limiting itself to a tariff setting role, to the exclusion of the broader landscape of power sector development in the state (Sankar and Ramachandra, 2000). This limited scope also rules out proactive attention to the social or environmental outcomes of reform. Yet, at the moment, the state government perceives the reform process as an opportunity to rid itself entirely of what has become a burdensome sector. There is, therefore, an absence of responsibility for longer term and broader issues raised by power sector development.

Part of the problem lies in the training received by the OERC on regulatory practice. Regulatory economists who have neither expertise nor a mandate to explore broader issues of public benefits in the sector conducted this training. Moreover, since the past ills of the sector were perceived as the result of mixing social activism with the business of providing electricity, the message delivered to the regulator was "it is not your role to solve social problems".⁸³ Yet, at the moment, there is no other body in a position to do so. Moreover, it will be hard to subsequently graft attention to public benefits onto the mandate and expertise of the OERC. The initial training period not only develops skills, but also sets priorities and shapes institutional cultures. The lack of attention to a long term vision could ultimately limit the full potential of the OERC as a progressive force in the sector.

A Half-Hearted attempt at Demand Side Management

A third component of the reform package was an effort to introduce demand side management (DSM) in Orissa. The intent was to follow up on earlier studies of DSM potential to develop bankable projects that could then seek financing. This was an initiative led by the World Bank. Other reformers were less than enthused. One set of reform consultants refused to have anything to do with the project.⁸⁴ The state utility agreed only to pass on the funds and vet projects, but refused to be project implementers.⁸⁵ Why, in the face of this opposition, did the World Bank pursue the project? First, the potential for DSM in the power sector in India was demonstrably

⁸⁰ In one encouraging sign, the OERC has responded directly to this criticism by an NGO to make mandatory public procedures for approval of PPAs (Interview with regulator, 20 July, 2000).

⁸¹ Indeed, the need for political accommodation remains as strong as before. As one official put it, "any regulator who does not talk to the government is living in a fools paradise."

⁸² Interview with former public official, 20 July 2000.

⁸³ Interview with international consultant, 13 September, 2000.

⁸⁴ Interview with international consultant, 13 September, 2000.

⁸⁵ Interview with former Orissa official, 25 July 2000.

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large, and the general case for including DSM in a reform package was strong. Second, the World Bank had come under fire from external critics for pursuing large infrastructure projects in India, to the exclusion of efficiency enhancing and demand approaches. The shadow of the Narmada Valley project loomed particularly large. In this context, it was politically important for the Bank to include DSM. International consultants, other donor agencies, and state officials cynically described DSM as a measure to satisfy internal Bank politics and procedures – “a box to be checked”.⁸⁶

The results were not encouraging. There was little incentive for the utility to reduce consumption by industrial users, who were their best paying customers. There was no mechanism for the utility to recover costs incurred in running projects, and finding a financial intermediary proved to be a challenging task. Other opportunities were foregone because operationalization would have been complex. For example, the most significant energy savings potential existed in the domestic sector, where extensive use of electrical cookstoves contributed to high peak loads. But although switching to LPG would have been a cheaper option for consumers and helped reduce the demand, it was not adopted because it would have meant cross-sectoral transactions that the reformers were unwilling to focus on at the time. Finally, the best staff in the utility were deployed to tasks deemed more central to the reform process, such as tariff setting and regulatory reform, leaving the staff-intensive process of DSM to the least competent.

There are two overarching reasons for this lack of success. First, while at an all India level DSM made considerable sense, at that particular moment in time, Orissa was not a particularly good candidate. Most important, Orissa has a small agricultural sector. Since low-tariff electricity provision to agriculture is a loss-making sector, DSM is highly attractive as a means of cutting losses from agriculture. This incentive did not apply in Orissa. In addition, for a variety of reasons, the state had surplus power at the time of the reforms. Hence, GRIDCO had no incentive to reduce demand. Since the borrower was unconvinced, DSM became an extremely hard sell.

Second, DSM received little political support from the World Bank, and this view of DSM as “an embellishment” percolated through to GRIDCO officials and other reform consultants. As a result, even though substantial funds were allocated to DSM, it became clear that DSM only occupied a “small chair in the corner,” rather than a seat at the decision-making table.⁸⁷ Thus, even projects that were viable in the limited context of Orissa languished for lack of attention to specific hurdles, such as the lack of a financial intermediary to carry forward projects.

Thus, DSM was implemented in a state where its full potential could not be realized, under institutional conditions that did not provide the right incentives, and with a lack of true commitment and political support. The silver lining to this cloud is that DSM has remained on the agenda for other states where it is a more timely idea. Implemented correctly, DSM could ameliorate supply shortfalls and build a political constituency for reforms (particularly in rural areas), by bringing demonstrable benefits early in the reform process. However, for both technical

⁸⁶ Interview with international consultant, 13 September, 2000, interview with donor agency staff, 17 July, 2000.

⁸⁷ Interview with reform consultant, 16 September, 2000.

and political benefits to be realized requires more political support, and an attention to DSM as an integral part of reform efforts.

5. *Scaling up the model*

The second phase of privatization, which planned to privatize electricity through the sale of assets and allowed independent regulation with virtually no role for the state, was undoubtedly far more extensive than the first, which only tried to include contracting for generation in otherwise intact public sector enterprises. By the late 1990s, several other states had initiated reforms along the same lines as Orissa. Logically, fundamental reform of the SEBs (although not necessarily through the route of privatization; re-regulation provided an untested alternative) was logically prior to the introduction of IPPs. Yet the sequence was reversed. What were the reasons for this, and why did efforts at SEB reform spread in the late 1990s when they were a non-starter in the early 1990s?

In the early 1990s, a relatively high level of collective diffidence in government and elsewhere discouraged any move to contemplate publicly a more radical form of privatization. This was, after all, a period when the country's diverse political entities were barely getting used to the idea of liberalization, after decades of state control over numerous sectors of the economy. While the IPP policy could be crusaded as the introduction of competition that would shake up a sluggish public sector entity, the political and institutional conditions of that period could not yet provide justification for the outright sale of public sector entities. Privatization, in the sense of removing government ownership and control, was only just being contemplated and even then, not for "core sectors" of the economy like electricity.⁸⁸ Moreover, while privatization, at least in theory, required that the SEBs be insulated from political control, and that tariffs be raised, IPPs required no such difficult political decisions. Indeed, the lure of the IPP policy was that it offered a way around the difficult politics of the sector. Thus, when the IPP policy appeared as early as 1991, providing unprecedented incentives to high profile foreign investors, it was seen as the "make or break" power policy that would transform the sector.

As the negative implications of the IPP policy became increasingly apparent, and other sectors in the economy gained experience with foreign direct investment, a more sober view of private sector participation emerged in business, media and the power community. At the same time, the opposition to reforms through privatization per se had weakened considerably, in part because the labor movement was fragmented, but also because even states with left governments were competing with others to invite private investors, to avoid losing the strategic advantages presented by opportunities to gain political power by accessing international capital flows (Echeverri-Gent, 2000).

⁸⁸ A "disinvestment commission" was set up by the coalition United Front government in 1996 to provide recommendations for the privatization of 43 public sector companies. Successive governments have taken qualified action on about 15 of these, and are being criticized by business for not moving faster on others, including the Power Grid Corporation, NTPC and NHPC.

The Andhra Pradesh Experience

Andhra Pradesh, a state with 72 million, a sizeable agricultural base and strong political coalitions, provides a useful comparison with Orissa. The sequence of events relating to restructuring in Andhra Pradesh is as follows. In 1995, the Hiten Bhaya committee, composed of various power sector planning experts, proposed reforms to unbundle the APSEB. In July 1997, the state government announced plans to carry out the restructuring and introduced the reforms bill in the Legislative Assembly in April 1998, which passed although the entire opposition was suspended by the Speaker for "blocking the proceedings of the House in protest of the bill. (AP power reforms Bill passed, *Business Line*, April 29, 1998 Pg: 02, Col: d)". An Electricity Regulatory Commission (APERC) was formed and APSEB was unbundled into two separate companies namely, Andhra Pradesh Power Generation Corporation (APGENCO) for generation and Andhra Pradesh Transmission Corporation (APTRANSCO) for transmission of power, with plans to form a number of distribution companies. In February 1999, the World Bank approved a loan of \$210 million to support the first stage of the restructuring program.

The decision to restructure the APSEB was strongly criticized by some, including a former member of the Planning Commission (Ghosh, 1997), who argued that APSEB had been an unusually well-performing utility, but for subsidies to the agricultural and domestic sectors and a huge interest burden, and that corporatizing APSEB and converting its debt to the state government into equity would have been sufficient to address these concerns. But supporters of the reform, including the World Bank, prevailed, taking the position that although "operational efficiency of [APSEB's] generation plants compare[d] well with international standards, it suffer[ed] from energy shortfalls of about 10 percent and peak demand shortfalls of about 25 percent. Due to subsidized tariffs, low investment in transmission and distribution systems, inadequate maintenance, and high levels of technical and commercial losses, the state's comparatively well-performing utility" was therefore in "severe financial distress and [was] unable to provide quality supply and efficient service to its customers." (World Bank, 1999c)

By the late-1990s, the world's business community had already become enamored with the Chief Minister of Andhra Pradesh, Chandrababu Naidu for his laptop-wielding diplomacy and apparent commitment to making significant strides in infrastructure development and poverty eradication. The APSEB restructuring experiment was therefore seen as a natural extension of the state's other bold policies to improve its social and economic condition; yet, it was clear to all that, far more than Orissa, Andhra Pradesh was the state that needed to prove the viability and strength of the reform process.

In fact, the road from 1998 was even rockier than anticipated. When APERC announced steep hikes in tariffs for domestic and agricultural sectors in mid-2000, massive state-wide demonstrations were organized by the Opposition parties, in which urban domestic consumers seemed to display the greatest ire. Part of the justification for the hike was to cover transmission and distribution losses for APTRANSCO, where earlier estimates of around 18 percent losses had been readjusted to around 38 percent after unbundling. Eventually, the Naidu government promised additional subsidies to APTRANSCO, which permitted the Commission to reduce the tariff increases. Significantly, the 1998 legislation had given the state government precisely this level of power to "issue policy directions on matters concerning electricity in the State including the overall planning and coordination [including] subsidies (AP power reforms Bill passed, *Business Line*, April 29, 1998 Pg: 02, Col: d)."

The ability of the state government to continue to intervene in the sector's policy making, however indirectly, is reflected in the character of the APERC itself, at least as reported by consumer advocates and others who have tried to participate in regulation. Evidently, and in contrast with the Orissa commission, the APERC initially operated as if it were "part of the state bureaucracy," with none of the openness and transparency that was expected of it (for instance, even the press were not allowed to participate in its hearings, at first—Interviews with consumer activist and consultant, July 27 2000). Since then, however, and perhaps in response to this criticism, its character seems to have changed noticeably. APERC now has a website, like all the other regulatory commissions, and introduced regulations on "Consumer's Right to Information" that relates mainly to their relationship with licensees, but could perhaps be stretched in interpretation as providing consumers' standing for making depositions in regulatory hearings.

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By the late 1990s, the sector had thus been primed for reform, in part because the IPP experience had proved more problem than panacea. But also, the IPP experience demonstrated that there was far too much scope for collective action failures (including corruption, unfair negotiations, cornering of markets) in the absence of a proper incentive structure, leading to a growing clamor for a stronger regulatory framework. Finally, the overwhelming consensus among bureaucrats and consultants became that the Bank's model was essentially correct, and that the problem had to be tackled from the distribution end because poor revenues were the source of the crisis, not lack of generation capacity as such, which had been the dominant belief in earlier years (Ahluwalia, 1999).

In addition, the World Bank had been steadily laying the ground-work for privatization-led reform of the SEBs through the 1990s. The support for reforms by the Chief Minister of a poor and low-profile state, Orissa, helped keep the spotlight away from the reforms until they were ready for the public gaze. The Bank's guarded stance towards IPP policy and its strategy of pursuing privatization while not 'rocking the boat' helped promote the openness to privatization. The demonstration effect of the Orissa reforms was intended to be a key piece of the puzzle, but one that did not live up to the Bank's hopes. The mixed achievements in Orissa have only shown that privatization is feasible. It has not, as yet, shown that it produces results within the required time frame. In this context, it was more of a sense that there were no alternatives, rather than a deep belief in the Orissa model, that has led to its acceptance by power sector bureaucrats and others towards the end of the 1990s.

5.1. Next Steps by the World Bank

In the late 1990s, a number of other states signaled their willingness to start down the path toward unbundling and privatizing their sectors, and have been working with World Bank support do so. These efforts have been stimulated by growing acceptance of the Orissa model at the centre, the demonstration effect – albeit partial – of the Orissa model's political feasibility, and perhaps most significant, no indications of abatement in the crisis situation of the power sector in many states. The list of states that have concluded loan agreements with the World Bank – Andhra Pradesh, Uttar Pradesh, Haryana and Rajasthan – includes large and politically significant states. Gujarat has embarked on reforms with the assistance of the Asian Development Bank, and a number of other states are currently engaged in dialogue with donor agencies. In only one of these states, Haryana, has the reform process ground to a halt because of a lack of political support and a failure to fulfill obligations under the terms of the agreement with the World Bank.⁸⁹

These states have followed the basic parameters of the Orissa model, and in many cases have been guided by the same consultants as designed Orissa. However, there have also been some key changes, based on lessons learnt from the Orissa experience. First, power sector reform efforts have been couched within the broader framework (articulated in the World Bank's Country Assistance Strategy) of state level financial restructuring. This is particularly true of Andhra Pradesh and Uttar Pradesh. As part of this broader financial restructuring, the goal is to avoid leaving the public component of the sector with an unsustainable debt burden, as happened with

⁸⁹ The World Bank suspended the loan in March 2000 because the Haryana government failed to act on key legal provisions of the loan that required transfer of the Haryana SEB responsibilities to new unbundled entities (Sharma, 2000).

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Gridco in Orissa. This approach is relatively new for the World Bank, since it involves providing a broad macroeconomic restructuring loan at the state level rather than to a national government. Second, all but the UP loan are structured as “Adaptable Program Loans” (APLs), which are structured to release small amounts of funds over many years, each tranche release dependent on fulfillment of conditions. Compared to a single large loan, this approach enables the World Bank to provide demonstration of support early in the process, in essence a down payment on future support, to assist restructuring by providing “comfort” to creditors by signaling seriousness of intent, and provides the World Bank flexibility in adapting support to future conditions (World Bank, 1997).⁹⁰

The World Bank has not been the only donor agency active in the sector in India. The UK’s Department for International Development, CIDA (Canada), USAID and PHRD (Japan) have also provided funding for elements of the reform. Of these, DFID has provided considerable funds for technical assistance with the reform program (World Bank, 1999b). Notably, much of DFID’s contribution has been in the form of a grant rather than a loan. According to one World Bank observer, DFID’s grant support for basic technical work was critical to implementation of reforms.⁹¹

An examination of the various loan documents provides insights into the World Bank’s approach to the environmental and social dimensions of the reform process. Discussion of the environmental implications of reform is driven by the World Bank’s internal “safeguard” policies, which are designed to ensure that negative effects are guarded against and mitigated. Within this policy framework, environmental impacts are construed rather narrowly, to refer to the direct environmental impact of loan funds spent on physical infrastructure. As a result, all of these World Bank loans are categorized as having no major environmental impact. Yet, the broader regulatory reform put in place through the reform process will likely transform the incentive framework for investments in the sector, with considerable impact on the future environmental profile of the sector (Kozloff, 1998). Moreover, as some advocates of reform have argued, reforms may lead to efficiency gains with consequent environmental improvements. Whether negative or positive, so far, there is no indication of considered attention to the broader environmental implications of institutional reform in the World Bank loans, and specifically, no attention to how reforms can provide incentives for investment in environmentally sustainable energy futures.

However, the World Bank did conduct a separate, and substantial, overarching study on environmental issues in the power sector (World Bank 1998b).⁹² The study notes that the sector is on the verge of massive changes, but it explicitly does not address environmental impacts of the institutional and managerial dimensions of reform such as unbundling or tariff liberalization, nor at the implications of changes in ownership from public to private. Instead, the focus is on the

⁹⁰ For example, the AP Adaptable Program Loan was structured around five sets of conditions: (i) pass a reform bill and reform tariff setting; (ii) notify the bill, establish a regulatory commission and unbundle the SEB; (iii) partially privatize distribution; (iv) further privatize distribution and list shares of the generations company on the stock market; (v) private distribution completely and list shares of the transmission company (World Bank, 1999c).

⁹¹ Interview with World Bank staff, July 6, 2000.

⁹² The study develops a methodology which is applied for two states, Andhra Pradesh and Bihar.

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environmental impacts of implied changes in technology and in price of electricity. Sources within the World Bank place responsibility for the limited scope of the study with the Government of India and particularly at the door of the Ministry of Power. Specifically, the Ministry was concerned that a study of this nature could lead the Bank to impose environmental conditions, and also was concerned the study would contribute to a consensus around the form of state level reforms, the contours of which by then were uncertain.⁹³

The research process was undertaken at around the same time as the Orissa reforms, and a reasoned look at the environmental implications of alternative institutional forms could have helped inform state reforms.⁹⁴ Other than encouraging attention to DSM, there is little evidence of the impact of the study on the design of state level reform packages and associated World Bank loans. This is indeed unfortunate, since sources within the government do suggest that World Bank studies – such as an early study on long term issues in the sector, or an ongoing study on farmer uses of electricity – are influential and useful in internal debates. Thus, while the environmental issues study does provide useful information on the relative costs and benefits of specific technological measures, the inattention to institutional changes is an opportunity lost.

On social issues, the loan documents suggest that the poor will benefit through better fiscal management in the state. Reforms in the power sector, the World Bank argues, would free state funding for “higher priority use in the social sectors” (World Bank 1999c, p. 27). On the important question of increasing access to electricity services, loan documents state that the commercial orientation introduced by the reforms will lead to more modest targets, but argue the enhanced efficiency of the resultant institutions will lead to more effective implementation on the ground, more than compensating for the lower targets (World Bank 1999c, World Bank 1996). Finally, the importance of defending ‘lifeline’ rates for low income groups in the face of price increases is emphasized (World Bank 1999c, World Bank 2000, World Bank 1997).

Other than placing issues such as obligation to meet new demand and lifeline rates within the legislative and regulatory framework, the various state reform loans do not build in project components to ensure that they will be met. In particular, it is not clear how these goals for the power sector, which will continue to place burdens on the state exchequer, can be reconciled with a desire to free funds for allocation to other priority sectors. Ahluwalia (2000) notes, for example, that if the provision of affordable electricity to India’s 81 million poor households is a social goal, the potential for reductions in the subsidy burden drawn by the state is limited. The fiscal crunch is likely to be further compounded by the short-term need to restructure the finances of state electricity boards prior to unbundling and privatization, as the Gridco (Orissa) example illustrates. In the absence of more specific programs, there is certainly reason to be concerned that the social objectives that have historically been central to the organization of the sector will be sacrificed in the interests of short term financial health.

5.2. Consolidation by the Central Government

⁹³ Interview with World Bank staff, 6 July, 2000.

⁹⁴ More recent applications of the study methodology being conducted at the state level reportedly do address institutional issues.

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Over the latter half of the 1990s, the central government has become increasingly engaged in state level reforms. Through regular meetings of state chief ministers and through passage of central government legislation, it has sought to walk the line between asserting control by putting in place an overarching framework, and allowing states a measure of flexibility.

The acceptance of the need for fundamental state level reform at the political and administrative levels at the centre is striking. This momentum has survived political changes. In 1998, when a new BJP coalition government was formed at the center, many were surprised by the zeal with which it encouraged private participation, notwithstanding the ideology of economic nationalism that many of its members shared. From its long experience of being in the Opposition during the reform period, the BJP and its allies had also recognized the support among its constituencies for quick and lasting change. The political acceptance of a reformist discourse was enhanced by the waning political strength of the center-left parties, historically the main opponents of large-scale privatization.

Chief Ministers' Meetings

One important manifestation of the central government's coordinating role has been a regular series of chief ministers' meetings to come up with a common agenda on power sector reforms. Such a meeting in 1996 is widely cited as a turning point. Chief Ministers agreed to a common minimum action plan which included handing over retail tariffs to State Electricity Regulatory Commissions, and a determination that while cross subsidies across sectors were to continue, they were to be restricted. Specifically, no sector would pay less than 50% of the average cost of supply, with the exception of agriculture, where an absolute floor of Rs. 0.50 per KWh (considerably less than 50% of average cost) was set, to be raised over three years to the 50% benchmark.

The performance toward these goals has been shoddy as best. While SERCs were established (as described below), few of them are fully functional. On the politically difficult task of removing cross-subsidies for agriculture, by 2001, only 9 states had achieved the Rs. 0.50 floor and none had achieved the 50% of average cost goal. Hence, these goals were reiterated in a second Chief Ministers' meeting in February 2000, and a third in March 2001.⁹⁵ At these subsequent meetings the Chief Ministers agreed to introduce compulsory metering of electricity for all consumers by December 2001 which, if achieved, would be a significant measure to roll-back the institutional lock-ins that we have argued plagues the sector. In addition, the CMs called for energy audits, elimination of power theft, upgrading of transmission and distribution and, in February 2000, they ended with a statement that if these goals appear unattainable within the existing framework, then "corporatisation/cooperatisation/privatisation of distribution would have to be undertaken" (Government of India, 2001). As the wording of this statement suggests, the Chief Ministers were at pains to not constrain the choices open to the states. At the most recent March 2001 meeting, the central government agreed to orchestrate a "one-time settlement" of Rs. 260 billion owed by state electricity boards to central utilities (Times of India, 2001).

⁹⁵ At this third meeting, two significant states, Punjab and Tamil Nadu, refused to even entertain this commitment.

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The series of Chief Ministers meetings do illustrate a growing political consensus around reform, and particularly an openness to address issues that were previously political sacred cows, such as agricultural subsidies, open discussion of theft, and restructuring of state electricity boards. Nonetheless, there are grounds to be cynical of reform processes driven only by the slow accretion of political consensus. As the Government of India's own briefing document notes, progress on the agenda items has been painfully slow. The business newspapers have been even less sympathetic. They note that a Rs. 0.50 minimum agricultural tariff in 2001 is only Rs. 0.25 in 1996 currency. Thus six years later, the Chief Minister are trying to implement a weakened version of a financial commitment that was insufficient even when it was proposed (Aiyar, 2001). Moreover, commentators suggest that if the SEBs are given a hand-out at this stage, they will simply use it as an excuse not to reform (Economic Times, 2001). These arguments, and the poor implementation record of the Chief Ministers' meetings, suggests that cajoling by the central government has not proved to be a substitute for building political momentum one state at a time. This, of course, has been the World Bank's approach; an astute reading of the political landscape.

State Electricity Regulatory Commissions

Legislative action has led to somewhat more concrete implementation. In 1998, The Electricity Regulatory Commission Act was passed, creating a Central Electricity Regulatory Commission and allowing states to create their own Commissions. States thus had an option of creating the commissions either on the basis of the central Act or through legislation of their own, as Orissa did.⁹⁶ This was the first overt formal sign by the central government of explicit recognition of the significance of the reforms in Orissa, and a late attempt to provide a template for reforms by other states. The 1998 Act marked, in a sense, the national coming out of the Orissa model.

Since then, several states have created State Electricity Regulatory Commissions (SERCs) as independent bodies with regulatory oversight on the sector. Developments in other fronts have been equally rapid, six states have approached the Bank and other donors for assistance in restructuring their SEBs, and many are implementing tariff reform in preparation for full-fledged privatization.

The composition of SERCs has been more or less uniform, with a former bureaucrat typically at as its chair, and two members with technical and financial backgrounds, respectively. But one of their most interesting features is their remarkable diversity of operation across states. Thus, some SERCs are termed "mere extensions of government," at least in their regulatory culture, because they do not hold open hearings and tend not to pay attention to stakeholder comment or complaints⁹⁷. In other cases, there is an active interest in seeking technical assistance and informal consultation from analysts and consumer groups, resulting in bold initiatives that even seem to annoy donors and state governments because they may be "too independent."⁹⁸ The role of the

⁹⁶ Ramachandran (1999) observes that the central Act would have a weaker hold on the creation and sustenance of commissions than would state legislation. In the former instance, a state government could easily revoke the commission through notification; in the latter, it would have to amend the legislation. This difference has produced a tenuousness in the way central Act commissions operate as opposed to others.

⁹⁷ Interviews on 27 July 2000 with consumer advocate and consultant.

⁹⁸ Donor interviews, 15-17 July 2000.

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CERC is itself somewhat hazy, because of its interest in having oversight and the states' strong resistance to such an idea. Thus far, however, neither the SERCs nor the CERC appear to take seriously the idea of playing a proactive role in any area of power sector regulation other than tariff control. Thus, efficiency, renewables and even rural expansion appear to be remote questions "to be tackled later" by most commissions.⁹⁹

Most significant is the zeal with which members of the public, including consumer advocates, environmentalists, the media and even casual observers, have greeted the new institutions. As bureaucrats and consumer activists agree, there is keen interest among members of the public to "democratize" the commissions at an early stage, through efforts to intervene in all aspects of regulation, including those issues relating to public benefits that most experts would rather defer until the technical and financial problems of the utilities are resolved. In one instance, a consumer advocacy group has even been ahead of the regulatory curve and has directly assisted commissions to assess utility performance and develop tariff orders¹⁰⁰. Yet, not all advocacy groups are equally well prepared to deal with the complex technical character of the sector and are also hindered by the pace of new regulatory developments and the lobbying skills of industry consultants.

Electricity 2000 Bill

In 2000, the Ministry of Power initiated the drafting of a comprehensive bill to replace all existing legislation in the power sector. That such a radical move is even being contemplated signifies the depth of the institutional changes in the sector. From all accounts, development of this bill was a national initiative. A consultant from the National Council of Applied Economic Research (NCAER) drafted the initial bill, with subsequent control over content resting within the Ministry itself. Notably, the World Bank has played a relatively hands-off role in the preparation process, limiting itself to comment on drafts. While initially somewhat leery of national legislation, it warmed to the bill on finding it proposed to establish an enabling framework, and has been complimentary about more recent drafts.¹⁰¹ The original bill required states to unbundle their SEBs, establish independent regulatory commissions, facilitate open access to transmission (wholesale competition), develop a spot market for power and meter all electricity supply (Suri, 2000). Notably, although the Ministry of Power now supports privatization as a way to control losses, the bill did not explicitly require privatization, but gave the states some flexibility on the form of unbundling.

One of the more interesting debates taking place over the bill is the extent of participatory engagement in its design. The Bill has certainly been widely circulated, and several actors in the sector have had opportunity to comment, and have been engaged in dialogue through workshops. Those engaged in the drafting process note that this process of dialogue sets new standards for legislative processes in India.¹⁰² However, critics of the process charge that while drafts are widely

⁹⁹ Interviews with donors, consultants and former and present commissioners, 15-17 July, 27 July, 2000.

¹⁰⁰ Prayas, a non-governmental organization in Pune that has remained focused on sustainable energy issues, has been widely recognized by SERCs and the CERC for its expertise in regulatory issues and has even been called upon by them for analysis and assessment of tariff orders.

¹⁰¹ Interview with World Bank staff, 6 July, 2000.

¹⁰² Interview with reform advocate, 12 July 2000.

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available, and comment is invited, that participation would be more useful at an earlier stage. Specifically, despite its wide circulation, there was insufficient effort to have a broad public dialogue on principles and objectives of reform, before the drafting process began. Moreover, while the more resourceful players have been able to provide comments and insert their agendas into successive versions of the bill, consumer advocates, environmentalists and others are ill-equipped to engage with the legal and technical intricacies of the bill.¹⁰³

Before the bill could be introduced in Parliament, the whole effort received a dramatic setback due to the unfortunate demise of the Power Minister Mr. Kumaramangalam. Without a champion to shepherd it through Parliament, the bill has languished on the back burner. In the interim, the global debate over power sector restructuring has been rocked by the tumultuous experience of competitive markets in California. In late 2000 and early 2001, California has experienced price spikes, a burgeoning utility debt and rolling black-outs across the state. While it is beyond the scope of this paper to analyze the California experience, it is important to note that the Electricity 2000 Bill has been re-opened for debate as a result of the California scare. Specifically, more ambitious market structures such as spot markets for electricity have now been expunged, with an emphasis on third party access and long-term contracts as a way of facilitating power trading.¹⁰⁴

Perhaps in response to the California experience, there also appears to be a broad trend away from acceptance of electricity provision as a purely commercial enterprise, and more willingness to re-insert social and economic development goals within a broad framework of fiscal accountability.¹⁰⁵ Thus a concerted dialogue on rural electrification in the context of the Electricity Bill has been initiated, led by a Ministerial committee. This Committee is likely to embrace a system of decentralized licenses managed by SERCs for rural electricity provision, and introduction of a system of subsidy auctions for those willing to undertake rural electrification, inspired by experiences in Argentina and Chile. In addition the Ministry of Non-Conventional Energy Sources is pursuing a Renewable Energy Policy Statement, although regrettably there appears to be limited coordination between the two, and an Energy Conservation Bill is due to be introduced to Parliament.

With regard to the broader reform agenda, the debate appears to have shifted from the lofty goals of instituting complex spot markets to using the Electricity Bill 2000 to achieve more prosaic ends. These include the long-standing goals of metering all consumers, increasing tariffs and removing cross subsidies, and reducing transmission and distribution losses. In addition, there is growing recognition that whether the physical infrastructure remains in public hands or is privatized, the debt overhang that clouds the future of state electricity boards will have to be worked out.

Implementation of this agenda costs money. Whether rural electrification, subsidies, metering, efficiency improvements and debt reduction, all will all take substantial funds to achieve. While the Electricity 2000 Bill provides an open-ended framework, the course of actual reforms will be

¹⁰³ Interview with civil society group, 22 July, 2000.

¹⁰⁴ It is interesting that national and international consultants who worked on Orissa were dubious about the viability of these provisions of the bill from an early date (Interview with national consultant 15 July, 2000 and with international consultant, 13 September, 2000).

¹⁰⁵ Interview with Power Ministry official, 8 March, 2000.

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dictated by the availability of financing. In this context, the World Bank's policy of making funding conditional on privatization takes on renewed significance (although the ADB, as of now, does not appear as committed to privatization). Only states that signal willingness to privatize will have access to external funds. Funds available nationally through the Power Finance Corporation or through the budget allocation process are unlikely to be sufficient.

For advocates of attention to public benefits, then, there are two important channels through which to pursue this agenda. First, the Electricity 2000 Bill, as the overarching framework legislation within which states will reform, must have the appropriate triggers and supporting mechanisms for incorporation of public benefits. Second, given the importance of those who hold the purse strings, close scrutiny of the specifics of donor loans is necessary.

6. Conclusions

Power sector policy in India appears to have locked itself into adverse arrangements at least twice in its history. The first was when agricultural consumption was de-metered and extensive subsidies were offered; the second when IPP contracts with major fiscal implications were signed by SEBs. A third set of circumstances, with the potential for equally powerful forms of institutional lock-in, appears to be in the making with the reproduction of the Orissa model on the national scale. These circumstances may yield favorable institutions, like democratic and transparent regulation, but may also result in unfavorable ones, such as locking out integrated resource planning or scaling back programs to expand services to rural areas.

This review of the IPP process suggests that the rather hasty decision to attract foreign capital on almost any terms has had a number of implications for the future development in the sector. The IPP process delayed consideration of more fundamental reforms in the sector, postponing SEB reform until the situation has become even more dire. Ten years later, the proposed solution has taken the form of more deep-rooted privatization efforts, in part due to a growing sense in the sector that options have run out. It remains an unanswered question if the IPP approach foreclosed exploration of an alternative route – re-regulation in the sector.

While politics at the state government level was the main driver in the first two situations, the third, although initially driven by donors, appears now to be determined by many more actors in the arena. While that improves the possibility that more stakeholders are involved in decision-making, several legacies from the past remain to be settled. In particular, agricultural de-metering and, in some states, IPP contracts will continue to affect the new reform program in significant ways.

The World Bank did, indeed, play a central role in moving the sector to the threshold of a new organizational form. The Bank's success relied on clearly making the point that the sector had reached the end of its current road, and backing up this assertion by stating that it would only fund states that agreed to march down one particular, and different, path. It also demonstrated considerable political skill in building a support for change at the top, and convincing key members of the power bureaucracy of the need for reform. Equally important, it moved the agenda along in demonstration states, and at the centre, without attracting negative attention and without sparking anti-reform mobilization. In addition, some of its research work has been complimented

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in moving the agenda forward. It is also true that the World Bank is largely unaccountable to the Indian public, and, therefore, it is troubling that it should play such a significant role in driving the agenda in the power sector. On the other hand, the Bank's success has rested only in part on the brute force of conditionality, and rather more on skill the Bank in building what appear to be genuine constituencies for reform among bureaucrats and politicians.

More problematic is that the Bank's dexterity in constructing a political strategy to keep reforms moving in a low profile manner led to the adoption, without broad public debate, of a far reaching transformation of a critical sector. By the time reform was served up to the nation in the form of the Electricity Bill 2000, many of the key decisions had been made. India has too long a history of misguided at best, and purposefully self-serving at worst, policy initiatives led from above to be sanguine at this prospect. A broader debate about the ultimate goals of policy change and the best means to achieve these goals would not only broaden the range of ideas, but also mobilize new actors to play a role in the regulatory process, and serve to build a constituency for reform. The World Bank and its supporters have argued that opening a debate condemned the sector to paralysis. And they may even be right. But the back-door approach has limited participation in the debate to a few technical and financial experts. Indeed, the goalposts of success in the sector have moved perceptibly, from electricity as a vehicle for social and economic development to narrow financial success. Without financial health, the argument goes, we cannot afford to think about a more expansive public agenda.

Yet, it is by no means clear that a long-term social and environmental vision can be subsequently woven into the fabric of reforms once the cloth has been taken off the loom. Nor is it fully clear that social and environmental benefits are always coterminous with the techno-managerial vision of the sector based on privatization and a measure of competition. Indeed, the history of agricultural subsidies and the IPP debacle should teach us how expedient choices in the present constrain our futures.

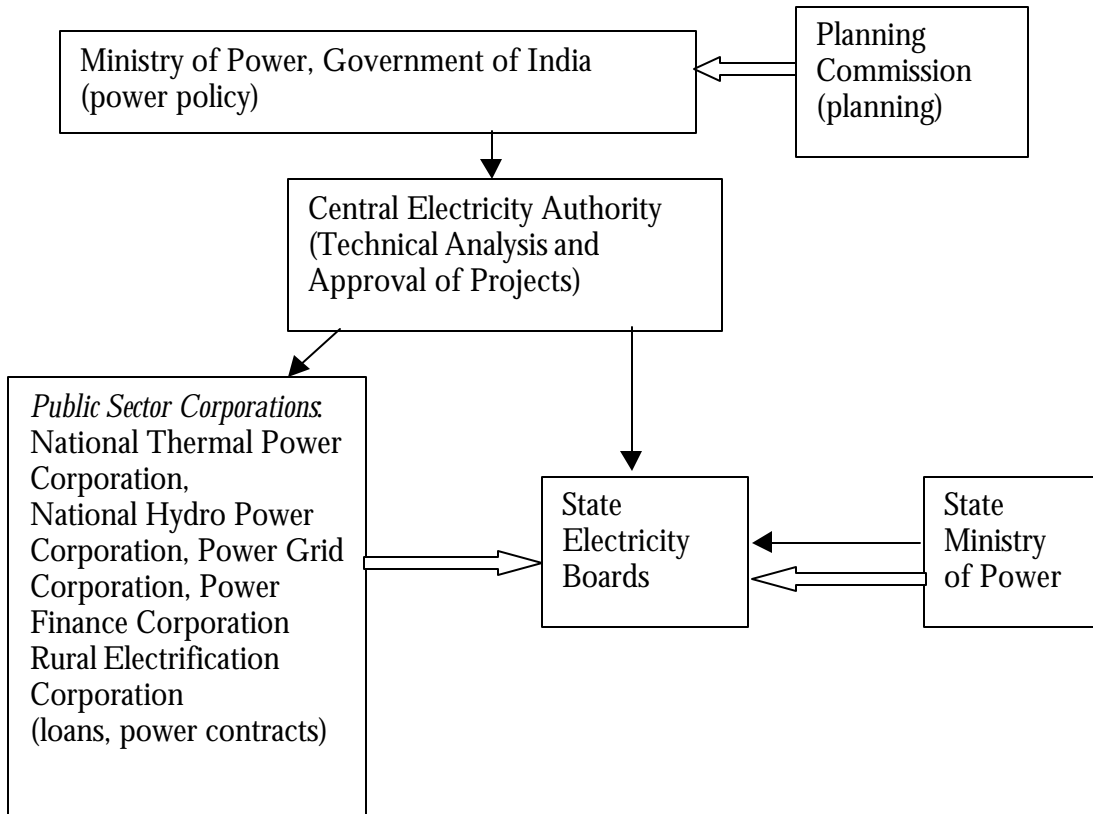
Considerable hope seems to rest on the new autonomous governance structure of the regulatory commissions, both to release the nation from the constraints of the past, and to be visionary about the future. With regard to the past, the regulators are expected to help by reducing the scope for interference from elected leaders. That expectation is thus far tenuously sustained by the experience in some states, but it is less robust in others. That regulators are political entities in their own right has become quite evident. However, their political power remains tentative, depending on the relative ease with which state governments could continue to legislate over them, and their commitment to allow external scrutiny and allow the public to hold them accountable is still to be firmly entrenched.

With regard to the future, independent regulation so far does not hold out much hope for opportunities to promote public benefits. While enabling legislation provides some room for interpretation, regulators seem inclined to define their job narrowly, an inclination that is reinforced by the international consultants who train them. A conservative and narrow regulatory culture could be a particular significant institutional lock-in that will shape the future development of the sector.

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It is late, but not yet, perhaps, too late to have an informed public debate about the future of the sector. Such a debate should actively consider increased access to electricity, social pricing, and the promotion of sustainable energy futures as concerns to be integrated into reforms. It may well be that the result of those debates is a decision to pursue short-term financial motivations first, as the reform-leaders suggest. But it is also possible that broad dialogue will both enhance scrutiny over and the effectiveness of existing reforms, and suggest ways to achieve both short-term financial health and longer-term social goals. Either way, in a democratic polity, without explicit attempts at bringing diverse groups into the debate, the political sustainability of policy reform will always hang in the balance.

Figure 1. Schematic of the Indian power sector pre-1991. Single arrow (→) refers to chain of command and double arrow (=>) refers to flow of information, finance or electricity.



6.1. Power Sector Reforms Chronology

Year (PM)	Event
1991 (Rao)	<p><i>6.2. The Electricity Laws (Amendment) Act, 1991--Notification. Amends the Indian Electricity Act, 1910 and the Electricity (Supply) Act, 1948 by</i></p> <ul style="list-style-type: none"> • Allowing private sector to set up coal, gas or liquid fuel-based thermal projects, hydel projects and wind or solar projects of any size. • Allowing foreign investors up to 100 per ownership of power projects subject to Government approval. • Setting new pricing structure. Sales made to SEBs are covered by a two-part tariff regime, under which a return of up to 16 per cent on the paid-up and subscribed equity is available as a part of the tariff charged where the plant functions at the stipulated efficiency levels. This 16 per cent is to be denominated in the currency of the subscribed capital. Plus, an increased rate of return of upto 0.7 per cent on equity for every percentage point increase above the norm of 68.5 per cent Plant Load Factor (PLF) for thermal power plants and 90 per cent Plant Availability Factor (PAF) for hydel power plants is permitted. (3% ROE for SEBs still required). • New power projects are eligible for a five-year tax holiday. • Duties on the import of equipment for power projects have been reduced considerably.
1992 (Rao)	High -level team visit the US, Europe, and Japan, to invite foreign private sector participation in the power sector.
1992-1997 (Rao, Gowda)	8 projects given "fast-track" status → sovereign guarantees from Central Government. Seven reached financial closure (Dabhol/Enron, Bhadravati/Ispat, Jegurupadu/GVK, Vishakapatnam/Hinduja, Ib Valley/AES, Neyveli/CMS, Mangalore/ Cogentrix)
1995/1996 (Gowda)	<p>Orissa Electricity Reform Act</p> <ul style="list-style-type: none"> • Establishment of OERC • SEB unbundled into Orissa Power Generating Company (OPGC), Orissa Hydel Power Corporation (OHPC) and Grid Corporation of Orissa (GRIDCO). <p>Other developments: BSES bid for Western, North-Eastern and Southern Electricity Supply companies. TEC-Viridian provided 51% shares in CESCO(Central Zone).</p>
1996 (Gowda)	<p>Chief Ministers Conference: Common Minimum Action Plan for Power: Recommend policy to create CERC and SERCs</p> <ul style="list-style-type: none"> • Licencing, planning and other related functions to be delegated to SERCs. • Appeals against orders of SERCs to be in respective High Courts unless State Government specifically prefers such appeals to be made to the CERC.

	<ul style="list-style-type: none"> • SERC to determine retail tariffs, including wheeling charges etc., which will ensure a minimum overall 3% rate of return. • Cross -subsidization between categories of consumers may be allowed by SERCs, but no sector to pay less than 50% of the average cost of supply (cost of generation plus transmission and distribution). Tariffs for agricultural sector not to be less than Rs. 0.50 Kwh and to be brought to 50% of the average cost in not more than three years. • Recommendations of SERCs to be mandatory, but financial implications any deviations made by State/UT Government, to be provide for the explicitly in the State budget. • Fuel Adjustment Charges (FCA) to be automatically incorporated in the tariff . • Package of incentives and disincentives to encourage and facilitate the implementation of tariff rationalisation by the States. • States to allow maximum possible autonomy to the SEBs, which are to be restructured and corporatised and run on commercial basis. SEBs to professionalize their technical inventory manpower and project management practices.
1997 (Gujral)	CEA Clearance exempted for projects under 1000MW (was this policy revoked/modified later?) But state govt environment clearance required up to 250-500 MW (depending on fuel type).
1997 (Gujral)	Liquid fuel policy -- naphtha allocations to IPPs
1998 (Vajpayee)	Mega-Power Policy : special incentives for the construction and operation of hydro-electric power plants of at least 500 MW and thermal plants of at least 1,000 MW.
1998 (Vajpayee)	The Electricity Laws (Amendment) Act, 1998 and Electricity Regulatory Commissions Ordinance -- Notification. <ul style="list-style-type: none"> • Creation of Central Transmission Utility • STUs to be set up with government companies • Establishment of CERC and SERCs • Rationalization of electricity tariffs, • Policies regarding subsidies • Promotion of efficient and environmentally benign policies
1998 (Vajpayee)	PowerGrid notified as Central Transmission Utility
1998 (Vajpayee)	Haryana Electricity Reforms Act: <ul style="list-style-type: none"> • HSEB unbundled into Haryana Vidyut Prasaran Nigam Ltd., a Trans Co. (HVPNL) and Haryana Power Corporation Ltd. • Creation of HERC Other Developments <ul style="list-style-type: none"> • Two Government owned distribution companies viz. Uttar Haryana Bijli Vitaran Nigam Ltd. (UHBVNL) and Dakshin Haryana Bijli Vitaran Nigam Ltd. (DHBVNL) have been established. Till these two companies become

	<p>independent licensees, they will operate as subsidiaries of HVPNL.</p> <ul style="list-style-type: none"> • World Bank loan of US \$ 600 million is available under succeeding Adaptable Programme Loans. • DFID's technical co-operation grant of 15 million pounds available for reforms.
1999 (Vajpayee)	<p>Andhra Pradesh Electricity Reforms Act</p> <ul style="list-style-type: none"> • APSEB unbundled into Andhra Pradesh Generation Company Ltd. (APGENCO) and Andhra Pradesh Transmission Company Ltd. (APTRANSCO for trans. & distb.) • Creation of APERC <p>Other Developments:</p> <ul style="list-style-type: none"> • World Bank loan of US \$ 210 million under the APL • DFID's 28 million pounds as technical co-operation grant. • CIDA technical assistance of Canadian \$ 4 million.
1999 (Vajpayee)	<p>Karnataka Electricity Reforms Act</p> <ul style="list-style-type: none"> • KEB and KPCL transformed into new companies: Karnataka Power Transmission Corporation Ltd. (KPTCL) and Visvesvaraya Vidyut Nigama Ltd., a GENCO, (VVNL) • Creation of KERC <p>Other Developments:</p> <ul style="list-style-type: none"> • KPTCL has carved out five Regional Business Centres (RBC) for five identified zones.
2000	<p>Power Ministers' Conference and Electricity Bill 2000 (draft):</p> <ul style="list-style-type: none"> • Functional disaggregation of generation, transmission and distribution with a view to creating independent profit centres and accountability; • Reorganisation and restructuring of the State Electricity Boards in accordance with the model, phasing and sequencing to be determined by the respective State Governments (States keen on retaining the Boards would have the freedom to do so); • States to determine the extent, nature and pace of privatisation. (public sector entities may continue if the States find them sustainable); • transmission to be separated as an independent function for creation of transmission highways that would enable viable public and private investments; • amendments to the Indian Electricity Act, 1910 made in 1998 for facilitating private investment in transmission have been broadly retained except that the private transmission companies would be regulated by the Regulatory Commissions and Transmission Centres instead of being required to function

	<p>under the direction, supervision and control of the Central/State Transmission Utilities;</p> <ul style="list-style-type: none">• present entitlements of States to cheaper power from existing generating stations to remain undisturbed;• provision of compulsory metering for enhancing accountability and viability;• Central and State Electricity Regulatory Commissions to continue broadly on the lines of the Electricity Regulatory Commissions Act, 1998;• State Regulatory Commissions enjoined to recognise in their functioning the need for equitable supply of electricity to rural areas and to weaker sections;• stringent provisions to minimise theft and misuse.
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