Chapter 5

Management of Change at the GEB

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Decades of economic planning since independence in India placed significant emphasis on development of the power sector. Electricity generation capacity has grown from 1362 MW in 1947 to over 124,287 MW by March 2006. However, as discussed earlier, the per capita electricity consumption remains much below the world average and even lower than in some developing Asian economies.

Weak financial status, skewed tariff structure and poor operational efficiency of state utilities impose a heavy burden on the economic resources of the respective state governments (Singh, 2007)[58]. Investment in the sector has not been able to improve access and keep pace with growing demand for electricity in the country. Recent population census (2001) data revealed that 44.2 per cent of the households do not have access to electricity. Even those consumers who are already connected to the grid face severe power shortages. Energy and peak shortages were estimated to be 7.4 per cent and 10.5 per cent in 2004-05 respectively (CEA, 2006)[59]. Policy reforms in the power sector were aimed at attracting private investment to ease power shortages.

The economic crisis faced by India in 1990-91 provided an opportunity for unshackling the economy by de-licensing a number of sectors. This led to opening up of infrastructure sectors like power and telecommunication for enhanced private participation. The major thrust of the Central Government

[58] Singh, Anoop, Policy Environment and Regulatory Reforms for Private and Foreign Investment in Developing Countries: A Case of the Indian Power Sector, ADB Institute Discussion Paper No. 64, April,2007,p.7.

[59] CEA (2006), *General Review 2006*, Central Electricity Authority, New Delhi.

was to bring more investment into the generation sector and create an enabling environment for the SEBs to show overall improvement.

5.1 Reform action/initiative by the Central Government

The earliest phase of power sector reform, which began in the early 1990s, was aimed at improving the policy climate for private investment. Such policy initiatives generated overwhelming initial interest from local as well as international private investors. These reformers concentrated on the immediate problem of meeting the shortfall in generating capacity. The Government also hoped that private investors would flood into the market and provide an efficient and inexpensive alternative to the SEBs.

We have discussed the path breaking Central Electricity Act, 2003 in an earlier section. The major significance of this Act was to create a framework for opening up of the power sector and unbundling the SEBs. The Electricity Act 2003 has enabled competition in the sector and improved the policy environment for private investment. However the scale of private investment in the Indian power sector is not as encouraging as in the case of some reforming countries in Latin America. Argentina and Brazil were recipients of a significant proportion of private investment in the power sector amongst the developing countries.

The Indian power sector has not been able to attract substantial private investment due to an inadequate legal and commercial framework, and delays in obtaining regulatory approvals. The private sector, including IPPs, currently owns around 10 per cent of the total generating capacity in the country. Foreign investment remains low. Actual FDI in the Indian power sector

between 2000-05 was recorded to be Rs.49416.2 million (approx. USD 1.1 billion), accounting for 5.77 per cent of total FDI inflows to the country – a fairly low figure compared to the investment in the Latin American countries.

Investors in the power sector attach priority to the legal framework defining investors' rights and contractual obligations (Lamech & Saeed, 2003)[60]. Foreign investment in the infrastructure sector in developing countries responds positively to the presence of an effective regulatory framework, thus providing regulatory credibility to the private investors (Kirkpatrick et al., 2004)[61]. Shortcomings on these aspects are often addressed through incentives for investment and sovereign guarantees. Many developing electricity markets provide some sort of guarantee to private investors. Sovereign guarantees are not substitutes for effective policy and regulatory environment. Transparent and predictable government policies can obviate the need for sovereign guarantees.

Ironically, although this first wave of reforms focused on private Generation, during the second half the 1990s, when the fruits of this reform should have ripened, growth in public sector capacity was actually more than twice that of privately owned generators. In addition to limited success to attract new capacity, this first wave of reforms yielded electricity from private plants that was expensive than that from the incumbents' plants and even more expensive than power from new plants built by State-owned enterprises.

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[60] Lamech, Ranjit and Saeed, Kazim (2003), "What International Investors Look for When Investing in Developing Countries: Results from a Survey of International Investors in the Power Sector", Energy and Mining Sector Board Discussion Paper#6, World Bank, Washington, DC.

[61] Kirkpatrick, C., Parker, D. and Zhang, Y. (2004), "Foreign Direct Investment in Infrastructure in Developing Countries: Does Regulation Make a Difference?"Presented at the Asian Development Bank Institute (ADBI) Annual Conference on 'Infrastructure and Development: Poverty, Regulation and Private Sector Development', Tokyo, 6 December 2004.

A key requirement for attracting private investment and a rational tariff, free from political and Governmental control was the creation of an independent regulatory authority. Aware of the need for independent regulation and the plethora of potentially inconsistent State led efforts, in 1996 the Ministry of Power convened a conference of Chief Ministers to reach a consensus on a national reform strategy. This led to the Electricity Regulatory Commissions Act (1998), which provided a legal basis for Regulatory Commissions, and allowed States that hadn't already independently created legislation for Regulatory authorities to establish their own ERCs. The State led efforts and then the Central response culminated in the creation of a new class of Governmental entities that have aspired to meet several key attributes, such as, Independence, Jurisdiction Powers, and Constitutions & Qualification.

The Electricity Regulatory Commissions Act, 1998, as the name suggests, dealt with the provisions of dealing with the setting up and conduct of the regulatory activities by the regulatory authorities. This was a trend setting activity in India, as so far there was no provision for a separate independent regulatory authority. It provided for setting up of Central and State Electricity Regulatory Commission with power to determine tariffs, while constitution of regulatory commission was kept optional for the states. This distancing of Government from tariff determination was as per the trend in the UK liberalization exercise.

Since Electricity, as per the constitutional scheme, belongs to the Concurrent List, it requires the active participation of the states. However, the Central Government continued to play a major role in generation, transmission and distribution through a series of fiscal and policy initiatives.

The Central Government also prodded the inefficient generation stations belonging to the state utilities to go for extensive renovation and modernization (R&M) activities by extending soft loans through the state Power Finance Corporation (a central government company). Regarding transmission, the Centre's role largely was to develop the national grid through a central transmission company and enforce grid discipline. Enforcing grid discipline through a separate institutional mechanism was useful in order to prevent states from overdrawing and preventing massive blackouts and tripping.

Through its control over financing, the Central Government had considerable leeway over the States. Throughout the 1990s, the Central Government did not ignore the needed reforms at the State level in particular in Distribution but its efforts proved ineffective. It, often through the Regulatory Commissions, set broad, sweeping mandates such as universal metering and universal service, and offered no strategy for achieving the goals. Starting in 2000, shortly after the Central Electricity Regulatory Commission commenced operations, the Central Government focused its goals on a series of measurable outcomes, and it backed the effort with a new funding mechanism in 2000-01- the Accelerated Power Development and Reform Program (APDRP) that rewards the States with the best performance.

The motivation and operational contours for the scope of the APDRP were informed by two inter-related objectives, viz., a reduction of Aggregate Technical and Commercial (AT&C) losses and increasing revenue collection. The change from the APDP to the APDRP reflected a change in emphasis from a project/input (engineering) orientation to performance and outcomes; the emphasis was shifted to the commercial aspects of the

engineering actions. The tenor of central government assistance changed to a reform programme predicated on the realization that an ad hoc and piecemeal approach to loss reduction needed to be replaced with sustaining reforms (Bhattacharya & Patel ,2007)[62].

The major attraction behind APDRP was financial. The funds available under APDRP was extremely high - about Rs.1000 Crores as on October'04, half in grants and half in loans. APDRP transformed the economy of reforms, lifting short-term obstacles of financing and offering visible incentives to the States who sought reforms and wanted to improve the distribution sector.

As of middle 2003, the Central Government had signed Memoranda of Understanding (MoUs) with 22 of India's 28 States in each, the State pledges a commitment to creation of a Regulatory Commission, full metering of electricity supplied to final Distribution rings, timely payment of subsidies and other key actions. In return, the Central Government supplied increased output from central power stations, financing, upgrades to inter-state Transmission lines and sundry other benefits. The Central Government has promised to match (with funds) any savings that the States realized through reducing theft. In addition to this, the States face the ERCs, who will set tariffs such that if the utilities do not improve performance, they will face operating losses, and the likelihood of not being bailed out as in the past.

[62] Bhattacharya, Saugata & Patel, Urjit R, The Power Sector in India, An Inquiry into the Efficacy of the Reform Process, Presented at the Brookings-NCAER India Policy Forum, July, 2007,New Delhi, p.10.

A keystone to APDRP is measurement and ranking of performance on a series of indicators related to improvements in Transmission and Distribution, installation of meters, and institutional reform, apart from emphasis on financial results. Simple and transparent measures are intended to make it easier to allocate resources according to true performance, thus creating a competition between States and incentives for innovation.

The goal behind this newer phase of reforms was markedly different from the Central Government's earlier attempts at reform. There was an attempt to engage a wide range of stakeholders through public hearings, web posting of information, and media outreach campaigns. Thereafter, subsequent to the enactment of the Central Electricity Act, 2003, the Central Government entered into a series of steps towards promoting distribution reforms and improvement of performance of the electricity utilities.

Policy reforms undertaken in India, especially the recent enactment of the Electricity Act 2003, provide a guiding tool for reforming developing countries. However, the delay in undertaking such initiatives from opening up of the sector for private investment should be minimized to get maximum leverage from the reforms program. Independent regulation complements private investment in generation and, more specifically, in distribution business. Developing countries embarking on policy reforms should chalk out a reform road map as per the prevailing conditions and introduce independent regulation for inducing greater private investment in the power sector while protecting consumer interest.

5.2 Reforms Action/Initiative by the State Government

Gujarat started power sector reforms way back in 1990s along with the central initiatives being taken in this direction. Private licensees were allowed in two major cities of Gujarat, Ahmedabad for Generation & Distribution of Power and private licensee allowed in Surat for Distribution of Power. In view of the state's decision to allow private investment in generation, several new projects with additional capacity of 1,731 MW promoted by the private Sector came up. It is interesting to mention here that the share of private generation in the total generation of electricity in the state is nearly 27 percent in 2004, higher than many other states.

The newly elected government (elected to power in December, 2002) had already decided to act aggressively to end some domestic subsidies in the electricity sector with an order to (starting March 1, 2003) scrap the 25 percent discount to domestic consumers with monthly demand of 100 kWh or less. This announcement, reversing a populist decision taken earlier, was perceived by the industry experts as a sign that more sweeping electricity reform may be implemented in the coming year and could be the precursor to the removal of additional electricity subsidies to the farm sector (TNN, 2003)[63].

In fact, the newly elected Government headed by the Chief Minister Narendra Modi had given a high priority to usher in major reforms in the power sector and the state monopoly (GEB). Reformation of erstwhile Gujarat Electricity Board has become an integral part of the "Pancha shakti" i.e. Gyan Sakti (Education), Raksha Sakti (Defence), Jal Sakti (Water resources), Urja Sakti

[63] Economic Times of India,1st October,2003, Ahmedabad.

(Electricity) and Jan Sakti (Community development), envisaged by the Chief Minister Narendra Modi in order to put Gujarat on the higher trajectory of growth and development. Although power reforms in general, and reform of Electricity Board in particular, was being talked about due to changes in the domestic and the global scenario, it required a strong political will to carry out the reforms as the reforms agenda would hurt many vested interests and established practices and reluctance and resistance to change. There was a realization at the very top level in the state Government that electricity sector needed urgent attention. Considering the state's burgeoning energy demand and the poor energy demand-supply mismatch, the Government had realized that certain tough decisions needed to be taken to reform this ailing sector. Such political will in turn require tremendous support from the leader and proactive support and cooperation of the steel frame of bureaucracy. Gujarat Government with its political will, commitment, determination and its sound execution was able to transform a moribund entity into a highly active organization with hopes for great future progress.

Here the role played by external aid programme in aggressively recommending and pushing for reforms needs to be stated. ADB's annual lending program for India in 2002-04 was substantial. Central to ADB's strategy for India's power sector is pushing for reforms in the energy sector (ADB, 2000)[64]. In the language of the ADB and other IFIs, reforms would necessarily lead to the involvement of the private sector through the privatization of power generation and distribution services. The bias for this type of reform acted as a serious factor for pushing reforms as cash-starved state power utilities were in need of this assistance and had to accept such prior conditionality of ADB. Tariff

[64] Asian Development Bank(ADB), 2000, Energy 2000: Review of the Energy Policy, Manila,(http://adb.org).

subsidies to farmers have been abolished as a result of energy sector reforms mandated by the ADB.

The Asian Development Bank (ADB), which showed interest in funding the State Government as well as the GEB for capital investment in Transmission and Distribution systems put heavy conditionality before the release of both the programme loan of $ 150 million and $300 million for project loan covering the above areas. The ADB stipulated fiscal discipline in the State Government and pegged the agricultural subsidy at Rs.1100 Crores and suggested doing away with the subvention. The immediate objectives of the ADB Program were to (a) establish independent tariff setting and regulation; (b) rationalize the imposition of tariffs, duties and imposts in the sector to maintain equity among consumer categories; (c) change management practices and enhance efficiency in the power sector by introducing competition and commercialization; and (d) improve conservation of water and electricity on a pilot basis through improved irrigation systems. This led to the GEB recognising the resultant losses in the books of accounts which started increasing over the years for the reasons mentioned above. The ADB also suggested an unconventional adjustment of the State Government loans of about Rs.4000 Crores with that of outstanding subsidies receivable from the Government. While this helped the Government in cleaning up its balance sheet, it in no way helped GEB to tide over its liquidity / cash requirements. In fact GEB could not pay the Central sector undertakings such as NTPC, NPC, PGCIL and Coal India in time leading to huge outstanding of more than Rs.1628 Crores. The only silver lining to mitigate the outstanding payments to CPSUs came by way of the Ahluwalia Committee Report which allowed the State Government to issue tradable public bonds to the CPSUs with the stipulations of providing Letter of Credit (LC) facilities to these institutions.

However, this also came at a price to GEB by way of back to back arrangement for interest payment and repayment of the bonds on due dates.

While the Gujarat Electricity Board had a good track record of supplying power without much power cut, the mounting losses, the lack of adequate Generation capacity and system improvement in the T&D sector coupled with increasing T&D losses and theft of power, led the State Government and GEB to look to alternatives to make the sector viable and efficient.

While the erstwhile GEB had made significant progress over the last 45 years in terms of extending the electricity network to all corners of the State and supplying power to all categories of consumers, the Utility had incurred huge losses due to various circumstances some beyond its control. Such loss levels were unsustainable and it was imperative that reforms be undertaken to arrest the deterioration in the financial position. Further the quality levels of power supply and customer orientation were required to be substantially improved.

The reforms agenda of the State Government had the following central features.

- Enactment of state legislation for pushing reforms
- Unbundling and restructuring of the state power utility
- Setting up of a state regulatory authority
- Financial restructuring plan
- Supply of continuous electricity to the villages

Enactment of state legislation for pushing reforms

In view of the near unanimity among all states nationally over the urgency of undertaking substantial power sector reforms and the overall thrust towards promoting liberalization and a market economy and particularly the passage of the central act, the stage was set for GoG to adopt the Electricity Industry Reorganization and Regulation Act in June 2003. The Gujarat Electricity Act, first proposed in 2001, was part of the continuing effort to reduce the GEB's financial burden on the state coffers. Thus The Gujarat Electricity Industry (Regulation and Reorganisation) Act 2003 was passed by the State Legislature in May 2003 ushering in a new era of electricity management in the State. Salient features of the Act were,

1. Establishment and constitution of Gujarat Electricity Regulatory Commission
2. Setting up of powers and functions of the Commission
3. Regulations on tariff
4. Commission powers to pass orders and enforce decisions
5. Commission Powers to constitute the advisory committee, set standards of performance and disclosure of information by licenses.
6. Powers of the State Government to give directions and make rules.
7. To give effect to the existing central legislation
8. Reorganisation of Electricity Industry and its related sections

The enactment of the above legislation was not easy or smooth. The various employees' unions/associations had serious misgivings about the bill. Particularly, these unions were opposed to certain clauses relating to the transfer scheme post unbundling of the GEB, which was felt to be detrimental

to the interests of the employees and would lead to introduction of privatisation in the sector. However due to deft handling and political farsightedness, the issues were solved amicably by suitably amending the clauses of the Act dispelling all the doubts on the privatisation front.

Sections 28 to 31 of the State Act prescribed the mode and method of reorganisation of the Government Electricity Industry i.e. GEB by way of transfer of such functions and duties, power and obligations of such undertakings of the GEB or such portion thereof in a manner and on the terms and conditions as the Government may provide the transfer scheme. The State Government shall, also by way of notification, give effect to the transfer by first vesting it in the State to companies or corporate bodies owned or controlled by the State Government (called first transferee) and further the State Government may after consulting the first transferee publish a scheme to transfer and vest in any other company or body corporate call second transferee.

This clause was not to the liking of the unions/associations, as this would enable the State Government to vest the functions, duties, rights, power, obligations and undertakings of the first transferee to the second transferee, which need not be a Government controlled or owned body corporate- thereby allowing a backdoor entry to privatization of the utility.

In order to remove such misgivings, the Government introduced an additional clause in Section–28, which provided for giving effect to the second transferee only with the prior approval by a Resolution of the State Legislature. This helped in removing the doubts and suspicion about any backdoor entry to privatisation.

The Act also further provided for safeguard of the interest of the personnel affected due to the reorganisation of the GEB by way of assuring that the terms and conditions of service in regard to emoluments and monitory benefits shall not in any way be less favourable than those applicable to them immediately after the transfer. It further stipulated that the existing personnel shall have continuity of service in the first transferee and the second transferee and all the benefits of service accrued before the transfer shall be recognised and appropriately provided for to secure the interest of the personnel. The Act provided for a transfer scheme to include the transfer of assets, liabilities, proceedings and personnel to the first or second transferee with all the debts, obligations and contracts shall be binding and deemed to have been incurred by them.

The other aspect of the new state legislation is the focus on reducing electricity theft. Andhra Pradesh and West Bengal have both passed stringent new anti-theft legislation for the electricity sector, and Gujarat has included these measures in the 2003 Act. The Gujarat Act establishes special courts and special police stations for the quick prosecution of electricity theft and allows the utility to go directly after landlords instead of trying to prove theft by individual tenants. While it is too early to tell if the new measures have been successful in AP and West Bengal, any new tools whereby the GEB can reduce theft can only, benefit the revenue stream.

The Gujarat Electricity Act has many shortcomings, including, not laying down a new captive electricity policy nor confronting the agriculture subsidization issue other than to require more transparency and allowing, but not directing a change in the ownership of the GEB assets. The main changes

contemplated, would likely be to unbundle the GEB into generation, transmission and distribution companies. The other concern is that the Act does not adequately protect the regulator from capture by political interests because the Chief Minister (the elected government) can effectively remove a commissioner at any time.

The above state Act was enacted a few months before the Central Act of 2003 and as a result the features of the Central Act now had an overriding effect on the provisions of the State Act. Barring a few provisions, this does not create any major deviations or shift as the State Act was modelled after the provisions of the draft central bill. Although the state regulatory commission was set up in 1999, following the passage of the central and the state Act, the commission got the much needed statutory authority and became fully functional. The decision to unbundle the state's vertically integrated GEB into different companies was a momentous decision, in line with the unbundling process carried out in states like Orissa, Madhya Pradesh, Andhra Pradesh, Rajasthan etc.

Unbundling and restructuring of the state power utility

Before we go to the unbundling and restructuring of the power utility in Gujarat, it is necessary to understand the various models of restructuring in the power sector.

Since the early days of the electricity industry, it was a commonly accepted view that electricity could be supplied most efficiently by vertically integrated monopolies. Economies of scale could be achieved by building larger and larger generation plants, in tandem with transmission and distribution

networks. Because costs decreased with scale and coordination among different parts of the network was simpler, it was considered more efficient when a single producer supplied the entire market. In developed countries, electric utilities were often privately owned and operated. In developing countries, the state assumed the primary responsibility of developing and operating the electricity infrastructure because the state was often the only entity able to raise the required amount of capital for investing in capacity, and there was a widespread view that such a strategic asset must be under the control of the government. In the vertically integrated monopoly, there was no competition and no consumer choice. The monopoly electric utility owned and operated all generating plants, transmission, and distribution networks. The utility was obliged to supply consumers with electricity, and consumers were captive and had no choice of supplier.

The vertically integrated monopoly has been modified in some countries to a single-buyer, monopsony framework where there is a degree of competition at the generation level in which the private sector (IPP) participates (Choynowski, 2004)[65]. The vertically integrated monopoly still controls the power sector, but private sector investment is made possible by licensing independent power producers to build and own generation capacity. Independent power producers are created by divesting existing generation capacity to the private sector and/or by new producers who compete to enter the electricity market. The introduction of independent power producers has been an attractive option because it relieves government from the burden of financing incremental generation capacity and the privatization of generating assets is often a lucrative source of revenue.

[65] Choynowski Peter, Restructuring and Regulatory Reform in the Power Sector: Review of Experience and Issues, ERD Working Paper Series No. 52, Economics and Research Department, Manila, Asian Development Bank, May 2004,pp.2-3.

In the monopsony model, the vertically integrated monopoly, as the single buyer, enters into a long-term contract with the independent power producer. In most cases, the power-purchase agreements are structured to reflect the costs of owning and operating the generating plant (for example, through take-or-pay contracts). So there is little incentive after contract signing to reduce costs and improve efficiency on the part of the independent power producer.

Creating distribution companies and allowing them to bid for electricity supply from bulk electricity suppliers in a power pool or wholesale market may enhance competition at the generation level. Independent generators assume the responsibility to plan new capacity additions based on future demand forecast by the distribution companies, and compete on the basis of price to sell their electricity. As there is no longer a single buyer, the generators, who in exchange have open access to the transmission network, assume market and technology risks. Consumers are still captive and have no choice of supplier.

In full customer choice, competition is introduced into all levels of the industry, from the wholesale level to the individual consumer. The key to the full customer choice model is direct (or third party) access to transmission and distribution networks, thus, any electricity consumer may purchase from any retail supplier, who in turn can purchase electricity from a competitive wholesale market. The network functions of transmission and distribution, which are still natural monopolies, are completely separated from the functions of generation and retailing into which there is free entry by competitors.

The four organizational structures described above may be viewed in terms of a continuum of alternative operational models with no competition at one

extreme (the vertically integrated monopoly), and full competition at the other (full customer choice), as shown below.

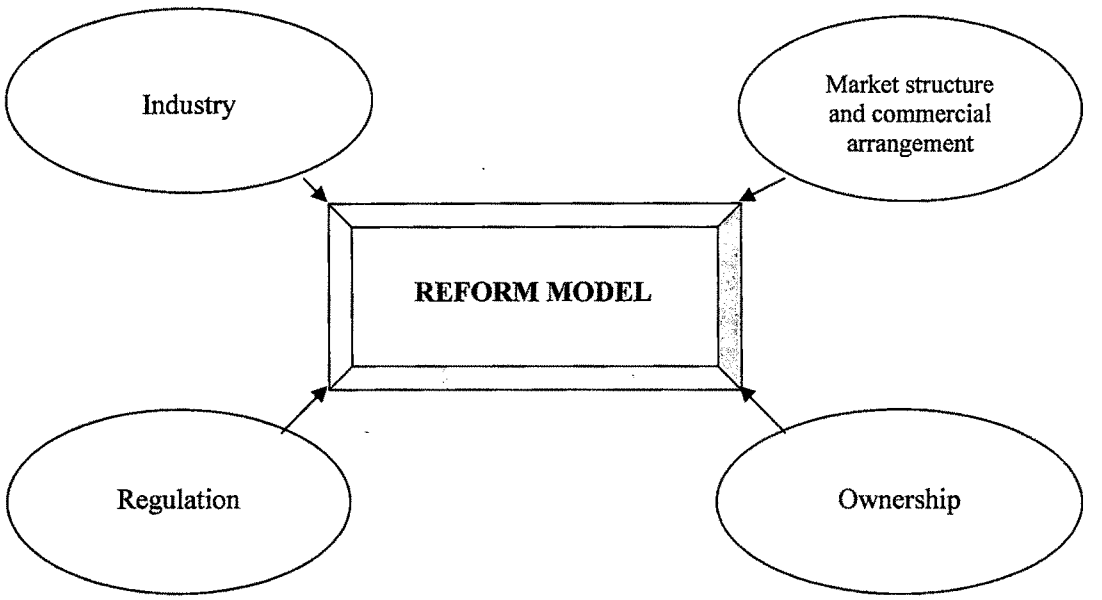
Figure–6 Continuum of alternative operational models

Source : Choynowski, 2004, p.3

The regulatory structure associated with each operational model follows a similar pattern. The vertically integrated monopoly is normally regulated, usually through the tariff that the electric utility can charge and the investments that it can undertake, with rate-of-return (ROR) regulation being the most common approach in many developed and developing countries. A power sector organized along the monopsony model is regulated as in the vertically integrated monopoly case with respect to tariffs and investment, but now regulation is extended to contracts that the vertically integrated monopoly enters into. ROR regulation is again usually the norm. In the wholesale competition case, competition provides an incentive to improve economic efficiency and the market is, in effect, the regulator. In practice, however, competition is often a matter of degree and the challenge is to attain workable competition, taking into consideration issues such as structural constraints and market power. Thus, the principal role of a regulator is to minimize market imperfections that may arise at the wholesale level and to control abuses of market power. The transmission and distribution components are still monopolies and some form of regulation is still required. In the full customer choice model, as in the wholesale competition model, the role of regulation is

to minimize market imperfections that may arise in competitive segments and to control abuses of market power. The regulation of the monopoly transmission and distribution components is also still required.

Figure–7 Components of Reforms



Source : Webb, 1998, p.2

Another important issue to mention here is the sequence of reforms. The order of the main elements of power sector reforms has been the following (a) establishing a legal and institutional framework (b) restructuring and (c) privatization. To be successful, power sector reforms must have a clear legal basis. The most important reforms often require new legislation to restructure the sector, permit private participation and setup a regulatory authority. Legislation also is required to obligate the state-owned utilities to operate according to commercial principles. The most notable in the case of India (Gujarat) were the ERC Act of 1998 and the Electricity Act of 2003 and the Electricity Industry Reorganization and Regulation Act 2003 of Gujarat, which

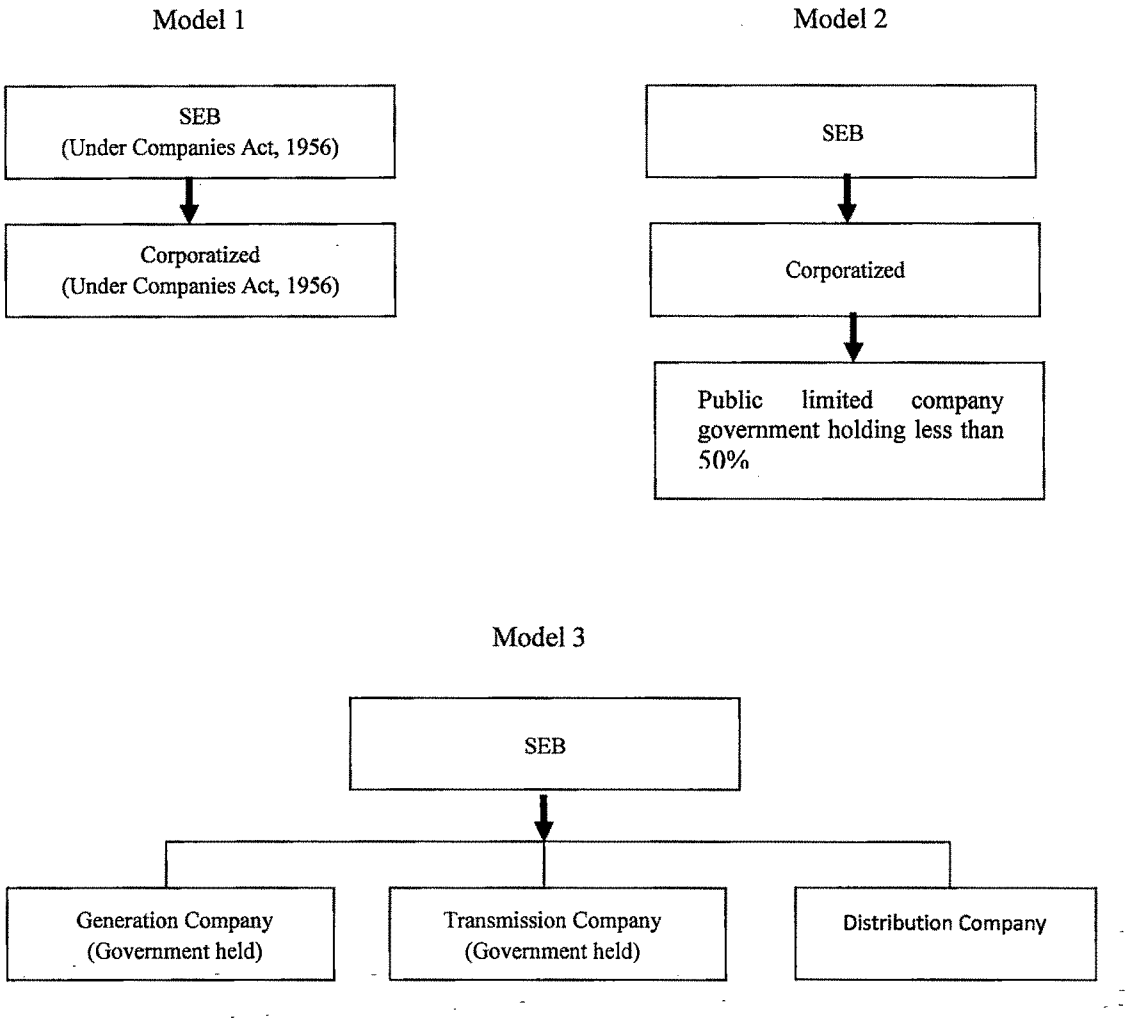
prepared the legal backbone for reforms. This stage of the restructuring and regulatory reform process through legislation may be slow in the case of the developing nations (in India it took two years and in Philippines it took three years for the reform acts to be enacted). But it is characteristic of the democratic process and should be accepted as it serves the process of consensus building and makes the reform process more acceptable and irreversible.

In developing countries, as in developed countries such as the UK, Australia and New Zealand etc, liberalization of the power sector typically begins at the generation level.

This is mainly because returns on capital invested in generation are usually guaranteed by PPA and hence easier to attract foreign /private investment. Whereas in the developed countries mentioned above, unbundling and privatization of generation was soon followed by reforms in transmission and distribution. However unbundling and reforms should start with the separation of the distribution component from the generation and transmission component because most of the inefficiencies in the power sector originate in the distribution activity. Distribution networks also exhibit high technical and non-technical losses and poor quality of service and there is likely to be considerable scope for efficiency improvement. After the distribution component has been reorganized into one or more independent companies, the transmission system should be separated from generation and open access to the transmission system established. The final step in the restructuring process is to create several independent generating companies from the existing generation capacity and establish a wholesale electricity market.

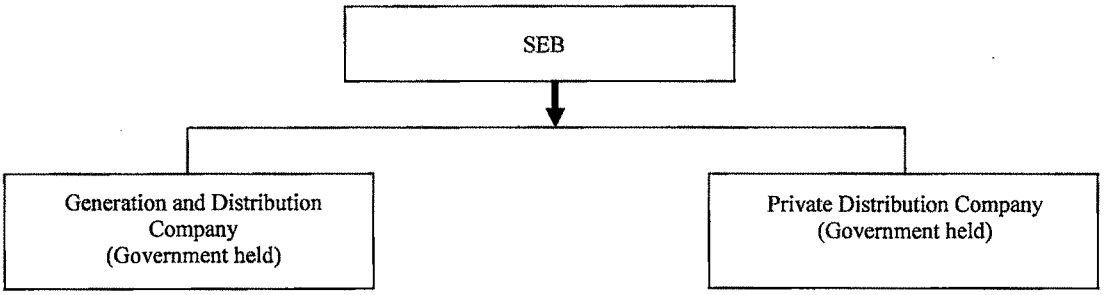
The Ministry of Power (GoI) had indicated a variety of generic models for restructuring the power supply industry in the states (MoP, 2002)[66]. The power supply industry can be restructured in any of these ways as shown in Figure -8.

Figure–8 Generic models for restructuring power supply industry

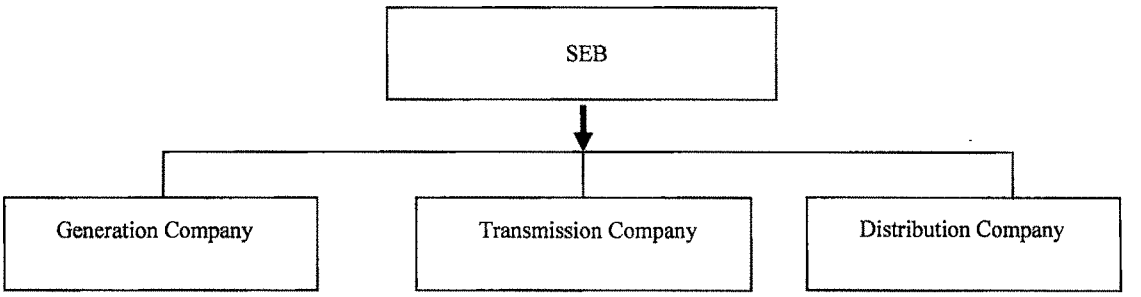


[66] MoP, 2002, Distributed Generation Report, New Delhi, Ministry of Power, 2002. URL (http://powermin.nic.in/power-profile-WR_files/v3_document.htm)

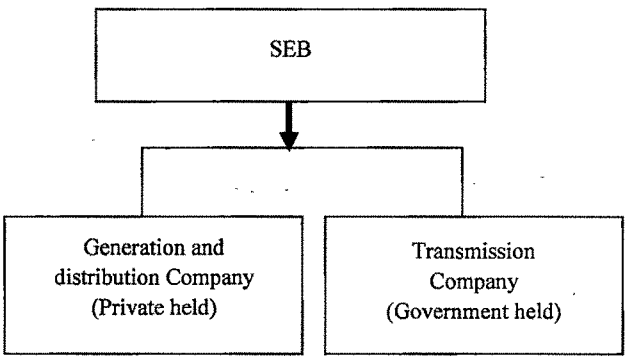
Model 4



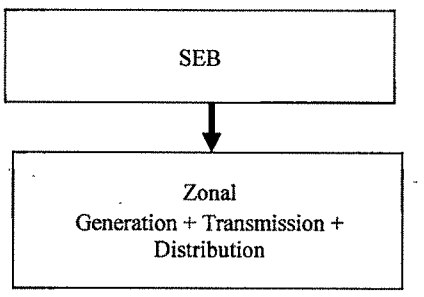
Model 5



Model 6



Model 7



A combination of these models could also be evolved. These models differ from each other from the point of view of government control, extent of private sector participation, functional grouping, and level of competition. In the case of Gujarat, the state government has selected model 3 in the above figure for the restructuring exercise. After this discussion about the models of reforms worldwide and the sequence of reforms, we now turn to a discussion on the details of the unbundling process in Gujarat.

GoG decided to unbundle and restructure the GEB under the provisions of the Gujarat Electricity Industry (Reorganization and Regulation) Act and the Indian Electricity Act (GR, 10.12.2004, pp.1-2)[67]. The Administrative Staff College of India was assigned to undertake a study on the status and structure of reform / restructuring requirements of GEB. The ASCI, in its report on 30th October, 1999, gave the framework of the possible way of unbundling of the GEB. ASCI had recommended the reform and restructuring implementation process in two phases. The ASCI report emphasised on wide-ranging communication with stakeholders, Reform legislation, Establishment of State Electricity Regulatory Commission, Incorporation of Transmission Company, Financial restructuring of GEB, Preparation of opening balance sheets, Incorporation of additional generating companies and Distribution companies and Transfer of assets. The report was initially cold shouldered in view of the apprehensions of protest from stakeholders and in absence of any legislative compulsion to restructure the GEB.

[67] Government Resolution No.GEB-1104-7318-K, Gujarat Urja Vikas Nigam Limited, Establishment of a new Company under the Companies Act, Energy and Petrochemicals Department, Gandhinagar, 10 December,2004.

However, when the Government of Gujarat ventured into taking the huge exposure to the Asian Development Bank's loan proposition amounting to about $450 million, it become imperative to look at both the fiscal measures and restructuring of the Electricity Board. In fact the ADB insisted on the reform agenda as a part of its conditionality. The conditionality stipulated by the ADB included –

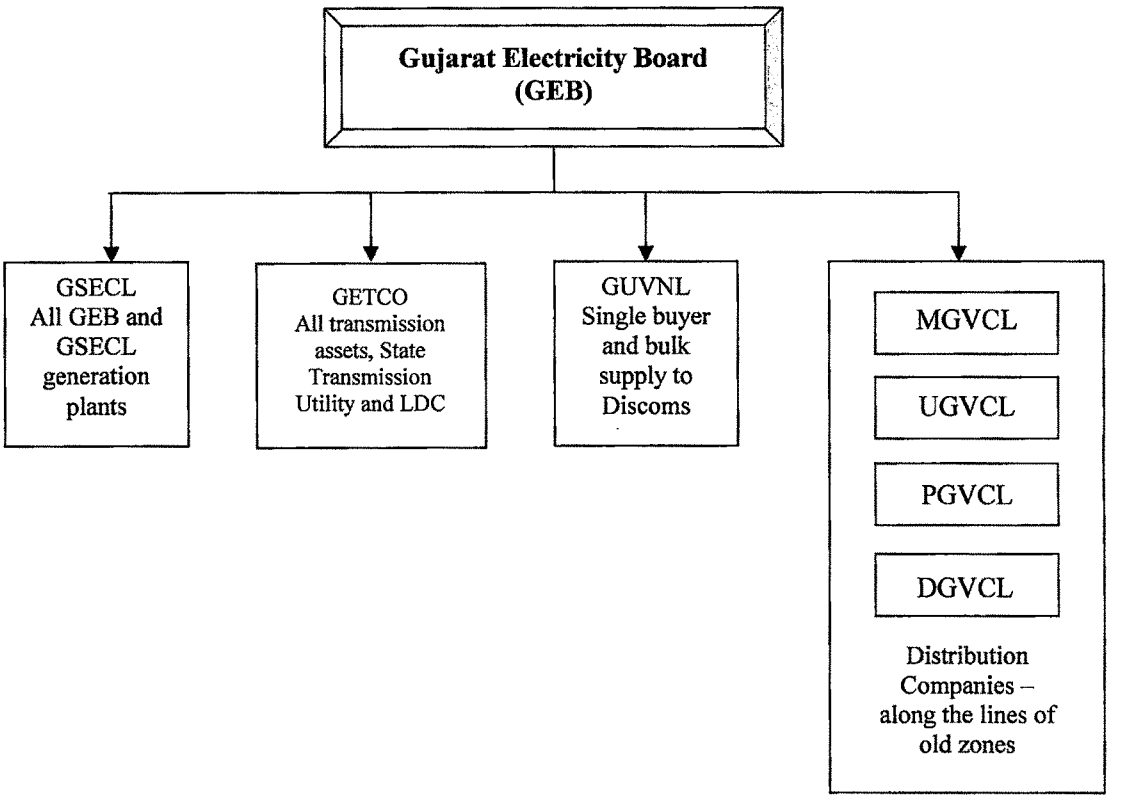
- Enactment of a reform legislation
- Setting up of an independent regulatory authority and timely tariff award
- Action plan for metering all consumers in the State
- Payment of all municipal dues to the GEB by the State Government
- Rationalization and reduction of electricity duty
- Unbundling of the GEB into independent entities initially with option to privatize later

While the state government and the GEB were considering the proposed restructuring, States such as Orissa, Haryana, Andhra Pradesh, Delhi etc. had already gone ahead with the process of unbundling with varied results. In fact there was a lot of learning out of the experiences and lessons from the unbundling of the above State Electricity Boards, resulting in greater insight into the process.

In order to strategise and give definite direction to the unbundling process, the Govt of Gujarat constituted a strategy group called High Power Committee headed by the Minister of State (Energy) as Chairman with the Chief Secretary, Principal Secretary (Finance Department), Principal Secretary (Energy and Petrochemicals Department), Chairman (GEB) and senior officials of the Board as other members. Detailed discussions were held on the

various alternate structures of the Board and based on the overall viability of the unbundled entities, the restructuring was proposed as under:

GEB Restructuring



The Gujarat Electricity Board (GEB) was restructured into seven independent corporate entities focusing on power generation, transmission and distribution and trading with effect from January 1, 2005. The seven companies that took charge with certain modifications were- Gujarat State Electricity Corporation, which takes the responsibility for existing power generation assets; Gujarat Energy Transmission Corporation for power transmission; Gujarat Urja Vikas Nigam, which has been incorporated to act like a power trading company, taking overall responsibility and working of the GEB assets, properties and functioning of the GEB and the four companies setup for the distribution of

power in the four zones in the state. The four power distribution companies include, South Gujarat Electricity Company, Central Gujarat Electricity Company, Western Gujarat Electricity Company and North Gujarat Electricity Company (Indian Power Reforms Update, 2005)[68].

Traditionally, in the case of SEBs that have been restructured before the enactment of the Central Act, the transmission company has generally been the main successor entity and has been carrying out the dual functions of bulk trading and providing energy transmission. The same company would also operate the SLDC and provide system control and dispatch functions. However, the Electricity Act no longer permitted this structure. First proviso to Section 39 prohibits a state transmission utility from engaging in trading activity. In addition, as per the provisions of Second proviso to Section 31, a company operating a SLDC also cannot function as a trader. In view of the above it was thus contemplated to create a structure, whereby the GUVNL would act as a trading company procuring power from various sources. Thus, the existing Power Purchase Agreements (PPAs) signed by GEB would have to be reassigned to a new company or to a distribution company. In addition to the existing PPAs, the GSECL will also enter into a PPA with GUVNL for each of its power stations. Thus GUVNL would pool the power procured from all the sources currently feeding into the Gujarat System (including, GEB stations, IPPs, Central Sector plants, non-conventional sources, etc). GUVNL would then resell this power to all the DISCOMs, based on their requirements. The Transco will transmit power throughout the state from Generation Plants and Interstate Interface Points to interface points of each DISCOM. For this purpose, it will enter into a transmission service agreement with GUVNL with the DISCOMs as cosignatories. GUVNL would pay the Transco wheeling

[68] India Power Reforms Update, Prayas, Pune, Issue-10, March 2005, pp.7-8.

charges on the basis of power transmitted through the transmission network. GUVNL would consider this cost as part of its pooled cost of power for recovery from DISCOMs.

The assets, liabilities, employees and proceedings have been transferred to the above companies and these entities have become functional. The assets, liabilities, employees and proceedings have been transferred to the above Companies through a comprehensive transfer scheme notified by the Government of Gujarat.

It is interesting to note that the GEB had already constituted a generation and a transmission company much prior to the unbundling exercise. The Gujarat State Electricity Corporation Ltd was set up even before unbundling as a sister concern of GEB in 1993. This arrangement was done to keep pace with the private sector Generation that came up fast in Gujarat post the liberalisation and the opening up of the Generation through the PPA route. This reflected the acumen and foresightedness of the management of GEB as well as the Government to ensure retention of profits in the State sector and investment under the ambit of GEB. The Power Purchase Agreement was entered into with GSECL for the power stations under its control namely, Wanakbori VII and Gandhinagar V of 210 MW each and Utran Gas based Power Station.

Similarly, the Gujarat Energy Transmission Corporation Ltd was set up in 1999 much before the Government order on unbundling as a strategy to carve out Transmission business from GEB to attract investments in this sector. It was also necessary to create a company to undertake the STU (State Transmission Utility) function in the long run which otherwise was being undertaken by the GEB.

In order to ensure a smooth transition into the unbundled entities of the employees, a Tripartite Agreement was entered into by GEB, Government of Gujarat and the Unions / Associations protecting the rights of the employees. (Annexure–B). The employees were also allocated through an option process wherein the employee was allowed to choose their companies based on certain norms concluded jointly by the Unions/Associations and the management of erstwhile GEB.

The principle objectives of the unbundling of GEB included -

- To unbundle State Electricity Boards into Generation, Transmission and Distribution entities
- To establish autonomous Regulatory Commission (SERC)
- To provide operational, managerial and functional autonomy to successor entities
- To enable entities to operate in a commercially driven, performance oriented environment
- To increase competition through private sector participation
- To phase out Government budgetary assistance gradually

The focus of the reforms in this unbundling exercise was on the following areas -

- Corporatization
- Commercialization
- Institutional strengthening
- Strategic business thrust
- Financial restructuring

- Revenue Generation
- Customer service
- Organizational and employee development

The major strategies adopted for carrying out the above objectives and retain the focus were optimization of power purchase cost and overall improvement in operational efficiency through structural reforms by unbundling of the GEB and corporatization of the GEB. Other strategies were to reduce AT&C losses, ensuring grievance redressal through effective appellate procedure, and optimum use of Information Technology, ensure significant improvement in cash collections, improve human resource management, cost savings by debt restructuring, and focus on rural electrification through implementation of Jyoti Gram Yojana. In a subsequent section, when we analyze the role played by the GEB management and its stakeholders and the effects of the reforms, the strategies mentioned above would be dealt with in greater details.

Setting up of a State Regulatory Authority

As part of the sector reform process, an independent regulator for the State's power sector has already been established. The Gujarat Electricity Regulatory Commission (GERC) is entrusted with a large number of functions including licensing, supply code, designing a grid code, tariff setting and dispute resolution; to ensure viability of sector entities, protection of consumer interest and fair play to all sector entities. The presence of an independent regulator reduces the uncertainties and provides reassurance of a mutually beneficial and level playing field to the new entrants vis-à-vis the State Electricity Board. The GERC has already become functional and passed 11 tariff orders till 2009 (6 for State Utilities and 5 for Private Distribution Company) (www.gerc.com).

The commission has tried to balance the objectives of promoting competition, ensuring the financial interests of the public and private utilities, improving the quality of the services and providing price discounts to special class of consumers. The commission has reduced energy charges for rural consumers residing in village panchayats (a local body) by one cent per unit. The commission has introduced special incentive schemes for high-tension consumers and allowed discount on the incremental consumption compared to energy consumption in previous years. It has also given concessions to industrial consumers using electricity exclusively during night hours in order to ensure off-peak consumption.

Free electricity to any sector, be it agriculture or household, should be done away with in a fast process, while the process of eliminating cross subsidies may be a gradual process (TNN, 2002)[69]. The GERC has recently established higher tariffs for agriculture users and is undertaking efforts to encourage the installation of meters (Dutta, 2001)[70]. The Commission has stipulated that all new connections must be metered and has set a goal of metering all connections within three years. The previous agriculture tariff was set at an equivalent of approximately 0.16 Rs/kWh using the per horsepower/year tariff scheme. The GERC order mandates a minimum charge of 0.50 Rs/kWh to increase cost recovery. However, this measure is unlikely to reduce the margin, and therefore the incentives for corruption, between agriculture and the new industrial and commercial tariffs, which are above 4.0 Rs/kWh (GERC, 2000).

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[69] TNN 2002, Power Utilities told to end free supplies, cross-subsidies. Economic Times of India, Ahmedabad, 1st October, 2002.

[70] Dutta, Sonali, GERC Attempts Tariff Rationalization-But with limited success, Power Line, Delhi, October, 2001, p.19.

Financial Restructuring Plan

The Financial restructuring Plan (FRP) is one of the most critical components of the reform and restructuring exercise. The Financial Restructuring Plan (FRP) was formulated and was approved by the GoG. It envisaged a road map for all the successor entities to turn around in a stipulated period with certain assumptions.

Development of a FRP for the State electricity sector was a critical step towards realisation of reform goals as it documented the likely financial and commercial scenario of the future by committing specific efficiency improvement targets on part of erstwhile GEB / successor entities and highlighting the support required from various stakeholders, viz. primarily GoG and GERC. The FRP was developed as a part of the reform & restructuring exercise by GEB in close association with GoG. The FRP aims at estimating the turnaround of each of the companies based on aggressive efficiency parameters, tariff revision, as also the continued subsidy support from the GoG. Inter-se agreements and the provisional bulk supply tariff, power purchase and the transmission charge were finalized based on the FRP already approved.

The major assumptions in the FRP included aggressive efficiency parameters in the field of Generation, Transmission & Distribution losses, economy in expenditure etc, tariff revisions based on the relative position each category of consumers and capacity to pay with the approval of GERC and the continued support from the Government of Gujarat (GoG) by the way of subsidies and capital infusion. The Opening Balance-sheets of the successor entities were notified by the GoG. The Companies have become fully operational from

01.04.2005 and all the activities are now being conducted in these Companies. Thus the principal objectives of the FRP initiated by erstwhile GEB and GoG were to provide clean Balance Sheets to the successor entities of erstwhile GEB through extensive clean up, write-offs and restructuring.

Developing a balanced capital structure for all the sectoral entities is critical for providing a healthy base for the sectoral entities to have independent business operations. The FRP adopted a pre-defined Debt–Equity ratio (D: E ratio) as the basis for developing the opening financial statements based on prudent commercial norms. It was designed to provide a healthy balance sheet for all the sectoral entities as a starting point to enable development of a self-sustainable sector.

Towards this objective, the FRP also factored in realistic values for the assets. A consultant's report on the estimated value of assets was prepared by GEB. Based on this report, appropriate values were assigned to the assets of GEB and the same was considered while preparing the opening balance sheets of the successor entities. The aim was to ensure stability in the revenue streams of the entities by defining a clear path for future GoG support to be provided to each entity after considering the regulatory risk in terms of tariff increase, disallowance of revenue requirements, etc.

The FRP, based on a set of realistic assumptions, projected the future revenue and expenditure streams along with the other business parameters for the entire sector. Some of the assumptions were external to the sectoral entities and were assumed on the basis of historical behaviours e.g. tariff increase by the Independent Regulator. While the increase in tariff was conservatively assumed, all possible efforts were directed to increase the efficiency of the

sectoral entities e.g. energy loss reduction, increase in collection efficiency, generation efficiency (increase in PLF). Any debt that could not be absorbed in the new companies after application of the fixed D: E ratio would be retained within GUVNL and serviced using the overall GoG support package. It was, however, assumed that GoG would take over the liabilities of CPSU bonds and would convert the GoG loans aggregating to Rs.623 Crores into equity in GUVNL. The remaining GoG loans would be converted into interest free loans during the turnaround period.

Table–23 Proposed Capital Structure – function-wise

(Rs. in Crore)

Capital Structure as on 1st April, 2005	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL
Long Term Assets	693	1169	683	1927	3989	3750	16
Capital WIP/Deferred Costs/ Intangible Assets	-	-	-	-	-	-	44
Investments	-	-	-	-	-	-	247
Investment in Successor Companies	-	-	-	-	-	-	6081
Current Assets	324	487	605	673	154	800	698
Subsidy receivable from GoG	2	-	-	-	-	-	14
Total Assets	1018	1656	1289	2600	4142	4550	7099
Current Liabilities	275	429	439	631	290	899	2115
Allocable Consolidated Debt and Equity	743	1227	850	1969	3852	3650	4984
Less : Scheme specific debt assigned (a)	15	111	106	234	348	424	-
Working Capital Borrowing & Capital Liabilities (b)	17	38	42	37	-	-	2742
Debt from GUVNL assigned (c)	414	587	361	714	1578	1766	712
Total Debt Fund (2 = a+b+c)	446	736	510	984	1926	2190	3455
Equity Capital (3)	297	491	340	984	1926	1460	1529
Desired Debt : Equity Ratio	1.5	1.5	1.5	1.0	1.0	1.5	2.3

Source : GUVNL Annual Report 2004-2005

On the basis of the capital structure as well as the clean up and adjustments described in the prior sections of this report, the balance sheet of erstwhile GEB as on 2004-05 was disaggregated into the opening balance sheets of the successor entities. In case of GSECL and GETCO, the current balance sheets of GSECL and GETCO were consolidated in the opening balance sheets presented in Table-24 below. The loan allocation for both long and short term loans has been optimised keeping in view the key ratios. An aggressive Debt/Equity ratio of 60:40 has been adopted for most successor entities to start them on a challenging front. In case of PGVCL and GETCO, a softer Debt/Equity ratio of 50:50 has been considered so as to bring the Debt Service Coverage ratio closer to 1. Similarly, the current ratio of all successor entities has been optimised by allocation of current liabilities and the balance current liabilities have been retained in Residual GEB.

Table–24 Opening Balance Sheet of Successor Entities

(Rs. in crore)

Particulars as on 1st April, 2005	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL	GEB Cons.
ASSETS								
Gross Fixed Assets	747	1366	788	2140	4052	6431	20	15544
Less: Acc. Depreciation	(108)	(204)	(103)	(298)	(616)	(1628)	(4)	(2957)
Net Fixed Assets (A)	639	1162	685	1842	3436	4803	16	12583
Capital Works in Progress (B)	57	4	5	105	564	208	32	975
Assets not in use	0	0	0	0	0	1	-	1
Deferred Costs	2	2	2	2	2	12	-	22
Investment	2	(1)	2	5	1	6	244	259
Investment in successor entities	-	-	-	-	-	-	5336	5336
Total other Assets (C)	4	3	4	7	3	19	5580	5620

Particulars as on 1st April, 2005	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL	GEB Cons.
Net Stocks	71	78	61	195	127	312	0	844
Net receivables from sale of power	207	335	461	362	-	169	42	1576
Cash and Bank balance	21	45	110	56	1	3	275	511
Loans and Advances	14	11	4	15	16	75	13	148
Sundry receivables	10	10	4	11	18	428	226	707
Total Current Assets (D)	322	478	640	639	162	988	556	**3785**
Sundry receivables from GoG (E)	0	0	0	0	-	-	15	15
Total Assets (A+B+C+D+E)	1023	1648	1334	2593	4167	6020	6199	22984
LIABILITIES								
Equity Capital	268	444	292	870	1558	1905	2252	7608
Surplus / (Deficit)	-	-	-	-	-	152	(737)	(585)
Total Net worth (A)	268	444	292	870	1558	2058	1515	7005
Total Long Term Loans (B)	377	766	480	1097	1393	2887	877	7877
Total Short Term Loans (C)	107	37	48	34	943	4	1639	2812
Security deposits from consumers (D)	170	244	293	322	0	0	1	1030
Total Current Liabilities (E)	100	157	221	271	273	1071	2167	4260
Total Liabilities (A+B+C+D+E)	1023	1648	1334	2593	4167	6020	6199	22984

Source: GOG, EPD Notification No. GHU-2006-91-GUV-1106-50-K ,dated 3rd October 2006.

The FRP recognized the subsidy payment mechanism (GoG subsidy and revenue support) as one of the critical area for future financial sustainability of successor entities. The FRP assumed timely disbursement of GoG support to the sector to fund the subsidised electricity to the specific consumer categories and the revenue support till the sector transformed itself to a self-sufficient

system purely on commercial terms. The financial plan was designed to progressively reduce the dependence of the sector on GoG, which will ultimately emerge as a net contributor to the exchequer's finance.

The FRP did not consider any return to be earned by any of the sectoral entities. The Generation and Transmission entities were assumed to operate at the "break-even" level from the date of inception. The power purchase costs from the State Owned Generating Stations thus did not have any cost component with respect to "Return on Equity". The transmission charges were also devoid of any return on equity.

It was assumed that the Distribution companies would pay the power purchase bills on the basis of their paying capabilities. It is to be noted that the "paying capability" of the DISCOMs takes into account all efficiency measures (illustrated in the earlier sections) before arriving at the "funds available for power purchase". No returns were assumed for the DISCOMs for the entire projection period (FY 2005-06 to FY 2010-11). The holding company GUVNL was also not assumed to earn any profit during the transition period.

Supply of continuous electricity to the villages

A major concern of an elected government is to supply continuous and quality power to its entire people. As in any state of India, in Gujarat too, the villages had no separate system for ensuring reliable, continuous power for domestic use. Typically, in the rural areas, the power supply for non-agricultural purposes is around 8 to 10 hours. Rural areas are fed by rural feeders having mixed load viz. agriculture, commercial, residential etc, which results in unreliable supply through frequent tripping and poor voltage.

To reduce the hardships and provide reliable quality power to the rural areas, Jyoti Gram Yojana (JGY) was introduced by the Government of Gujarat to provide 24 hours Three-Phase Power Supply to Rural Areas by separation of feeders serving agriculture and other consumers. The benefits envisaged under this programme are development of industries in rural sector, generation of opportunity for local employment, better health and education services, improvement of quality of life in villages, and reduction in migration from rural to urban areas. Estimated to cost Rs.1245 Crores, this programme was on top priority of the state government and targeted to cover all the 18,000 villages by 2006. By segregating the rural supply from the agricultural supply (which is largely un-metered and restricted), it was expected to reduce the scope for theft and unauthorized tapping of power. A confidential study on the socio-economic effects of the scheme in the rural areas conducted by the GEB revealed the positive effects on this count and the viability of the scheme (Jyoti Gram Yojana, 2004)[71].

This was a major success for the elected Government of Gujarat and in turn for the electricity utility and its employees. In no other state had anything like this been achieved. This was a major development which earned lot of positive publicity for the state. Such a mammoth task was achieved in such a short time of two years. This indirectly boosted the public image of the GEB and its employees. In terms of creating the right setting for the major reforms to follow, this was a significant development. The common public took this development as a sign of more positive benefits to come. The employees also perceived that reforms would bring in several such major improvements on the service and technological front.

[71] Jyoti Gram Yojana: Powering Rural Gujarat, H.N.Gujarat University with CEPT, December, 2004,pp3-7.

5.3 Role of the GEB Management, Employees, Unions and other Stakeholders

How was the loss making Gujarat Electricity Board revitalised and how did that lead to its transformation into one of the most efficient public utilities in the country? A massive and comprehensive change management exercise was carried out in the state power utility. Who were the change agents in this exercise? What tools and techniques did they apply to bring about the change? Who were the change facilitators and champions and what were their respective roles? How the resistance to change was managed? What was done to sustain positive outcomes and how were negative outcomes were dealt with? How were the employees motivated to embrace reforms? What steps were taken to overcome fear and resentment against reforms? These pertinent questions would be answered as we discuss the role of GEB top management, the employees, the unions and other stakeholders.

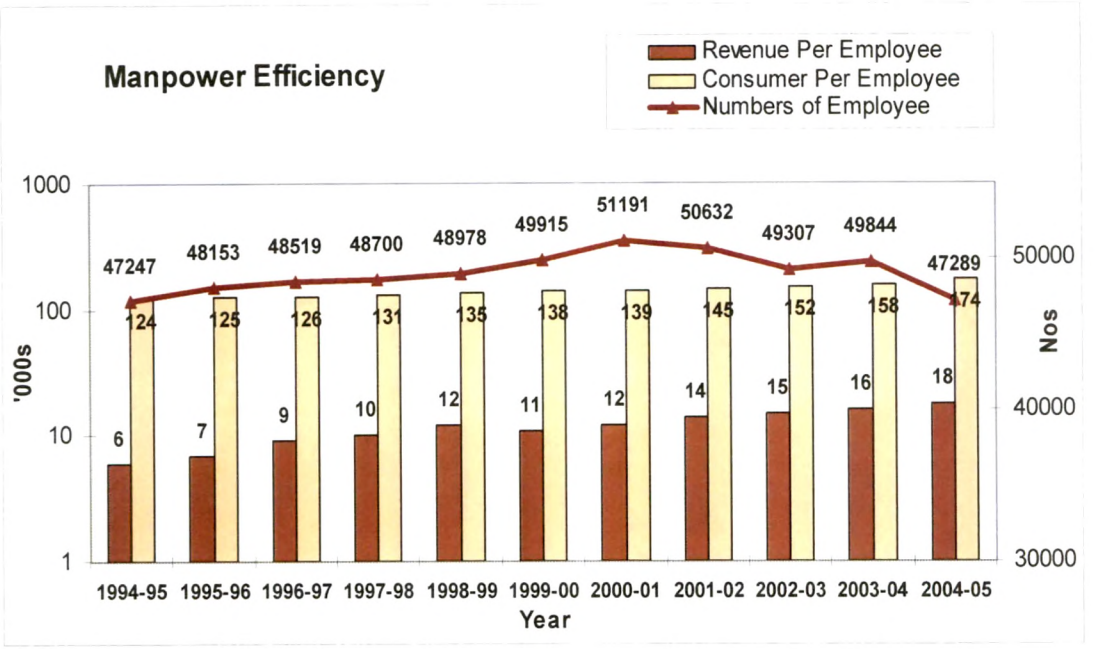
The Change Management strategy adopted in GEB was a systematic and scientific process and was in right proportion to the change adaptability of the employees. It was neither too rapid nor too slow. The Reform process adopted by the GEB continued with its thrust on – customer focus, by aiming at better services and quality power, rural electrification, efficiency in operations, lower cost of generation with higher PLF, lower T&D losses and optimum use of resources and manpower. These were the reform objectives that were sought to be achieved.

If one were to draw a road map that was followed in pursuing the change agenda, it would start with the unbundling of the monolithic entity, seeking employee participation and building 'oneness' among employees with a strong emphasis on effective communications amongst all the stakeholders about the change agenda. The management gave the primary focus to training and capacity building and a series of major human resources initiatives to adapt to the change programme. Apart from thorough organizational changes through unbundling and restructuring, the emphasis was on changing organizational culture and practices. As we analyze the major activities undertaken, these issues become clear.

The unbundling process

GEB, the huge monolith, had more than 46000 employees in 2002, when the unbundling talks started within the organization. Despite being such a large undertaking and with its activities spread all over the state, GEB was fairly efficient in manpower planning and deployment. The erstwhile Gujarat Electricity Board had been very economical in manpower and human resources management as is seen from Figure-9 on next page :

Figure – 9 – Manpower and Manpower efficiency



Source: Annual Statement of Accounts, GEB.

- No significant increase in employees strength
- Revenue per employee increasing every year.
- Numbers of consumer per employee also increasing every year.
- Efficiency and utilization of employees improving every year.

The Gujarat Urja Vikas Nigam Limited and its subsidiary companies were governed by various statutory enactments such as the Industrial Dispute Act, the Factories Act, the Payment of wages Act, the shops and establishment Act etc., which protect the interest of employees/workers. The Management was always quite receptive to the requirements of the Unions / Associations and has been proactively dealing with the issues leading to a harmonious and healthy relationship.

The unbundling of this monolith organization (earlier GEB) was no easy task. It called for a matured, measured and effective strategy to dispel the fears, resistance and unrest. Most of all, it was important to handle the Unions /

Associations who were the opinion leaders and the employees, who required assurances of continuity. This was possible only with the support leadership of the Unions / Associations and the Management.

During the process of unbundling, there was hardly any event of unrest. The strategy followed by the management in this regard, included :

- Effective communication
- Grievance handling
- Continuous dialogue with the Unions / Associations
- Settlement of disputes with a give and take policy
- News letters
- Seminars etc.

A proactive management within the GEB has spearheaded the reform process. At the time of unbundling, a focused Reform Progress Management Group (called RPMG) was created to monitor and ensure progress of the reform process. The then GEB Chairman Dr. Manjula Subramaniam, with full support of the Chief Minister and the State Government, championed the reform agenda. The then Chairman had earlier served in GEB as Member (Administration) and enjoyed an excellent reputation and credibility within the organization. This made the communication process more credible and acceptable.

The highlight of the communication process in Gujarat was the fact that greater thrust was placed on 'internal communications'. The GEB did not undertake any communications with the general public, as it was more important to internally communicate with the employees to push the reform agenda which promised better service standards to the consumers.

In the initial stages of unbundling, a 'Reform Progress Management Group' was created comprising officers with representation from the fields of Engineering, Finance, Human Resources, Transmission and Distribution. This group was involved in the implementation and monitoring of the unbundling on a daily basis and had the primary responsibility for maintaining cordial relations between the different companies and looking into human resource related issues and working on financial improvement plans. The fact that the Chairman of the GEB was also the Principal Secretary (Energy) in the Government, helped ensure that all decisions taken at the level of the utility were quickly accepted by the Government and so the fast pace could continue and the decisions were taken early.

The employees of each of the entities were involved in the process of identifying the 'Vision', 'Mission' and 'Core Values' of their organization. This process was facilitated by the Consultant M/s. Madhvan & Associates (a consultant appointed to facilitate) and owned by the employees. In fact, these are displayed prominently in the premises of the companies. The sum of the 'Vision' 'Mission' and 'Core Values' statements of the different companies forms the same for the holding company. These are as shown in Figure-10 on next page :

Figure–10 Vision – Mission – Core Values

	Gujarat State Electricity Co. Ltd. (GSECL)	Gujarat State Energy Transmission Co. Ltd. (GETCO)	DISCOMs Madhya Gujarat Vij Co. Ltd. (MGVCL) Uttar Gujarat Vij Co. Ltd. (UGVCL) Dakshin Gujarat Vij Co. Ltd. (DGVCL) Paschim Gujarat Vij Co. Ltd. (PGVCL)
VISION	"To become one of the most efficient power generating companies globally."	"To build, operate and maintain an efficient power transmission system."	"Customer satisfaction through service excellence."
MISSION	To generate power by adopting global best practices through : (A) Professional Excellence (B) Transparency (C) Highest level of productivity (D) Nation building (E) Safety, self-discipline (F) Value addition	To achieve global standards in transmitting reliable and quality power.	(A) To provide reliable and quality power at competitive cost. (B) To reach global standards in reducing distribution losses
CORE VALUES	(A) Customer satisfaction (B) Pride of belongingness (C) Being ethically and socially responsive (D) Participative work culture (E) Excellence		

Source: GUVNL Annual Report, 2007-2008.

It is interesting to know that something as elementary and fundamental as "mission and vision" for an organization did not exist in GEB. The enthusiasm that was generated amongst the employees in this apparently simple exercise was significant.

The management put more stress on internal communication with the employees with the objective of garnering support for the change and facilitating unbundling and the distribution of employees across the newly

formed entities. The internal communication was meticulously planned and some concrete steps were already taken before the appointment of a Consultant to strengthen the process. Some of the steps that were initiated to kick-start the implementation were :

- Weekly meetings with the different Heads of Department to discuss issues and recommend solutions. These meetings ensured that there was synergy across the various departments.

- Key Performance Indicators were identified and implemented. These were monitored at the level of the Heads of Department and then discussed with the Chairman to ensure focus on continuous improvement and the sense of pride in performance.

The KPI (Key Performance Indicators) was again another novel input. Though very commonly used in the private sector, the setting of KPIs and periodic review along with performance evaluation on the basis of these indicators created enthusiasm among the work force. Some of the illustrative KPIs in Generation were -Plant load factor, Plant Availability Factor, Station Heat Rate and Specific Oil Consumption. The important KPIs in Transmission were- Planned shutdown (days/100 kms), Transient Tripping (numbers/100 kms), sustained Faults (numbers/100 kms), Safety (accidents/100 employees). The KPIs fixed for Distribution were- Percentage Availability, Transient Tripping, Sustained Faults, T&D losses (%) and AT&C losses (%) and Percentage reduction of Revenue arrears.

Revenue meetings were held regularly. The interesting aspect about these meetings was the fact that the engineers were made to understand the

importance of revenue collection and bottom line and take on the responsibility of monitoring and controlling the T&D losses. It also brought back the focus on financial aspects of running the organization successfully.

At this time it was felt that while the interaction at the higher levels was important, it was equally important that all cadres were reached effectively. There was a realisation that for the unbundling and the restructuring to be successful, every employee should take 'ownership' of the process and understand the compulsions for and the reasons behind the changes. This was facilitated by the appointment of a communication consultant. A very comprehensive communication strategy was formulated. Some of the key components of this communication strategy are discussed below.

Identification of 'Reform Champions':

The organisation requested volunteers willing to take on the responsibility of Reform Champions. About 100 people volunteered of which the majority turned out to be quite enthusiastic about their new responsibility. First, sensitisation of the Reform Champions was undertaken through structured sessions that included sharing information on the need for reforms and its objectives, the advantages and opportunities arising out of the reforms, the progress of reforms in other states and the process of reforms. Additionally, the Chairman of the GEB was in touch with the employees through 'open letters' that highlighted and explained similar issues, while stressing the fact that the tripartite agreement reached at the start of the reform was binding on all concerned. This helped build confidence and ensure cooperation of all employees.

Training of Trainers :

The Reform Champions, already converted and sensitised to the overall reform spirit, were in turn asked to prepare presentations in the local language on the basis of an agreed template. The Reform Champions shared these presentations with other employees in training sessions. The novelty of this approach was the fact that each Champion owned the process and was conveying the message in simple terms. This had a cascading effect as employees across the classes were allowed to participate in these sessions. This led to the generation of a sense of identification with the process and the feeling of being kept informed, thereby facilitating the change process.

The '5 S' Strategy :

'5 S' is a Japanese concept that was introduced with the aim of building ownership and pride in the work place through easy, simple steps. Like many typical Government offices, most GEB offices presented a disorderly, unkempt and unattractive look. Each department implemented the 5S that looked at things like keeping the workplace and the storage spaces clean, removal of garbage and junk and other such small initiatives. Each department identified a 5S Champion who was given specific responsibilities for overseeing its implementation. The Heads of the Departments spent a specific time daily, interacting with these Champions and monitoring the progress of implementation. The Champions in turn were responsible to Zonal Facilitators who were responsible for monitoring progress at the Zonal level. Suddenly tons of garbage like old files, broken furniture, and junk items were removed and the overall look and ambience of the workplace looked better.. The key outcome of this intervention was that it helped generate healthy competition

between the different divisions and zones and started an attitudinal change in the workforce.

Internal Newsletter :

The system of designing and publishing an internal newsletter to spread important messages was initiated. The newsletters included a message from the Chairman and all 50,000 employees received copies, which gave a sense of importance of being communicated and told by the Chairman to them exclusively (copy of the newsletters enclosed at Annexure–C). This also effectively countered negative / incorrect communication about the reform process. In fact direct letters in Gujarati language from the Chairman, GEB motivated the employees and gave them a sense of security. More than a dozen letters were written by Chairman, which instilled greater level of confidence among the employees. The communications indicated the commitment of management towards the employees as well as sought to give them updates about the reform process. This also helped in mitigating the adverse effect, if any, of misinformation with regard to the process of unbundling. It also enabled the Unions to see reason and correctly represent the need for change.

The utility continued its focus on building employee morale and a feeling of esprit décor. A special 'GEB Song' was created and in the initial days of the unbundling, the ring tone of every employee's mobile carried this song. Also, the utility initiated a practice of gathering all employees together to sing the song at the start of every working day – the frequency was later reduced to once a week and now it is sung on special occasions. Uniforms and other accessories such as shoes, socks etc. were provided to all categories of

employees based on design recommended by National Institute of Fashion Technology, Gandhinagar. Logos, letterheads, nameplates, banners etc. were also standardized through a process of employee participation by way of contests. Needless to say, these well coordinated actions brought about the climate for change by creating a sense of bonding and a desire for facing the challenges united. This strategy of direct communication with the employees and the unions played a major role throughout the reform process.

Padkar Saptah :

This was another motivational initiative. Challenge (Padkar, in Gujarati) week basically meant a focussed way of tackling challenges arising out of the reforms process. In order to build employee morale and ownership, the utility celebrated a 'reform week' (Padkar Saptah) in each of the regions. Special budgets were allocated and the employees were involved in its planning and execution. This provided an opportunity for the families of employees to get together and participate in a range of events and competitions. This activity was very well received, which included road shows on the reform process through street plays, debates, song competitions etc. This was a good communication strategy, since it involved the families of the employees in the reform agenda.

Option Process :

Unbundling of the GEB into several entities meant that an employee was allocated to a particular company and stayed put there, with no possibility of changing to a location outside this company's geographical jurisdiction. This issue was a major stumbling block as the engineers particularly, were keen on

being accommodated in an area (company) of their choice as future migrations would not be possible. This was a major irritant as the employees did not want a situation where they found it impossible to move out to a place of choice.

To tackle this problem, the management also provided for an option process whereby an employee had the opportunity to seek the company of his choice with certain conditions. The norms for selection of a particular company were based on objective criteria such as status of health, place of posting of a working spouse and experience criteria in a particular functional area. The options were finalised by an independent committee and were binding to all. Today the allocation of employees across the different companies has been completed. As much as 98 per cent of the employees got allocation as per their option and this served to ensure smooth transition. Further the utility commissioned the National Institute of Fashion Technology to design uniforms for all employees and this created a separate identity for each of the companies and their employees.

Training Strategy :

The GEB management believed in capacity building and human resource development as very necessary conditions to initiate and sustain reforms. A training strategy was developed under which 13,000 employees were trained in 2003-04 and 16,443 in 2004-05 and about 13,000 employees' in 2005-06, totaling about 43,000 employees in these three years. This was no mean achievement as more than 75 per cent employees were covered out of the total strength of 50,000 employees in just three years. Training was focused in the areas of Customer orientation, Team building and Leadership skills, Simulator training, Tariff structure analysis and Financial training for non finance

executives (Joshi, 2008)[72]. All trainings were conducted offsite and lasted between 3-5 days. Later in 2006, a state of the art training facility was constructed in Vadodara called Gujarat Energy Training and Research Institute (GETRI).

Gujarat Urja Vikas Nigam Limited (GUVNL) formed an autonomous institute GETRI to provide advisory support on various areas like Action plan for Distributed Generation, Demand Side Management measures, Regulatory support, Human Resource (HR) support. During the last few years, the awareness among employees about training has increased considerably. Employees are positive about training & majority of employees have undergone some training in last three years. The training institute – GETRI is equipped with various modern training facilities like conference hall, lecture rooms, computer facilities, audio-visual aids, B&L facilities etc. and is in line with premier power training institutes in India.

The entire diagnostic of the training institute is assessed under various factors like employee perceptions, organization structure of training, institutional setup, infrastructure, training partners, training budget, training evaluation etc. All the six utilities of GUVNL have earmarked certain amount of revenue to be given to GETRI for undertaking training activities for their employees. Personnel from various ranks are sent to premium institutes like IIMs, IITs, Power Training Institute etc for specialized training. GETRI brings out a training calendar after assessing the needs and training activity now receives due attention of the policy makers as an important HR tool.

[72] Joshi, Rakesh Mohan, Gujarat Electricity Board's Turnaround: Complete Rural Electrification in Gujarat, London Business School Reference, The Smart Manager,Vol.7, Issue-2,February-March, 2008 ,P.51.

The role of Unions

At this stage, we need to discuss the role of the trade unions in the implementation of the reforms agenda. The unions had a major role to play in the reforms agenda.

As mentioned before, GEB had more than 50,000 employees and almost 40000 employees belonged to the non-management cadre. These were less educated and skilled and more unionized than the upper echelons of GEB comprising engineers, management, commerce and HR professionals.

The GEB had seven recognized Unions / Associations. The unions have undergone metamorphosis over the period owing to various political equations and changes in the structures within their unions. The list of unions is enclosed at Annexure-D. Most of the Unions / Associations have been headed by political leaders as President and the employees' representatives became General Secretaries / Secretary General and local heads to represent the cases of aggrieved employees. They also represented the aspirations of the employees in terms of the wage and facilities for congenial atmosphere for work. Although the Unions have represented their cases effectively and got their work done, there have been instances of militancy among the Unions / Associations for supremacy and control. However, on the whole, the Unions / Associations have been responsible, responsive and proactive. They played a crucial role in the evolution of the organization and have contributed to the maintenance of cordial and peaceful industrial relations within the organization.

While dealing with the concept of change management earlier, we had seen that the leadership has to understand the reasons for resistance to change and formulate an effective strategy to counter resistance and convert it into support. What exactly was the resistance of the employees to the change agenda for GEB? What were the major apprehensions of the employees? Also the apprehensions differed depending upon the ranks of the employees. The engineers, for example, had different fears and apprehensions than the lines men and meter readers.

The major resistance of the employees was their fear of a possible future privatization. Since the new Act of 2003 provided for privatization and states like Orissa and Delhi had gone for privatization in the distribution sector, the employees unions apprehended a possible privatization in Gujarat. Privatization would mean complete changes in their working conditions and more accountability with the fears of sacking anytime for poor or non-performance. So far all the conditions of service of the employees, including the perks and privileges were codified and given sanctity as Standing Orders by the GEB. The apprehension in their minds was the likelihood of losing these privileges in a new corporate setup. A privatized corporate system may not be agreeable to retain or improve upon these privileges and conditions of service.

Another fear the employees had pertained about the stoppage of all transfer prospects once they were allotted to various companies. Normally employees had the option to opt for a particular station and there was a system to accommodate such requests depending on the waiting list and vacancies. This was a major demand made by the employees to the management during the unbundling talks. The unions feared that their numerical strength would

automatically get reduced in the new entities as the members would get represented in the respective entities. This would reduce their clout and bargaining strength with the management.

Another major apprehension about the impending reforms pertained to the working environment. The management had started, since 2002, activities such as weekly meetings, KPIs, emphasis on revenue recovery and T&D losses reduction, feeder management and feeder manager's responsibility to reduce losses etc. these were completely new activities and put a certain pressure to perform and fix accountability and responsibility. Also the management was planning to introduce IT systems into the overall working of the utilities in a big way through e-Urja project. Certain other HR initiatives such as Fast-Track promotion schemes, which allowed the meritorious to side-step seniority and get promotion was perceived as a precursor of a new order of work culture.

The challenge before the management was to dispel these misgivings and create a tempo and positive climate for reforms. It had to be communicated to the unions that the impending reforms were not only for the benefits of the utilities but also for the overall betterment of the employees. Hence the emphasis was on direct dissemination of information and communication with the rank and file of employees. Hence the management went for a strategy for a very direct, multi-pronged communication exercise, constant dialogue process with the unions, settlement of some pending demands and creation of the right climate for reforms.

Initially the unions were quite skeptical about the talks of reforms. They were also apprehensive that unbundled entities would result in reduction of their strength and clout as their numbers would get divided among the utilities. However, seeing the determination of the state government and the management to pursue the reforms in view of the statutory changes and the reforms in other state utilities, the unions considered it prudent to support the reforms, while safeguarding their basic rights and interests. The Unions / Associations were mature enough to understand the importance and the necessity of such unbundling exercise. It was important for the management to communicate effectively, deal proactively with employee grievances and keep the dialogue open with the representatives of the employees. The Unions / Associations in fact showed great maturity in dealing with the management and have been proactive in settling the disputes which had been long outstanding with the management. Some of the outstanding disputes settled by the Unions / Associations included :

- Settlement of the three- tier higher grade scheme for the employees
- Settlement of the field allowance dispute for Engineers
- Settlement of the allocation of employees to various entities through an option process.
- Settlement of all request transfers
- Ensuring filling up of vacant post
- Accelerated Promotions

These were done through structured meetings with Unions / Associations by the management without compromising on the spirit of the facilities as well as keeping the financial implications to the minimum.

It may be pointed out that the Unions / Associations created a Joint Action Committee (JAC) to effectively negotiate and bargain with the management. This was also convenient to the management as it had to deal with a single entity instead of seven Unions / Associations separately. The Joint Action Committee consisted of the General Secretary / Secretary General of the Unions / Associations, who were guided by their own office bearers down below. It is important to mention at this stage that the JAC conducted itself in an exemplary manner keeping the necessary leverage with themselves on critical issues. The JAC showed matured leadership in dealing with sensitive issues and could extract decisions to the benefit of all concerned. It is necessary to mention that very little support was sought by the JAC from the political leadership except on two occasions which had a direct bearing on the unbundling itself.

The Gujarat Electricity Industry (Regulation and Reorganization) Act-2003 was enacted by the Government of Gujarat after suitable amendment to the Section- 28 owing to the pressure from the JAC. In fact the Section provided for a second transferee ,the first being the vesting of the assets of the erstwhile GEB to the new entities and a second transfer at the discretion of the Government, which would have led to privatization of some of the entities. This was effectively changed by the JAC by ensuring an additional clause of seeking to take permission from the legislature before the second transfer takes place. This was one singular achievement of the JAC which put it beyond the scope of the Government and management to privatize the unbundled entities of erstwhile GEB without an approval from the state legislature.

The second most significant achievement of JAC was the signing of the Tripartite Agreement between the Unions / Associations, the management and the State Govt. The Tripartite Agreement provided for effectively safeguarding the existing service conditions, to continue the existing wage packages and such other facilities given to erstwhile GEB employees and the continuation of the Unions / Associations in the unbundled entities till the companies start full independent operations. There were as many as 50 rounds of negotiations with the Unions / Associations to thrash out the disputes, dispel fears and ensure better facilities.

The option process was one of the single most important achievements of the union/association. While it was not possible to allow option to the 50000 employees, a properly laid down strategy helped in ensuring the allocation of employees to various companies. The strategy was to conduct joint meetings with the Unions/Association/Management to set norms for prioritizing the application and allocation of employees and to set up an independent and transparent committee to oversee and suggest allocations based on norms.

The unions/associations had protracted discussions with the management and the government to ensure allocation of class III & IV employees of the GEB head quarters at Baroda itself, bringing relief to almost 1000 number of employees and their families.

Thus the Government, after considering the report of the Representation Committee, finally issued a comprehensive order on 31.3.2005, transferring all the employees of erstwhile GEB to all the seven companies. However, in order to mitigate grievances arising out of the final allocation, a separate grievance redressal committee consisting Dr. P.K. Das, an ex- IAS officer and ex-

Chairman of GEB and two other Members, P.H. Rana, Director (Technical) and H.B. Parikh, a retired Chief Engineer was constituted. The grievances committee also completed its job and final orders were issued by the Government on 29th September, 2005. This resulted in total satisfaction to all the employees and their representative Unions / Associations.

Thus it can be seen that all the three principal stakeholders, viz. the top management, the employees, and the unions managed the change agenda quite well. The key outcome of the reforms in Gujarat was a smooth transition to the different companies. This was truly a case of transformation without chaos as it resulted in creating a 'sense of ownership' of the reforms among the employees.

5.4 Effects of the Change Management on the working of the Power Utility

Though the highlight of the reform agenda in Gujarat was the restructuring of the GEB and creation of the corporate entities, it also resulted in ensuring improved service quality, better financial health and effective utilization of resources. The reforms have been debated extensively and very often these debates pose an important question-whether the reforms moved in the right direction? Did the reforms contribute to the realization of the objectives behind the reforms? Are the reforms in Gujarat comparable to the reform exercise in other states of India and other countries? The positive outcomes from the reforms agenda would indicate proper synergy between the management and the employees towards realizing the objectives of the reforms.

The losses from the power sector kept declining from over Rs 1932 Crores in FY 2003-04 to Rs 927 Crores in FY 2004-05 and the utility was on the path of registering Profit before Tax of approximately Rs 203 Crores in FY 2005-06. This translated into a favorable financial recovery of around Rs 2000 Crores during three financial years. In this chapter we would discuss the wide range of initiatives taken by the erstwhile Gujarat Electricity Board to achieve the turnaround in a short span of three years. The improvements went beyond the financial figures. The reform initiatives and change management that ensued resulted in very visible and significant improvement in operational parameters, customer focus and efficiency improvement.

The reform initiatives led to Gujarat being the first state to unbundle after the enactment of the Electricity Act, 2003. Gujarat's reform model of a holding company concept for restructuring was unique and was followed by most other states that have unbundled after Gujarat.

As part of the restructuring and reform agenda, the erstwhile GEB was reorganized to create vibrant, viable and consumer centric utilities. The vertically integrated utility, erstwhile GEB was unbundled, through a unique model, into seven separate companies – one each for generation and transmission and four distribution companies. The seventh company, Gujarat Urja Vikas Nigam Limited (GUVNL), was retained as the holding company to act as nodal planning and coordinating agency in the sector as well as the bulk supplier to the licensees in the state.

Reforms also mandated the regulation of business environment by a State Electricity Regulator. To undertake and regulate the reforms process, Gujarat Electricity Regulatory Commission (GERC) was created in 1999. The GERC has over the years evolved and matured and has issued 11 tariff orders till 2009. Various regulations covering licensing, supply code, grid code, tariff setting, Open access and dispute resolution, protection of consumer interest and fair play to all sector entities were issued by the GERC. The presence of an independent regulator has reduced the uncertainties and provided reassurance of a mutually beneficial and level playing field to new entrants.

In fact the Ministry of Power through CRISIL-ICRA ranked Gujarat as the second best performing State Electricity Board in the country next only to Andhra Pradesh in the ratings study conducted. The first evaluation was done in 2003 and this second evaluation was done in 2005 based on the data available at the end of December 2004.Various parameters were used and separate weightage was given to different indicators in this comparative evaluation of all states in India. Various parameters like the role of the state government in implementing reforms, role of the regulatory authority, business risk analysis, financial risk analysis and other criteria such as distribution reforms etc were the major criteria with relative weightage assigned to these parameters (Power sector rating, 2005)[73]. Table-25 represents the criteria used to rank the states and compare Gujarat with Andhra Pradesh, two of the top ranking states in this study.

[73] Power Sector Rating, Consolidated Report to the Ministry of Power, March, 2005,ICRA Ltd and CRISIL, pp.1-5.

Table–25 Parameters for ranking different States: Andhra Pradesh and Gujarat

Parameters	Andhra Pradesh	Gujarat
State Government support	8.20	12.26
Regulatory performance	12.38	6.50
Generation performance	4.75	3.25
Transmission & Distribution performance	11.75	11.40
Financial risk	12.50	12.25
Commercial viability	3.20	4.20
Others	4.25	3.75
Total...	**57.03**	**53.61**

Source : Power Sector Rating, CRISIL-ICRA Report, MoP, March, 2005

It has been seven years since the reforms were initiated in the state with the enactment of the Gujarat Electricity Industry (Reorganization & Regulation) Act, 2003 and four years since the newly formed companies have started operating independently. Following are some of the key areas where improvement has taken place after the implementation of the reforms, which has been seen all over the value chain of the processes. The years 2001-02 and 2002-03 can be considered as pre-reform years, while the years 2003-04 to 2005-06 can be considered the post-reform period.

5.4.1 Financial Improvement

As discussed before, the Financial restructuring Plan (FRP) was one of the most critical components of the reform and restructuring exercise. The Financial Restructuring Plan (FRP) was formulated and was approved by the GoG. It envisaged a road map for all the successor entities to turn around in a stipulated period with certain assumptions.

While undertaking the process of restructuring, the need for providing the new companies with cleaner Balance Sheet was recognized. Therefore, the unbundled entities started with better financial parameters as the State Government had converted loans into equity and had also taken over the servicing of a part of the sector's debt. Further, the financial restructuring envisaged matching commitment from the utilities in the form of efficiency improvement.

The State Government had made a commitment of Rs 15,000 Crores to be invested in the sector over a period of seven years against which the utilities had committed a saving of Rs 10,000 Crores through efficiency improvement. The State Government also supported the sector through timely subsidy payments for the l years after unbundling.

Revenue Enhancement : Revenues have been increasing appreciably in the years after the unbundling. There was a significant increase in revenues despite no tariff hikes. The revenues rose from Rs 101,292 million in 2001-02 to Rs 105,916 million in 2004-05 as can be seen from Table-26. This was made possible only because of the efforts of the utility in terms of revenue cycle management through stringent anti-theft operations, better collection, and introduction of better quality devices such as electronic meters and IT-driven measures.

Cash Collections : Where the cash collection of most of the SEB's is dropping, Gujarat has shown great improvement in its cash collections positions. As can be seen from Table-26, the cash collections have risen from Rs 91,750 million in 2003-04 to Rs 10,204 million in 2004-05, and the

collection per month has risen from Rs 76.5 million in 2003-04 to Rs 85 million in 2004-05. The cash collections increased due to various customer-friendly initiatives like increasing the spread of cash collections points over the state which at present number over 10,000 cash collection points (500 DISCOM windows, 9,000 post offices and 500 other collection points).

Table–26 Revenue Collection and Cash Collection

(Rs. in Crore)

Year	Revenue Collection	Cash Collection
2001-02	7224	7625
2002-03	7874	8988
2003-04	8545	9176
2004-05	9137	10204
2005-06	10251	11506
2006-07	12078	13101
2007-08	13852	14767

Source: Annual Statement of Accounts, GEB.

Power Purchase Costs

Power Purchase cost is a major cost element in the supply of power to the consumer. The unbundled GEB has taken various initiatives to lower the power purchase cost, with some measures like renegotiating earlier PPA's, merit order dispatch, UI trading etc, bringing the per unit cost down from Rs 2.42 in 2001-02 to Rs 2.08 in 2004-05 (Table-27). GUVNL purchases a substantial quantity of the state's power requirement from Independent Power Plants (IPPs). As an attempt at cost reduction, the Power Purchase Agreements were re-negotiated, thereby obtaining reduction in fixed cost obligations of the GUVNL to the IPPs. The successful re-negotiation led to a saving of Rs 495

Crores towards fixed costs in the first phase and another Rs 64 Crores in the second phase. In addition, the power purchase is strictly being made based on the Merit Order dispatch and the purchase of high cost Naphtha- based power has been discontinued. Power Purchase being the largest cost component for GUVNL, the above initiatives have resulted in significant savings. Further, timely payment of power purchase dues has earned rebate worth Rs 150 Crores over the last three financial years. Similarly, the incentive earned from Central Power Sector Undertakings is equivalent to Rs 130 Crores. The power purchase costs, therefore, have shown a steady decline.

Table–27 Power Purchase Cost

Year	Power Purchase Cost (Rs. per Kwh)
2000-01	2.59
2001-02	2.42
2002-03	2.2
2003-04	2.29
2004-05	2.05
2005-06	1.99

Source: Annual Statement of Accounts, GEB.

Debt and Interest Cost

Interest and Finance charges constitute one of the major elements in the total cost. During 2002-03, various financial institutions were approached for restructuring of the loans. With restructuring of Rs 4130 Crores of loans, the sector has achieved savings of about Rs 351 Crores. The debt of the sector over the last two years has increased by just Rs 265 Crores even after timely repayment of past capital liabilities indicating that the sector is out of the debt

trap. This amounts to about 2 percent of the total debt (over Rs 12,000 Crores) of the sector and about 10 per cent of the capital expenditure (over Rs 2534 Crores) in the last two years.

Table–28 Interest Cost

Year	Percentage (%)
2002-2003	10.67
2003-2004	9.51
2004-2005	9.11
2005-2006	8.60

Source: Annual Statement of Accounts of GEB and GUVNL.

Reduction in cost to serve

We have earlier discussed about the gap between the cost of supply and specific revenue of electricity supplied to the consumer. The sector has performed well and there has been a 51 percent drop in gap between the cost to serve and the specific revenue from Rs 0.67 per unit in 2003-04 to Rs 0.33 per unit and reducing the cost of service by 9.6 percent from Rs 4.15 per unit in 2003-04 to Rs 3.75 in 2004-05. Table-29 shows the improvement that the company has shown in terms of reduction in cost to serve and also a reduction in gap from 2003-04 to 2004-05. Since the cost to serve refers to total cost incurred divided by the number of units sold, it can be considered as similar to the breakeven point. That is because this does not consider the units supplied (but only units sold), as the difference between the units supplied and the units sold is high, particularly in the Indian context with its high T & D losses. The

gap primarily arises due to the gap between the cost to serve per unit (per kWh) and the tariff per unit permitted by the regulator.

Table–29 Reduction in Cost to Serve and Gap*

	Parameter	Details	2002-03	2003-04	2004-05	2005-06
A	Cost to serve	Cost/Units Sold**	3.88	4.15	3.75	**3.43**
B	Revenue from sale of power	Avg. revenue from sale of power	2.86	2.95	2.92	**2.97**
C	Subsidy per unit	Subsidy/units sold	0.66	0.38	0.35	**0.35**
D	Revenue from other income	Other incomes/units sold	0.19	0.16	0.14	**0.17**
E	Total revenue realization	E=B+C+D	3.71	3.49	3.42	**3.49**
F	Gap	F=A-E	0.17	0.67	0.33	**0.06**

Note: * Cost to serve here is defined as total cost incurred divided by the number of units sold (not supplied). This is accepted by the regulatory authority in India. This refers to the cost of the unit/kWh sold.

** All the numbers specified above are in Rs./kWh.

Source: Performance Presentation – Financial health of GEB, 7 January 2005 and GUVNL Annual Report 2006-07.

Thus the cost to serve the consumers had come down from Rs.4.15 per unit in 2003-04 to Rs.3.63 per unit in 2006-07 whereas the average realization, on the other hand, had gone up from Rs.3.49 to Rs.3.70 in the same period. Thus, the deficit of Rs.0.66 per unit in 2003-04 was turned around to a surplus of Rs.0.06 per unit in 2006-07. Moreover, the power purchase cost declined from Rs.2.59 per unit in 2000-01 to Rs.1.99 in 2005-06.

5.4.2 Efficiency Improvement

The various aspects of financial turnaround described in the preceding section required a major shift in efficiency improvement. As efficiency improves, productivity improves, costs come down and earnings improve. In this section we will discuss some major areas of efficiency improvement that came in the post-unbundling scenario.

AT&C Loss Reduction

Aggregate Technical & Commercial Losses is a combination of T & D loss reduction and collection efficiency and is a single indicator of efficiency improvements in the distribution segment. While the collection efficiency over the years has been close to cent percent and therefore, left little scope for further improvement, T&D losses have been reduced by around 9 per cent over the four years post-unbundling. As shown in Table-30 on next page, thee activities were taken up on a war footing. Compared to previous years, the scale of these activities was much higher than the previous years.

Reduction in T&D Losses has a multiplier effect on the financial position of the distribution companies. Not only does it lead to reduction in input costs, it also leads to enhanced revenue through recoveries from theft detections and unauthorized use of electricity. Further, with lower T&D Losses, the technical performance of the system improves as well. Distribution companies in Gujarat have been able to reduce the T&D Losses through the following activities.

Table–30 List of Activities for reducing T&D Losses

Sr. No.	Details	Unit	From 2002-2003 to 2004-2005
1.	Faulty Meter replaced		
a.	Single Phase	No. in lakh	26.58
b.	Three Phase	No. in lakhs	1.55
2.	Metal Meter Box provided		
a.	Single Phase	No. in lakh	27.84
b.	Three Phase	No. in lakh	1.28
3.	Connection sealed		
a.	Single Phase	No. in lakh	35.44
b.	Three Phase	No. in lakh	1.84
4.	Feeders bifurcated		
	In numbers	Nos.	868
	Km. line erected	Kms.	5249.81
5.	DTs brought at load centers	No. till 31st March, 2006	1619
6.	Renovation of deteriorated conductors	Kms. till 31st March, 2006	2593

Source : MIS of Gujarat DISCOMs.

The measures taken to control the T&D losses included a stringent 'Anti-Theft Bill' to check the theft. A senior police officer was initially made responsible to check thefts with seventy installation checking squads in the distribution companies. Based on the consumption patterns of the feeders, theft prone areas were identified and massive anti theft drives were organized with the help of police squads. The cases of theft declined considerably by 29 per cent from 107,985 in 2003-04 to 77,068 in 2006-07. Besides, 8.3million connections were checked over the four year period up to 2006-07(Joshi, 2008)[74].

Systems improvement - This had also been the key focus of the distribution companies. All new installations had been provided with sealed Metal Meter

[74] Joshi, Rakesh Mohan, Gujarat Electricity Board's Turnaround: Complete Rural Electrification in Gujarat, London Business School Reference, The Smart Manager,Vol.7, Issue-2,February-March, 2008 ,p.52.

Boxes (MMBs) which made them theft proof. Other theft control measures included replacement of joints in the service cables and meters, sealing of connections, movement of distribution transformers, renovation of conductors and automated meter reading, aerial bunch conductors.

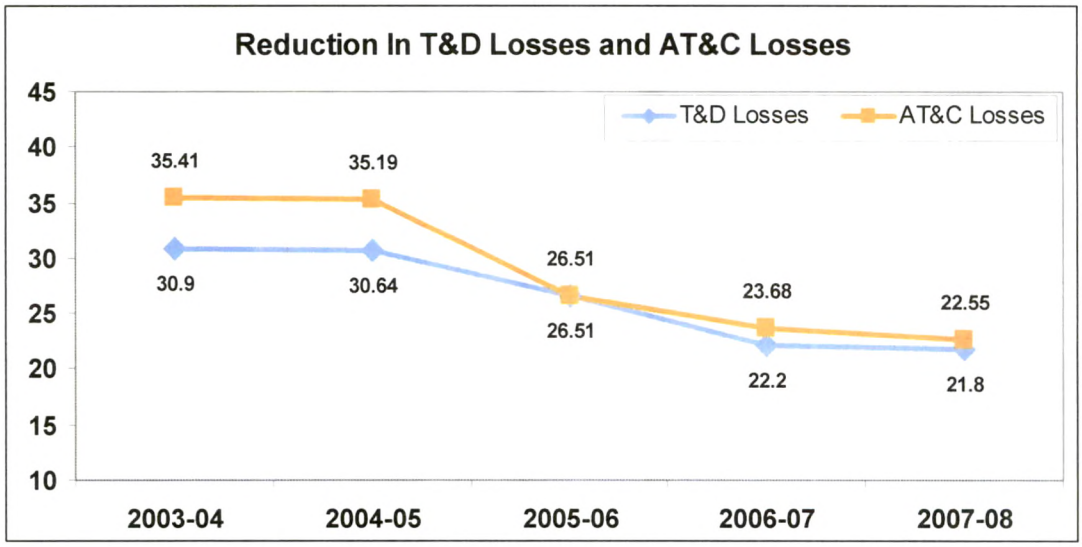
The Gujarat Electricity Board (GEB) had found out a number of defective meters in the due course of detection and sealing process of the meters. Thus it started massive replacement of old meters with electro-mechanical meters. As such faulty meters were generating incorrect reading; it became quite easier even for the low-skilled lineman to tamper with it. Such replacements aided the stoppage of power theft to the great extent.

Further Gujarat Urja Vikas Nigam Ltd. (GUVNL) has initiated reforms in metering by formulating and implementing strict metering code. Basically, Metal Meter Boxes are used for effective energy audit and to control abrupt power theft. It also examines the bi-directional active energy, reactive energy, currents, voltage, reactive power, frequency and other electrical parameters. If it is laded by metal, tampering would become a difficult exercise. In addition, such MMB would be capable to record various parameters required for a particular category of consumers on the basis of tariffs applicable to them. As a result, it is used for better energy audit. Over the span of five years, GUVNL has almost tripled the use of Metal Meter Boxes (MMB).

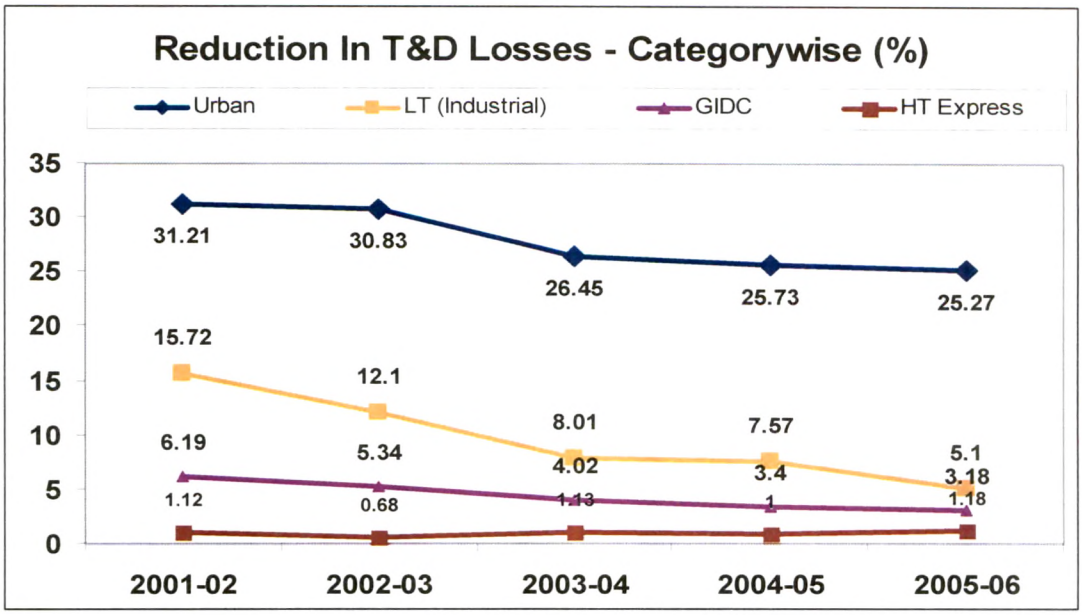
The comprehensive measures led to about 15 percent reduction in T&D Losses in a span of four years from 35.9 percent in 2002-03 to 21.5 percent in 2006-07. In three of the four distribution companies in Gujarat the T&D losses touched 15 percent by 2006-07.

As can be seen from the Table-30 above, the sheer pace and the numbers of various items for systems improvement was much more in the years after 2002 than before. The figures given below show the appreciable reduction in T&D losses during the years 2003 to 2006. The T&D losses came down from 36.9 per cent in 2003 to 26.9 percent in 2006- an average of 2.25 percent reduction per year, an enviable achievement for any distribution utility. The comprehensive measures led to about 15 percent reduction in T&D Losses (Joshi, 2008)[75] in a span of four years from 35.9 percent in 2002-03 to 21.5 percent in 2006-07 as indicated in exhibit 03. In three of the four distribution companies in Gujarat the T&D losses touched 15 percent by 2006-07. What is important, as can be seen from the Figure-11 below, the reduction is across all sectors-industrial, urban and other feeders.

Figure–11 T&D Losses



[75] Joshi, Rakesh Mohan, Gujarat Electricity Board's Turnaround: Complete Rural Electrification in Gujarat, London Business School Reference, The Smart Manager,Vol.7, Issue-2,February-March, 2008 p. 52.



Source: GUVNL Annual Report,2007-08.

Anti-theft Measures

An important feature here was the climate created to spread the fear against power theft. Theft of power is a very common, yet rampant phenomenon in all power utilities. Gujarat was no exception. Within Gujarat, there were pockets/areas where power theft was the most rampant and the officials could not dare to enter into such premises to check. The elected Government showed great resolve to create the fear of law in the minds of such elements through a series of high visible advertisement campaign, both in the print and the electronic media. In order to create and sustain an appropriate environment, a massive publicity campaign was undertaken with roadside hoardings, posters, leaflets etc, which strongly discouraged power theft and attempted to create a fear of law among those who indulged in pilferage of power. This high-visibility anti-theft campaign by the Government was very effective in demonstrating the Government's resolve and determination to fight power theft on a big scale. (Annexure-E)

The pre-reforms laws relating to power theft were also very lax and hardly provided any deterrence. Hence an Anti Theft Bill was passed to check power theft and Vigilance activities (related to theft and unauthorized use detection) in the state have been strengthened through setting up of five dedicated police stations and appointment of a Chief Security Officer in each distribution company. Initially 500 retired army personnel were appointed to keep the power offenders in check.

Thousands of theft cases were detected and then disconnected; they were reconnected only after the violators, including companies, paid their arrears though certain numbers of violators were convicted by the courts. Some very high profile cases of power theft were registered and given wide publicity.GEB, thereby, appointed managers who were accountable to settle the case. The State Government set up five regional special police stations to deal with such cases and punish the violators. As a result, nearly 20 lakh connections were verified and rechecked annually. This led to an improvement in the image of the employees of the Utilities and ensured a fear for law among the dishonest customers.

This led to more targeted and intelligent checking drives based on local intelligence through support of local police and ex-army men during the theft detection drives. During the three financial years from 2003-04 to 2005-06, there was significant improvements in the number of installation checking, theft detection and assessment of reported theft detected. The Table-31 on next page illustrates this and highlights the contrast between the pre-reforms year and post-reforms years.

Table-31 Prevention of Theft and Malpractice

S No	Particulars	1998-99	1999-00	2000-01	Total of 1998-2001	2001-02	2002-03	2003-04	Total of 2002-2004
1	Connections Checked	588011	1195184	1898172	3681367	1873671	1966675	2147861	5988207
2	Detection	58779	99535	155954	314268	166969	204147	214307	585423
3	Theft	26471	40638	57158	124267	60666	79637	107985	248288
4	Malpractice	12995	22092	19149	54236	15534	14214	12408	42156
5	Others	19313	36805	79647	135765	90769	110296	93914	294979
6	Assessment Rs. in Lac.	8642.4	13527.16	16834.6	39004.2	19098.76	22946.8	22393	64438.5

Source: Annual Administrative Report, GEB.(Pg. 13 of 2002-03)

The state of Gujarat upgraded sub-transmission and distribution (S&D) systems, under the central government's Accelerated Power Development and Reform Programme (APDRP). As a result, the reliability of power in most of the ten APDRP circles in Gujarat had improved to 99 percent. The Government of India initiated various reforms in the Power Sector with an objective of bringing about commercial viability to the State Power Utilities. In order to achieve commercial viability, the Ministry of Power formulated a six level intervention strategy that encompasses initiatives at national level, state level, SEB/Utility level, distribution circle level, feeder level and the consumer level under the national level Accelerated Development Programme in 2001.

Since March 2003, a provision of Rs. 20,000 Crores budgetary allocation under Investment component and Rs. 20,000 Crores under Incentive component was made under the scheme. The programme was focused on high density urban areas for achieving quick results towards bringing about

commercial viability to the power Utilities. In Gujarat the APDRP started in March 2006, which involved several works such as installation of electromechanical and static meters and replacement of defective meters, feeder bifurcation, strengthening of the transmission network etc in 10 Circles/town of Gujarat with target to reduce AT&C Losses, DT failure and system improvement for better reliability of power supply. Ten circles were covered under this scheme at a total expenditure of Rs.740 Crores by 2006.[76] Under the APDRP Incentive Scheme, GEB earned a total of almost Rs.600 Crores as incentive for cash loss reduction over a period of three years being the highest amount for any power sector to earn.

The Ministry of Power, Government of India launched the Restructured Accelerated Power Development and Reforms Programme (R-APDRP) in the XI Five year Plan. The objective of the programme is the reduction of AT&C losses to 15 percent in project areas. The program is divided into two parts - Part-A and Part-B. Projects included in Part-A are for establishment of baseline data and IT applications like Meter Data Acquisition, Meter Reading, Billing, Collections, GIS, MIS, Energy Audit, New Connection, Disconnection, Customer Care Services, Web self service, etc. to get verified baseline AT&C losses. Part-B targets distribution strengthening projects. Work has already started under this new scheme in Gujarat. So far under Part-A, Rs. 225.34 Crores has been approved for GUVNL for all four DISCOMs to cover 84 towns involving a population of 1.72 Crores and 33,83,475 consumers all over Gujarat(Singh,July-September,2009)[77]. This programme would further strengthen the Distribution system and improve the financial calculations.

[76] http://www.apdrp.gov.in/

[77] Singh Mandvi, Distribution Reforms-APDRP sets the stage, Gujarat Infrastructure, Vol.1, No.3, July-September, 2009, p.58.

Transmission Performance Improvement

While the performance of the Transmission sector of the GEB was good, it faced serious pressures in assuring voltage stability, and ensuring quality power on a continuous basis. In the initial period of reforms, the thrust was to increase sub-stations and transmission lines. During 1999 – 2002, good progress was made in laying 66 KV lines and 66 KV sub-stations, 220 KV line and sub-stations (259 Km of 400 KV EHV Lines developed for Inter State Power Transmission).

During 2002-2005, very good progress was made in the development of 220 KV EHV lines & sub-stations. But during 2005-2008, remarkable progress can be seen in the development of 66 KV, 220 KV and 400 KV EHV lines and sub-stations compared to previous periods. Development of 400 KV lines and sub stations during this period improved bulk power transmission capacity of company along state and also resulted in to reduction in Transmission Losses. The availability of transmission sub stations and line was above 99 per cent during the last 5 years, which is much above the national level.

In the post-reforms period, GETCO continued the systems improvement activities and improvement of its systems on a bigger scale. Some of the major activities of GETCO are Data Acquisition System (DAS), Renovation & Modernization (R & M), Availability Based Tariff Implementation, and Open Access Implementation.

Data Acquisition System (DAS) involved the computerization of almost all the sub-stations by replacement of Electromechanical Energy Meters with Static Meters and communication with software for accurate details and quick action.

Renovation & Modernization (R & M) activities during the 11th Five Year Plan (2007 – 2011) involved the replacement of aged assets like Switchgear, Relays, obsolete technology and reconductoring of old lines and line structure strengthening and system up gradation etc. at an approved capital investment of Rs. 1000 Crores. This will have tangible benefits in terms of system availability by reducing failure rate and T&D losses. During 2007 – 08, Rs. 158.24 Crores was spent on this activity.

In order to bring grid discipline and provide platform for open access transactions, the GERC has issued an order and accordingly mock exercise was carried out. Encouraged by the reports of the mock exercise, GERC has now mandated to issue operationalization order for making implementation of Availability Based Tariff (ABT) effective in the state through GETCO.

The SLDC of GETCO is the nodal agency for improvement of short term open access transaction and collective transaction of Power Exchange. SLDC had received applications for short term open access and processed successfully, which encourages electricity trading market. It also provides a platform to all intra state entities for trading/sale of power to intra-state as well as inter-state level. This is a major objective of the reforms to develop free choice and availability based on differential tariff. These initiatives implemented by GETCO provide a business model of power trading/sale between users/consumers of Gujarat and Power Generating companies.

Generation performance improvement

Generation performance in terms of Plant Load Factor (PLF) and Auxiliary consumption also improved in the post- reforms period. In the year 2004-05, PLF & auxiliary consumption were 70.01 percent and 9.69 percent respectively in comparison to 64.72 percent and 9.79 percent in 2003-04.This was mainly due to better managerial practices such as implementation of key performance indicators for the technical personnel to follow. To reduce the cost of generation and improve the efficiency of the generating stations, GSECL has taken steps to increase the use of washed and better quality coal which improve the performance of the stations. GSECL also succeeded in getting better domestic coal linkage and reduced the cost of another fuel LSHS by negotiating with IOC. The savings through improved fuel practices and fuel efficiency amounted to Rs 510.1 million in 2004-05. Due to these actions, the fuel costs for generation of power have increased only marginally in spite of higher increase in coal prices and railway freight, state cess and taxes. The fuel costs, which were Rs. 1.51 per kWh in 2003-04, rose marginally to Rs. 1.66 per kWh in 2005-06.

Load Management and Energy Audit

A major advantage of Jyoti Gram Yojana has been the boost to Load Management in the state. Feeder separation not only provided better information about consumption pattern, it also provided an effective control mechanism. With better demand side measures, the sector has been able to serve the state demand more effectively. The sector's own deficit had reduced last year enabling GUVNL to sell power outside the state for the first time.

IT initiatives and systems improvement

All good power utilities adopt comprehensive IT systems for total systems management to achieve better cost management, systems and load management, and improve quality of power. The erstwhile GEB was seriously handicapped due to very poor use of IT in all sectors. IT application will form the backbone of any business in the future. Recognizing this, GUVNL has started implementation of the 'e-Urja', the end-to-end enterprise resource-planning package across all the companies across all the functions of the utility value chain. In 2002, as a part of the reforms initiatives, GEB decided to go for Major IT induction into its system.

Gujarat is the first state to implement a full-fledged ERP solution in the power sector. The ERP system, christened as 'e-urja', involves seamless flow and processing of data resulting in real time information availability and therefore, facilities decision making. This massive project was being implemented across the state at a cost of Rs 110 Crores. E-urja covers maximum requirements using a standard ERP module. The balance requirements are being fulfilled by best-of-the-breed third party solutions and/or customization with integration to ERP solution. During implementation, business processes are also being changed, as required, through Business Process Re-engineering by the solution provider. e-Urja provides connectivity between all the business units in all the companies for real time data transfer and updation that will ensure close monitoring to remove discretion and improve business processes.

The e-Urja project brought around several benefits. It increased asset productivity and reduced operating costs associated with maintenance, procurement, transmission, distribution, and customer service. This project

managed available resources such as inventory, equipment, and skilled personnel and matched them to asset maintenance demand, thus optimizing the availability, reliability, and productivity of assets. It streamlined procurement functions by reducing lead times for procurement and provided decision making inputs for effective and optimal procurements, thereby enabling companies to save significant costs of procurement. It further optimized management of inventory with reduction in inventory carrying costs. Consolidation of all customer information centrally and tracking all customer contact in a single place (including Billing information) was made possible due to this system. Over nine million customers across the Gujarat State will be covered by the system.

Apart from the ERP, various IT initiatives like GIS Mapping, Spot Billing, Computerization and Data Linkage etc have been undertaken by the utilities. By 2005, the GIS has already been implemented at 20 locations in all the Distribution Companies. With the movement of the Load Dispatch Centre from Jambuva to Gotri and starting of three Area Load Dispatch Centers and implementation of the SCADA system, the companies are slowly moving ahead to implement the intra-state ABT being planned to be implemented in Gujarat to improve the grid discipline. In short, it brought in all-round major transformation in all levels of working by resulting in optimal efficiency. This major project also led to the personnel being fully conversant with IT concepts and practices. This was made possible due to very extensive training activities to make the employees computer-literate.

Rural Electrification

Despite a high urbanization rate, Gujarat has more than 18000 villages and its economy has strong rural linkages. So far, like in many other states, the villages in Gujarat received electricity for residential purpose from the agricultural feeders. Since agricultural tariff was highly subsidized and this sector suffered from rampant power theft, the policy so far was to supply power through these feeders for only six to eight hours a day. This resulted in the villages receiving power only for eight to ten hours a day. This also affected economic development as rural industries suffered.

To remove this disparity in power supply between rural and urban areas the state government decided to introduce this new scheme JGY. This scheme aimed at supplying 24-hours power supply for residential purpose to the villages through dedicated feeders and separating the supply from agricultural feeders (which were subjected to excessive load shedding). The Jyoti Gram Yojana involved a total outlay of Rs 1150 Crores, funded entirely by the Government of Gujarat, for erection of more than 53,000 KM of lines and 11,000 transformers across a total of 18,065 villages.

The major activities in JGY involved bifurcation of rural feeders into predominating agricultural feeders and feeders having other than agricultural loads and extension of control room of Sub-stations wherever required, to accommodate additional feeder panels. This required Erection of 11/22 KV lines in rural areas including feeder VCBs at sub-stations and erection of transformer centers. It also involved erection of LT lines to separate out agricultural load from village transformer centers. To prevent illegal power diversion, pilfer proofing of all electrical connections of village was done and

installation of meters on village transformer centers for energy accounting was done.

This scheme is implemented by the distribution utilities while the entire expenditure is borne by the state government. The scheme has resulted in improved voltage profile and system stability while providing 24 hours supply. The scheme has led to a reduction in the energy sent out on the purely agricultural feeders and an increase in the energy consumption on Jyoti Gram Feeders. As a result of the reduction in energy sent out on agricultural feeders and increase in energy consumption on JGY feeders, the sector has gained over Rs 500 Crores from April 2005 to March 2006. Considering a capital outlay of Rs 1150 Crores for the entire scheme, the cost-benefit is favorable.

A study was conducted by the Confederation of Indian Industries (CII) through Institute of Rural Management, Anand (IRMA) to assess the impact of Jyoti Gram Yojana. The study was aimed at ascertaining the Economic, Socio-Cultural, Commercial and Industrial Impact of the scheme. The study found out that on the economic front, this scheme led to increase in rural employment and reduced migration from villages to the towns for better livelihood. Purchase of consumer durables went up, partly due to rise in rural income and also due to continuous power availability. Due to better voltage, the damage to electrical equipments was reduced. There was increase in commercial activities, including longer working hours due to power availability. On the socio-cultural side, this scheme led to increase in enrolment of children in primary education-particularly significant was the rise in female enrolment. It also led to better educational prospects by seeing a rise in use of computers, drop in school absenteeism and school drop-out rate as well as increase in number of hours devoted to studies. One of the greatest advantages of Jyoti

Gram Yojana has been the boost to Load Management in the state. Feeder separation not only provides better information about consumption pattern, it also provides an effective control mechanism.

5.4.3 Consumer Focus

A major objective of any reform exercise is the benefits it brings to the consumers. Usually it is seen that in monopolistic Government utility, there is hardly any focus on consumers. Due to the tight monopoly, there is never any fear of consumers migrating to competitors nor can someone think of stopping the use of electricity. By restructuring the monopolistic state power sector and unbundling into several entities, it was hoped that consumers should benefit by way of better and more reliable quality of power, reduction in tariff, and the right to choose the source of power. It was very important to change the mindset of the employees and making them aware that consumer needs to be the focus of any commercial utility. It was a major challenge for the management to bring in this change in mindset and put the focus on consumers. We may briefly see now the benefits that were available to consumers in Gujarat in the wake of power sector reforms.

Customer focus - As mentioned before, the organizational culture in the GEB environment was indifferent to the consumers. The Central Electricity Act of 2003 provided for the possibility of Open Access, wherein consumers can migrate to an alternate distribution company serving in the same area. Though Open Access has not materialized yet, the power utilities had to train and motivate their employees to focus on the consumer satisfaction by providing better quality of power, prompt grievance redressal and prompt service. Complaint centers were opened in all sub-divisions which were outsourced to

agencies. These complaint centers were specifically trained to be polite and prompt in their response to consumer complaints.

A series of customer friendly activities were initiated. The cash collections increased due to various customer-friendly initiatives like increasing the spread of cash collections points over the state which at present number over 10,000 cash collection points (500 DISCOM windows, 9,000 post offices and 500 other collection points). This enabled the consumer to pay at so many centers other than the utility field offices.

Lok Adalats - The extensive use of the Lok Adalats forum to settle disputes and ensure revenue inflow to the Utility was done on a big scale. Lok Adalats were basically quasi-judicial forums , as different from the regular law courts and cases were taken out of the courts and handed over to the Lok Adalats, which after hearing the utility and the defaulting consumer, made an order, which was acceptable to both. There were large number of pending civil suits relating to power theft and malpractices. Therefore, GEB gave utmost priority and importance to settle pending cases. To resolve, this matter, it had set up Lok Adalats and Pre-Litigation Lok Adalats which not only helped to expedite the justice process but also aided in better revenue realization and reduction of legal expenditure. Regular hearings were held at different places in the state exclusively for the settlement of pending cases of GEB.

During the FY 2003-04 GEB had arranged 109 Lok Adalats at various places throughout the State out of which 3518 cases were settled and an amount of Rs. 2.30 Crores had been recovered. In the same year, the board had further arranged 132 Lok Adalats and Pre-Litigation Lok Adalats at various locations in which 13968 cases were settled at an amount of Rs. 5.82 Crores. Thus, a

total amount of Rs. 8.12 Crores had been recovered by the Board during FY 2003-04 through settlement of 17486 cases in Lok Adalats and Pre-Litigation Lok Adalats. During the period 2004-05 to 2008-09, a total number of 26826 cases were settled in Lok Adalats involving revenue of Rs 36.58 Crores and a total number of 204450 cases were settled in pre-litigation Lok Adalats involving an amount of Rs. 76.21 Crores. (IIPM Report, 2006)[78]

The extensive use of IT features and particularly e-Urja resulted in many customer-oriented benefits. It ensured improved service to end consumers through improved reliability, utilization and maintenance of equipments. This also brought quicker and improved response to customer queries through detailed online customer dashboards and queries. Improved management and tracking of environment and efficiency parameters leading to improved environmental safety was another positive feature. Granting of new connections, vendor queries, e-tendering and prompt payment to vendors were some of the other benefits of the IT initiatives.

We have discussed about the Jyoti Gram Yojana earlier. Apart from ensuring quality and continuous power to all the 18000 villages, this improved the quality of life significantly of the rural population. This gave a push to rural industrialization and commerce, made life easy for the women, in particular, gave a boost to primary education in the rural areas, and slowed down the out-migration to the cities.

[78] A Report on Gujarat Electricity Board - A Benchmark in the Progress of SEB Reforms, IIPM,2006,p.43.

The benefits from the Regulatory Authority (GERC)

The appointment of a regulatory authority was a major feature of the reforms. The GERC commenced functioning on 19th April 1999. It had the mandate to regulate the power sector in general, to grant licenses for Transmission, trading and distribution, to determine tariffs, and to make suitable regulations for the healthy growth of the sector and protection of the consumers. Among the major achievements of the GERC, the following are worth mentioning here mainly because these directly benefitted the consumers.

Tariff reduction - It is assumed with power sector reforms that with overall operational improvement, reduction in cost to serve and more competition, the utilities and the regulator would allow the benefits to be passed onto the customers through tariff reduction. Though still in a nascent stage, the GERC has taken certain steps that have significantly helped the consumers, by reducing the cross-subsidy and thereby the tariff on the industrial and the commercial consumers. It also brought about, through its directives to the Utilities, marked improvement in operational performance. There has been no major increase in the base tariff for the last seven years. The GERC so far issued 11 Tariff orders till 2009 for DISCOMS of GUVNL and for Torrent Power Limited.

The regulator had promulgated 26 Regulations that have addressed major issues of the power sector, including open access, intra state ABT, tariff for non conventional and renewable source of energy, etc. Cross – subsidy surcharge for promotion of open access was reduced from Rs 1.80 per unit to Rs.0.51 per unit for EHT consumers within 3 years. The GERC extended the benefit of lower tariff for night hour supply to both HT and LT industry, with

certain stipulations and additional demand charges for HT connection was removed- a measure that would benefit the industrial users.

Through its orders, finalization of norms for new connections, fault repairs and billing disputes, to ensure fair and transparent resolution of grievances were done, which was a major pro-consumer measure.

A separate tariff category for BPL consumers having monthly consumption up to 30 units, with lower tariff was introduced- a step that benefitted so many consumers living below the poverty line. A separate category for HT supply for agricultural consumers specifically applicable for high tension agricultural pumping loads of farmers' co-operative societies, HT lift irrigation schemes (for lifting water from canal/river/dam etc to supply water directly to the fields of farmers for agricultural purpose only) was introduced(HTP V) in year 2009.

The GERC directed setting up of an Establishment of Consumer Grievances Redressal Forums in all DISCOMs of Gujarat, a body to look into consumer related issues and decide on grievances.

- GERC also has given various directives to DISCOMs, Generation companies and Transmission companies of Gujarat to improve their performance standard to the desired level. By force of these directives, overall improvement has been seen in the performance of the companies and led to an improvement in work ethic of the employees of companies to maintain the SOP. The directives aimed at prescribing performance standards for issues such as fault repair, release of new connection, etc.

Another major initiative towards providing free metered electricity connection to villagers living below the poverty line was the Rajiv Gandhi Grameen Vidutikaran Yojana' (RGGVY) launched by Ministry of Power, New Delhi and implemented properly by the State Government and the DISCOMs. Eight different agencies have been awarded contracts on Turnkey basis to carry out this work in Gujarat. So far 17934 Villages of 25 Districts of Gujarat have been covered as on February, 2010. A total of 348914 BPL households have been covered, while the financial expenditure is Rs 114.30 Crores. This scheme will go a long way towards making electricity available to all and thereby ushering in a major transformation and contribute to the quality of life in the villages. With JGY already implemented, the quality of power in the rural areas would be as good as in the urban areas.