Chapter VI

CAUSES OF THE CONTINUING POWER CRISIS IN ANDHRA PRADESH INSPITE OF REFORMS
It has become a common sight in India that angry citizens take to the streets in protesting against the abysmal power situation. Some of the areas receive only an hour of electricity every day. An energy crisis is any great bottleneck (or price rise) in the supply of energy resources to an economy. In popular literature though, it often refers to one of the energy sources used at a certain time and place, particularly those that supply national electricity grids or serve as fuel for vehicles. There has been an enormous increase in the global demand for energy in recent years as a result of industrial development and population growth. The present Chapter analyzes the causes for continuing power crisis in Andhra Pradesh despite of reforms besides loopholes in the governance of the electricity are also discussed in this Chapter.

6.1 Power Crisis in Andhra Pradesh

The reasons for crisis could be traced back to the 1992 reforms in the power sector. The government had taken a wrong step by initiating reforms in power generation rather than in power distribution. Ever since the initiation of power sector reforms in the State, some of these reforms have been impressive, but several others weren’t taken. This lack of follow-through has resulted in a growing gap between electricity demand and supply throughout the State. The
shortage of power is going on, which affects the growth of the state including production and procurement of electricity.

Power is a sector which is very vital for the growth of economy as every sphere of life is attached to it. Due to this shortage everyone is suffering, be it students, small business' or factories. Even agriculture sector is facing problems for want of power for irrigation. Apart from power cuts there are low voltage problems also in many regions and people are worrying. It was the state government’s irresponsible and directionless policies that led to the present power crisis.

Industry is facing an unprecedented cutback in power supply. The Federation of AP Chambers of Commerce and Industry, (FAPCII) recently held a meeting bringing together representatives across industrial sectors to voice concerns and demand solutions for the unviable situation that many companies are finding themselves in as a result of the power crisis. It is estimated that industry will lose Rs 257 crore a day in the current power situation where cuts to industry are at 52 per cent since July 5th. Some businesses may have to simply shut down in this scenario.

Authorities of Power distribution and supply companies are commenting that they there is a 70 million unit deficit of power and it
become compulsory to implement power cuts. Power demand is reaching to 306.106 millions with the increase in temperatures and only 237.572 million units were being supplied by them. As the temperatures increase the demand also increases and power cuts will also have to be increased.

The causes for such severe power crisis are depicted in the following paragraphs.

6.1.1 Inappropriate planning of the government

Andhra Pradesh State is facing a big power crises problem during the last few years. The Central and State government have come in for a strident attack for all their wrong and lop-sided power policies which has plunged Andhra Pradesh into crisis, triggering in their wake abrupt closure of industrial units, declaration of production, crop holidays, etc.

It is caused by the inappropriate planning of government and heavy wastage of power by individuals. Even though there are many alternative sources for to save power in a proper way like solar, wind and atomic power Generating Systems, Government is not creating awareness about that in Public. In Andhra Pradesh state mostly every Organization depends upon Power. But Due to planning less actions
and plan less decisions we are facing like this big Crisis. Other states using thermal for its power usage. There is nearly 17 per cent margin between the usage and production rates at Andhra Pradesh.

Relief from the cessation of agricultural activities in May has ended and utilities will now have to provide power for khariff season. As a result, the domestic consumers will have to go through an ordeal. But the government does not have any sure fire method to solve the crisis except asking the consumers to grin and bear the situation.

6.1.2 Power generation

For the last two years, there has been no improvement on the power supply front. Electricity generation fails to meet the state’s electricity demand. Andhra Pradesh suffers a shortage of 40 million units of electricity every day. The supply of gas, lack of dedicated power corridor, slow progress in adding additional capacity and lack of sufficient coal are some of the major problems that have been encountered by the power utility for several years. Whenever there is a shortage of power because of monsoon failure, the officials blame the nature.

Gas-fired power plants in the state are operating below capacity owing to a short-supply of gas. Though the state’s installed capacity
is 16500 MW, the utilities have not been able to use even 10000 MW of capacity due to severe scarcity of fuel. The situation is worse than a hand-to-mouth existence in the recent past.

The fact of the matter is that Andhra Pradesh produces very little power. Against an installed hydel capacity of 3880 MW, only 400 to 500 MW is produced because there is little water in the reservoir. Similarly, gas based power stations which account for 2770 MW of power generating capacity are producing just 600 MW because of fall in gas production in Krishna-Godavari basin. Thermal power stations are unable to contribute to the kitty despite the best efforts put in by Singareni Collieries.

6.1.3 Transmission corridor

Whenever there is a shortage of power, the utility looks to other agencies and states to purchase power. Even if it was ready to pay higher price for unit, bringing electricity to the state is a difficult problem due to non-availability of Transmission Corridors.

6.1.4 High production price

The 1000 MW purchased by Andhra Pradesh from private players at price ranging between six and ten rupees per unit brought some cheer but will hardly suffice. While big companies have been
able to purchase power, the ones to suffer are the small-scale units who are forced to forego orders because they cannot complete them on time. Andhra Pradesh consumers, hit by unreliable power supplies because of a steep drop in cheaper domestic gas output, are queuing up to buy power at tariffs of Rs.11 per unit under an 'expensive power' scheme recently approved by the state's power regulator.

6.1.5 **Free power to agriculture**

Power distribution companies are quoting the reason of supplying to agriculture for Rabi reason for power cuts. Free power is another major reason for the power crisis, which was contradicted by others.

Farmers are meant to receive seven hours of uninterrupted power supply in the state. Around 70 per cent of AP farmers fall in the category of cultivating less than five acres and hence qualify for free electricity. Farmers are thus viewed by some as unfair beneficiaries of free electricity but the truth is that they are hardly getting any electricity at all, free or not. The truth and ground reality in at least one village, a mandal headquarter, is that of a farmer sleeping in the fields with an alarm set for 1 am to wake up to turn the irrigation motors on as the village is receiving one hour of power at that time. At most it could go up to 2 hours but that is on an exceptional day.
Irrigation under wells with pumpsets energized by electricity has come to have an important place in Andhra Pradesh, particularly since mid-80s when HP slab based tariff was introduced and billing on the basis of meter reading was done away with. Pumpset irrigation was promoted in order to enhance agriculture production and achieve food security (Now it has come full circle with rice cultivation during rabi is prohibited under well irrigation). Well irrigation has become an important source of irrigation in the state and 43.34 per cent of irrigated area in AP is under wells. Canal irrigation with 32.27 per cent comes next. In the dry areas of Telangana and Rayalaseema, where scope for surface irrigation is limited, it has become the main source of irrigation.

According to the published figures, the total number of electrified pumpsets numbered more than 23 lakh. The same sources also claim that since the announcement of free power supply to agriculture more than 3 lakh unauthorized pumpsets were added to the agriculture load. More than two million families have stakes in pumpset irrigation. During the general elections in 2004, free power to agriculture had become an important poll plank for Congress and its allies. In spite of reduced hours of power supply, DISCOMs have been showing increased power consumption under agriculture connections. This only shows that T&D losses continues to be shown as a part of
agricultural consumption in the same way APSEB had done before 1999. This implies that a part of government subsidy goes to meet T&D loss expenditure.

Farmers are taking up bore well irrigation as an escape from uncertainties of dry land agriculture. But with indiscriminate exploitation of ground water in the absence of proper regulation, this also proved to be a wrong solution. The uncertainties of dry land agriculture also began to haunt bore well irrigation as both depend on rain fall and bore well water extraction exceeded water recharge capacity. A large number of farmers who committed suicides were those who borrowed heavily to drill bore wells. Over exploitation of ground water has its environmental impacts as well. Many bore wells used for drinking water have begun to yield water with fluoride. The presence of fluoride water has spread to many districts with extensive bore well irrigation apart from the districts that are traditionally affected by fluoride like Nalgonda and Prakasam. Regulation of free power supply may be needed more because of its impact on the environment rather than on the financial health of the power sector.

6.1.6 Sources of power generation

Coal supply to thermal power plants, which accounts for over 54 per cent of our total electricity, is the monopoly of government-run
company CIL. The company which controls all domestic coal fields, virtually failed to augment production by either not opening new mines or failing to modernise technology. Against a projected requirement of 742 million tonne of thermal coal by the end of the 12th five year plan (2012-17), only 527 million tonne is likely to be available. This translates into a shortfall of 215 million tonne or 29 per cent of the country’s total requirement projection for 2017.

Moreover, no go area restriction imposed on many coal mining areas by Environment Ministry forced the halting of mining in over 203 coal mines which has capacity to produce 600 million tonne of black diamond. The Coal Ministry cautioned that this ban could affect power generation to the tune of 1,30,000 MW. Admitting that land and environmental clearances were the main hurdles to coal production.

The other sources of power like nuclear and hydro too are encountering problems mainly due to land acquisition and related issues. After signing the Indo-US civil nuclear deal, hopes rose about enhancing nuclear power’s share from 2.62 per cent to 9 per cent; it also fuels self-doubt following the recent public outcry against setting up new plants at Jaitapur in Maharashtra and Kudankulam in Tamil Nadu.
6.1.7 Lack of co-ordination between Central and State Governments

Indeed, both the state and central governments are to blame for the power crisis. The peak power deficit - the gap between demand and supply in summer 2010 - according to the government’s own calculations was 10.8 per cent. The responsibility for distributing available power inefficiently falls on the states. Losses in distribution average over 30 per cent. At the Centre, the power, environment, coal and heavy industries ministries have in various ways acted as obstacles to capacity addition. The states have to strengthen the State Electricity Boards by infusing finance and reducing subsidies.

6.1.8 The Widening Gap between supply and demand

Supply has not kept pace with growing requirements. Demand has been outstripping supply. Internal generation of the state utility’s own plants has not kept pace. In Andhra Pradesh, only 40 per cent of power for the state is from the state utility’s own plants.

6.2 Weaknesses in the electricity governance

There are three major weaknesses in the electricity governance. One is Loss and Theft. The predominant solution proffered by policymakers in India is to increase generation capacity—unmindful of the substantial technical losses due to outdated power lines, leaky
cables, and poor maintenance; commercial losses due to poor metering and local politicians’ populist “free power” policies; and rampant electricity theft caused by people hooking up wires to overhead electricity cables. Building more power plants without fixing these problems is akin to pouring water into a bucket with large holes. With India’s power plants close to 70 percent dependent on coal and natural gas, the current coal shortages and non-availability of gas haven’t helped the situation. The Planning Commission’s Working Group on Power for the 12th Plan, among other studies, have pointed to these “holes,” but so far there’s been no serious effort made to address electricity losses or theft. No doubt, there are vested interests that benefit by the business-as-usual scenario.

Another weakness in the electricity governance is lack of accountability. India’s transmission network needs strengthening in order to efficiently deliver the generated electricity from power plants located in different parts of the country to millions of consumers. Each state in India has its own transmission agency, and these are networked into one of five regional grids. Over the last decade, India has embarked on a project to join the five regional grids and establish a national grid. The plan sounds good in theory, but it requires a high level of discipline in order to work. Also, there is really no one
accountable for managing the grid, pointing to a serious accountability vacuum.

The third weakness is lack of a Holistic Governance Approach. India does not have a holistic approach to electricity planning or implementation. Generation, transmission, and distribution planning (and investments in each of them) happen independent of each other; renewable energy planning takes place outside of conventional electricity planning; and service to on-grid consumers and off-grid consumers happen separately—all of which highlights the absence of an over-arching electricity governance framework. This situation has caused ad hoc and lopsided planning, with no public disclosure of information about efforts to close the electricity demand-supply gap. Plus, no one agency or institution anywhere in the country is accountable for the failure to provide affordable, reliable, and quality electricity.

6.3 Crucial Issues in AP Power Sector

6.3.1 Inadequate power generation

Inadequate power generation capacity resulted in acute power shortage in most of the regions. The most important cause of the problems being faced in the power sector is the irrational and unremunerative tariff structure. Although the tariff is fixed and realized by SEBs, the State Governments have constantly interfered in
tariff setting without subsidizing SEBs for the losses arising out of State Governments desire to provide power at concessional rates to certain sectors, especially agriculture. Power Supply to agriculture and domestic consumers is heavily subsidized. Only a part of this subsidy is recovered by SEBs through cross subsidization of tariff from commercial and industrial consumers. The SEBs, in the process, have been incurring heavy losses. If the SEBs were to continue to operate on the same lines, their internal resources generation during the next ten years will be negative. This raises serious doubts about the ability of the States to contribute their share to capacity addition during the Ninth Plan and thereafter. This highlights the importance of initiating power sector reforms at the earliest and the need for tariff rationalization.

The other key issue confronting the Indian Power sector is the dismal financial health of distribution utilities. These have accumulated financial losses estimated at over Rs 70,000 crores in 2010–11 in the country which is projected to grow to Rs. 100,000 Crores by 2014.
6.3.2 Wrong interpretation of Transmission and Distribution losses

Whenever the issue of losses crop up the government and APSEB officials point their accusing finger at the agriculture sector. They argue that because of the subsidies given to the agriculture sector the Board has landed in losses. While the agriculture sector is consuming more power than any other sector, it provides least proportion of revenues. In 1985-86 while agriculture sector consumed 28.8 per cent of power distributed, industrial sector consumed 54.8 per cent. In 1994-95 while power consumed by the agriculture sector increased to 47.8 per cent, that of the industrial sector declined to 29.1 per cent. Subsidies to the agriculture sector cost Rs. 162.3 crores in 1985-86. This increased to Rs. 1626.8 crores in 1995-96. But the question is how far these figures are reliable.

Power supplied to the agriculture sector is not metered. In the absence of meters to measure power consumption, the quantum of power consumed in the agriculture sector is arrived at by deducting the power consumed by industrial and household sectors from the total power supplied in the state. But this includes losses in transmission and distribution, and also power theft. If these losses are taken into account then the proportion of power consumed by the
agriculture sector is expected to be low, lower than 47.8 per cent. This overestimation of the agricultural consumption continues to be a convenient tool for reform process to bring in changes.

While subsidy to agriculture is treated as villain, the T&D losses are escaping the attention it should have received. In fact effective addressing of this problem will solve the problems of the power sector. A substantial proportion of T&D losses were shown as being consumed by the agriculture sector on the pretext that it being non-metered sector it is difficult to measure its consumption properly.

From 1982, while T&D losses steadily declined as if showing improved efficiency in T&D, agricultural consumption was shown to be increasing, symbolising unbridled consumption in the wake of heavily subsidised power supply. But truth was otherwise.

There were technical limitations to such an increase in agriculture sector power consumption, which include limited hours of supply, poor quality of supply and declining water table. At the same time, commercial losses signifying theft of power was spreading alarmingly. But from 1996-97, the year in which power sector reforms in AP began to take a firm shape T&D losses were shown to be suddenly increasing, to 32 percent from 18.85 percent of the previous year. With the initiation of AP Power Sector Restructuring Programme
extensive investments began to be made in transmission and distribution. Since the onset of reforms in 1995 more than Rs.2000 crore were spent on improving transmission and distribution systems. Even then T&D losses instead of declining are increasing.

The practice of cross-subsidising domestic and agricultural consumers by higher tariffs for commercial and industrial customers and railways has distorted balance sheets. In addition, lack of tariff hikes and mounting Aggregate Technical and Commercial (AT&C) losses too have led to under-utilization of generation capacity.

The tariff hikes might not be sufficient to cover the current revenue gap in some cases and might not result in full recovery of regulatory assets in others and thus cannot singularly lead to an operational turnaround. Moreover, most states have hiked tariffs steeply for industrial consumers, while sparing domestic consumers. As the ability of discoms to cross-subsidise is limited, consumers might push back. Therefore, continued tariff increases over a short period of time might not be a feasible option for the discoms.

6.3.3 Status of IPPs

In the wake of the liberalisation process at the national level the state government of AP also attempted to attract private participation in power generation. It entered into MOU with many private
companies for setting up 119 power projects in the private sector to generate an additional capacity of 7841 MW power. Besides this, the state government also has gone ahead in giving green signal to 8 short gestation power projects in the private sector and entered into Power Purchase Agreements (PPAs) with these private companies. Besides these, 32 mini thermal power plants with the total capacity of 1019.35 MW, 19 mini hydel stations with the capacity to generate 81,200 KW of power, and 62 wind power stations with the generation capacity of 370.20 MW of power have been allotted to private companies. Apart from these the state government has entered into PPAs with GVK Industries Limited for gas based power project of 216 MW capacity at a cost of Rs 816 crore at Jeegurupadu, Spectrum Power Generation Ltd for gas based power project of 208 MW at a cost of 748.43 crore at Kakinada, Hinduja National Power Corporation Ltd for coal based power project of 1000 MW at a cost of Rs 4297 crore at Visakhapatnam, NTPC for 1000 MW coal based power project at a cost of Rs 3645 crore at Visakhapatnam. Among all these only GVK's Jeegurupadu project, Spectrum's Kakinada project, and Lanco's Kondapally projects became operational. The average price at which the AP Transco is to purchase power from private generating companies for the ensuing year (2000-01) is Rs 3.05 per kWh, whereas the average price it will pay to all other suppliers put together
is Rs.1.73 only. To APGENCO’s thermal stations it will pay Rs.1.93, to the central generating stations (Thermal and Nuclear) it will pay Rs.1.64, to other State Electricity Boards it will pay Rs. 2.05(p). Without addressing the issue of power purchase costs, it is very difficult to visualise that reform process leads to efficiency and increased supply. The IPPs armed with PPAs are holding the State to ransom with cost plus principle.

6.4 Conclusion

The study finds that the causes for continuing power crisis in the state are ineffective power sector reforms, in appropriate and insignificant planning of the government, inadequate Power generation, high production price, free power to agriculture, problems with the sources of power generation, lack of co-ordination between Central and State Governments and the Widening Gap between supply and demand.

As regards major weaknesses in the electricity governance, it is found from the study that loss and theft, lack of accountability and lack of holistic Governance approach are the weaknesses in the electricity governance. It is obvious from the study that inadequate power generation and wrong interpretation of transmission and
distribution losses are the crucial issues. Thus, Andhra Pradesh continues to be hobbled by a lack of adequate reforms yet.