Chapter VII

THE STUDY AND ITS IMPLICATIONS
Summary and suggestions of the study are presented in this Chapter. By context and magnitude, the data collected for the present study is rich. The outcomes of the each of the preceding Chapter are presented in this Chapter. Basing on the findings of the study, suggestions are also offered to overcome the power crisis problem.

**Major conclusion of the study**

With regard to Electricity Board in the Andhra Pradesh State, it is noticed that Andhra Pradesh State Electricity Board (APSEB) similar to other SEBs in the country, was formed on 01 April, 1959 under the provisions of Electricity (Supply) Act 1948, had been responsible for power generation, transmission, and distribution and for the overall development of the power sector in A.P. But, due to various unpredicted and undesired reasons, the power sector in A.P. had got deteriorated.

Andhra Pradesh State Electricity Board was restructured as Andhra Pradesh Power Generation Corporation (APGENCO) to look after generation and Andhra Pradesh Power Transmission Corporation (APTRANSCO) to look after transmission and distribution and sale of electricity in the state of Andhra Pradesh from 01.02.1999.
APGENCO is engaged in the business of generation of electricity apart from the execution of the on going and new power projects under capacity addition programme and taking up renovation and modernization works of the old power stations. The installed capacity of APGENCO as on 01.04.2009 was 6087.5 MW comprising 2962.5 MW thermal, 3132 MW Hydro and 2 MW wind power stations and contribute about 60 per cent of the total power system demand. APGENCO occupies the third position in India as far as the thermal power generation is concerned with a plant load factor of 86.3 percent.

Regarding per unit cost of power from different sources between 1998-99 and 2005-06, it is clear from the study that the proportion of power purchased from the APGENCO declined from 67 per cent to about 51 per cent at the same time, the proportion purchased from the IPPs increased from 11 per cent, to about 16 per cent, while the proportion purchased from the Central Generation Stations and other SEBs increased from 22 per cent to about 33 per cent.

Between 1999 and 2006, the purchases from APGENCO increased from 25,127 MU to 26,270 MU – an increase of about 5 per cent. The purchases from IPPs increased from 4,128 MU to 7973 MU – an increase of 93 per cent in just 7 years. The purchases from the
Central Generation Stations and other SEBs increased by 108 per cent.

The power purchase costs increased by 77 per cent. APGENCO’s share in the power purchase cost was 44 per cent in 2005-06 which was less than its share of 51 per cent in the power supplied. The IPPs share in the power purchase cost was 25 per cent. It was more than its share of 16 per cent in the power supplied. The share of central stations was 33 per cent in power purchases and 31 per cent in power purchase cost. Thus the substantial increase of 77 per cent in the power purchase cost was attributable to the high cost of the power purchased from the IPPs.

As per the first phase of reforms, APTRANSCO is to look after transmission and distribution and sale of electricity in the State of Andhra Pradesh. The second statutory transfer scheme was notified on March 31, 2000 by the then Government of Andhra Pradesh as a part of second phase of reforms separating the transmission and bulk supply business.

With regard to rationale behind Power Sector Reforms in Andhra Pradesh, it is found from the study that As the APSEB had incurred heavy losses during mid 1990s and due to some of the other factors that severely caused the deterioration of the financial status of the
APSEB included, High transmission and Distribution (T&D) losses, inefficient metering and incapability in collection, providing power at very low tariff to the agricultural consumers, changes in the hydro-thermal energy mix and increased reliance on thermal power, change in the load mix and high average cost of power supplied from private generators, power sector reforms are taken up in the State.

An analysis of power sector reforms initiation in the State, the study reveals that the government of Andhra Pradesh has initiated the power sector reforms as a result of the Hiten Bhayya Committee report and the World Bank instructions in 1997. There had been a slow down of the reform process in the last phase of the elected government, i.e., in 2003-04. This could be traced to the strong popular opposition to the reform agenda, failure of the World Bank led reform process and the national level re-thinking on the World Bank led reforms. Moreover, in May 2004, the Congress government came to power. It announced free power to agriculture and promised to review the reforms including power purchase agreements (PPAs) with private generators.

DISCOMS, which came into existence as a result of reforms, became the key players in the power sector in Andhra Pradesh as a
result of the reforms. In the recent phenomenon, the government of AP is considering the reports of the DISCOMS to increase tariffs.

As regards power generation, it is found that the reforms have resulted in a substantial increase in private sector generation capacity and only a sluggish increase in public sector generation capacity. In other words, the share of the public sector has decreased from 100 per cent to about 80 per cent and that of private sector increased by around 20 per cent.

With regard to capacity addition, it is noticed from the study that reforms have led to a neglect of capacity addition in the state sector. Much of the addition to the capacity has come through the units of the private sector. Because of the higher fixed charges allowed, high risk premium given and attractives provided to the private sector, capacity addition through the private sector has become a costlier proposition.

Both power purchases and power purchase costs are increasing with the private sector units. Because of the provisions of the PPAs, power procurement has become costlier from the private sector units. Ignoring the claims of the cheaper sources of the power, power procurement from APGENCO, APGPCL, and central stations has been declining year after year. Thus reforms seem to have adversely affected
the fortunes of the public generation utilities. Besides, purchase of power at prohibitive costs is also not in the interests of the consumers. There is no rational justification for the discrimination meted out against the APGENCO. The declining power purchases from GENCO are a reflective of the crisis surrounding it. The thermal stations of GENCO are bearing the burnt of this discrimination against GENCO. In the context of market driven regime, fuel prices would increase and power purchase costs soar up with the dismantling of administrative price mechanism. This adversely affects the interests of the consumers. Enough attention so far has not been paid to this problem.

As far as impact of power sector reforms on transmission and distribution of power is concerned, it is evident from the study that it can be said that the power sector reforms enabled the investment on transmission and distribution lines. As a result, there is a growth in the transmission and distribution lines in the State. The number of transformers is also increased. In spite of huge investment in transmission and distribution, there are losses. The achievements were far from satisfactory. Besides, the performance of utilities on the capital outlay front was discouraging. Time overruns had led to cost over runs by way of increased interest and service payments and also foregone services.
The first Hypothesis reads as “the reforms in the power sector of Andhra Pradesh have failed in proper distribution of power generated by both public and private sectors” is proved beyond any doubt. Major losses in the power sector are mainly due to increased infrastructure in the distribution of power without any requirement and sufficient generation of power.

Rationalization of tariffs has been one of the important objectives of the reforms. The tariff design, according to APERC document on tariff philosophy, has to address itself ensuring the viability of TRANSCO, by reducing external subsidy from the government, establishing the basis for full compensatory tariff and balancing the base structure to reduce cross subsidy.

Average rates in Andhra Pradesh had increased over the years. The stated reasons for the huge deficits were heavy subsidization of power to agricultural and domestic consumers and high T&D losses. The DISCOMs made a lot of progress in the collection efficiency. This became possible due to better management practices, governmental support and extensive use of information technology. The DISCOMs are claimed that they had achieved collection efficiency of over hundred per cent. In spite of these claims, the arrears receivable by
the DISCOMs are a matter of concern and they are increasing year after year.

An analysis of reasons for power crisis in the State shows that the causes for the power crisis in the state are ineffective power sector reforms, inappropriate 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.

With regard to crucial issues in the AP Power Sector, it is obvious from the study that inadequate power generation and wrong interpretation of transmission and distribution losses are the crucial issues.

The second hypothesis set as “Andhra Pradesh power sector could not overcome the losses even after the introduction of reforms” is proved to be correct from the above analysis. Even though there is
cent per cent of collection of current demand of revenue, the
government has failed in recovering the arrears. In addition to this,
the newly introduced ABT (Availability Based Tariff) system has added
to the losses of power sector of Andhra Pradesh.

Hypothesis three, which reads as “the major drawback in the
power sector even after introduction of reforms is governance and lack
of responsibilities of those who manage the power sector both at the
government level as well as at the Department level”, is also proved
correct from the study. Even though the reforms that are introduced
are good for better management of generation, transmission,
distribution and collection of revenue, they could not be managed well
due to lack of commitment on the part of the government in power
and integrity and accountability in the department.

In conclusion, the implementation of reforms has shown drastic
impact on power sector resulting in both positive and negative
consequences. Andhra Pradesh continues to be hobbled by a lack of
adequate reforms yet.

Suggestions

In view of the findings of the study, the following suggestions
are offered to overcome the power crisis.
The power conflicts in Andhra Pradesh can be permanently solved by establishing solar, nuclear, tidal and wind power plants in some selected areas which will be long to human living places. By this we will save some of energy usages. Despite the myths and fears that the public have about Nuclear power plants, people be made aware about the lower price index of nuclear energy.

Government has to encourage the people to convert from non-conventional resources to the conventional resources i.e. especially using solar source by providing subsidies. It has to encourage the private sector to establish thermal power plants by giving land and dealing with the villagers to meet the tremendous future demands of power. It has to make people aware about the usage of capacities banks for increasing the power factor and reducing the electrical bill. Government has to encourage the good efficiency and less power consumption products. It should use the advanced technologies in the power distribution and transmission systems. It should shift to the latest technologies.

People has to use power according to their necessity, they should use alternate power sources like solar panels apart from electrical power within their limits to reduce the power usage as well as cost. They have to take the connection as per the regulations of
electricity board. They should be honest and loyal to the electricity board.

To overcome poor operational and financial efficiencies in distribution of the power, it is suggested that competition in the sector be promoted by adoption of the distribution franchisee route, entry of private players and the public private partnership model.

The practice of cross-subsidising domestic and agricultural consumers by higher tariffs for commercial and industrial customers and railways be reviewed to minimise subsidies in power sales to bring the sector back on the reform path and necessary budget allocations be made in the Central as well as State budgets for the subsidized power supply.

The distribution sector reform, coupled with easing fuel supply constraints, duty measures for protection of the domestic equipment industry and the interest rate regime, will be the key factor affecting growth of the sector over the next year.

Concrete steps should be taken in order to protect the electricity from losses and theft rather than concentrating only on increasing the power generation capacity.
Citizens can create a “demand” for improvements by asking that information on sector problems and potential solutions be placed in the public domain. They can also hold decision-makers accountable for providing affordable, reliable, and quality electricity for all.

In view of the urgent need to reduce transmission and distribution losses and to ensure availability of reliable power supply to the consumers reforms in the distribution sectors are also been considered by establishing distribution companies in different regions of the State. The entry of private investors will be encouraged wherever feasible and it is proposed to carry out these reforms in a phased manner.

With these efforts, it is expected that the crisis in the Power sector be averted and ensured that the Indian economy continues on its growth path.

**Contribution to the existing literature**

The study highlighted the transmission and distribution losses inspite of power sector reforms and the reasons associated therewith. The study also focused on the slow down in the process of power sector reforms. Further, the study exhibits the reasons for severe power crisis in the State. Furthermore, the study brought out the weaknesses in the electricity governance and the associated crucial
issues in the sector. Basing on the findings of the study, suggestions are offered to overcome the crisis and to ensure growth of the economy.

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