CHAPTER VII

Summary of Conclusions and Suggestions
With this chapter the study of the Power Sector in Andhra Pradesh with particular reference to the performance of the APSEB and the Corporation which have succeeded it, comes to a close. It remains to present a very brief resume of the main line of argument developed in the previous chapters and the conclusions emerging from the inquiry. Finally some viable and workable suggestions are made to remedy the pressing problems of the power structure in the state and to tone up its function and performance.

The power sector is so vitally important for economic development today especially for a developing country like India that no limits can be prescribed for its necessity. It is one of the most vital infrastructures for economic development. In independent India this is one of the important sectors which have fallen short of need, demands and expectations. The reasons are as, varied as are its needs and uses. The production of power is regarded as a basic indicator of the level and extend of a nation's development. Similarly power consumption is regarded as an index of economic development and a measure of progress. The standard of living of a people is said to depend on their use of energy in general and their access to electricity in particular. When compared with many countries of the world, India is seen to be very much behind in production of power and per capita consumptions. Correlation is seen between consumption of power and growth of economy. The per capita consumption of power and growth of economy. The per capita consumption of electricity in India is 280 kwh, one of the lower in the world.
The power situation in India as a whole, and in Andhra Pradesh in particular, has not been satisfactory there is acute shortage of power. Consequent power supply to the various sectors is insufficient and irregular. Power cuts are frequent. Because of outmoded technologically backward and defective machinery, faulty lines and defective transformers, voltage fluctuations are very common, and power supply is interrupted every now and then. As a result industrial and agricultural productivity are obstructed. Valuable electrical equipment, motors and appliances are damaged. There is a wide gulf between generation of power and the demand for power. Distribution of power for is not satisfactory. There are losses in the process. There are states like Andhra Pradesh which are rich in natural resources for power generation but which are not tapped and exploited chiefly for want of the necessary financial resources. The available financial resources are not prudently and rationally managed by the many State Electricity Boards which, as long as they were in existence like the APSEB, were in charge of generation of power and distribution. They lacked proper planning and foresight with an eye on the growing needs and demands for power by even increasing consumers of various categories. The consumers are naturally left disappointed and every frustrated. The successes to the State Electricity Board in Andhra Pradesh, the autonomous corporations, have not yet been able to come to grips with all the issues facing the power sector.

Ultimately all problems facing the power sector, the erstwhile State Electricity Board, and their successors boil down to finance to finding adequate
funds for power generation and development and proper distribution, for increasing the installed capacity. Finance has been the most formidable stumbling block to the management of the power sector. There are other problems created by the consumers some of whom are given to stealing power, have unauthorized connection which are not accounted for at all, and meddle with meters to give false readings. These and other malpractices eat into the already inadequate revenue of the power sector. There are losses in transmission and distribution. More then these parties in power pursuing popular policies to please them potential voters and supporters offer subsidies on power or exempt some from paying for the power they consume. All these damage the financial base of the power sector.

The most evident malady of the power structure, especially of the State Electricity Boards, is the lack of a properly organized infrastructure. Without a proper infrastructure there can not be development of any kind, because without it there cannot be any structural foundation.

To tide over shortage, because of shortage of production because of failure of rains, or because of want of facilities and resources for power generation, many sates, Andhra Pradesh includes, have had to buy power from their sources at a heavy price, which would mean a drain on the already meager financial resources.

The absence of honesty and integrity and a sense of responsibility in a good many personnel of the power sector, of all ranks, has bred corruption in the set up and fostered by vested interests.
Fully aware of these and other problems and issues facing the power sector on a nationwide scale the Central Government insisted on bringing about reforms in it and restructure it. So that it may be strengthened from within. It enacted in 1998 the Electricity Regulatory Commission Act 1998, with provisions for regulating the activities of generating companies and also transmission activities, such as those of Power Grid Corporation. A number of states, first among whom was Andhra Pradesh, set about initiating reforms in the power sector, restructuring the State Electricity Board by decentralizing their activities and functions not only to better their performance but remedy the maladies affecting the Boards. APGENCO and APTRANSCO with their subdivisions in Andhra Pradesh have replaced the APSEB, and are trying to come to grips with the problems of Electricity generation as well as transmission and distribution. Reform of the power sector has been imperative. And the decentralized bodies have been addressing themselves to the taste of comprehensive reform, with this attentions fixed on the goals set for them to be reacted by means of time bound programmes and plans.

**SUGGESTIONS:**

- In the light of the study of the APSEB and its successors with the focus on their performance presented in the preceding chapters, the following suggestions are offered to remedy the various issues confronting the two Power Corporations, APGENCO and APTRANSCO. It also expected to increase the overall the suggestions are offered with the belief that they are
workable and that if implemented would improve the overall performance of the power sector as well as improve the services to all consumers. The economy would naturally benefit immensely by the steps taken.

➢ The analysis of the power situation in the state has shown clearly that the power requirements of various categories of consumers are met only partially at present. The power projections made during the past plan periods have not materialised. The widening gap between demand and supply year after year has caused a severe setback to the economy. Therefore it is urgently needed to narrow down that gap by expanding power generation more rigorously. It requires long term planning and efforts to reach the desired objectives. Therefore the power corporations on the state have to be adopted to long-term power planning to maximize production and thus meet the ever-increasing demand for power.

➢ In our state power generation at present is mostly thermal based. Hydel and nuclear power generation has been lagging behind. It is essential to make use of the potential for hydel power generation. For this purpose inter-state river water disputes have to be resolved as early as possible so that hydel projects may be constructed for further generation of power. Nuclear power generation also has to be given priority. To take these steps which are matters of policy, political wisdom and forethought are necessary.

➢ Further, solar and wind energy available in abundance in the state should be exploited to the maximum. For this purpose the government can offer a package of incentives to encourage potential entrepreneurs. By taking to
these non-conventional sources of energy the hazards of pollution caused by thermal power can be avoided.

The A.P.S.E.B and the Power Corporation are facing a severe and prolonged financial crisis. In fact they are unable make further investment in the sphere of power generation. The capacity addition also is not made to the expected extent. Therefore it is necessary to expand the capacity addition by investing more and more funds with the help both the Centre and the state government. Finance has always been a major constrain of the power sector in our state. The power corporations have been sustaining heavy losses. Therefore they are unable to undertake new power projects in the stat. All the financial institutions in the state are not in position to finance the projects which require 32,000 crores and more. Therefore it is imperative to depend upon international finance resources, despite opposition from political parties. It is not enough to borrow funds from national and international sources. But they have to be managed with the greatest caution and care. Otherwise the state would find itself in an inextricable debt-trap.

The APSEB depended excessively on the government. Which totally regulated the power sector and other improved burden on it by its populist policies which were detrimental to the stability and functioning of the power sector. Such development on the state is not desirable or advisable. The power sector should grow on its own to have sustained development. The autonomy of the power corporation has to be respected in theory as
well as practice. This would bring down the undesirable and unhealthy interference by political parties and political bigwigs in the everyday affairs of the corporations.

➢ In our state, power generation at present is inadequate to meet the peak load during peak hours. Therefore independent power producers (IPPs) should be encouraged to start captive power units under license for service during the peak hours to meet the peak load and to reduce the pressure on the A.P. power grid. The A. P. Transco should purchase power from captive power stations during peak hours and in summer enter into a separate package of Power Purchase agreement. This arrangement facilitates free flow of power to the consumers.

➢ Allowing further expansion by the same IPPs without any restrictions may serve as an additional incentive to them. Since the IPPs do not bear T & D losses, there should be no difficulty in expanding the capacity of the same location. Even if the cost of new investment is very high, it is worth trying since it helps to smoothen the power supply system.

➢ The projections for the power demand and supply show clearly that during the period 1995-2002 there would be a short fall, which might go beyond 2000 M.W. The short fall can be made up hardly by expediting all the projects, which are under progress, with the help of the private sector. The plant Load Factor of the existing generating stations should be improved with modern equipment and technology, for curtailting the gap in the years to come. For this purpose the existing power plants, and those which are
under progress, have to be monitored properly and their completion expedited with in the stipulated time.

➢ The A.P.S.E.B had already entered into Power Purchase Agreements with the private sector. And the projects entrusted to the N.T.P.Cs have to be commissioned as planned and implemented effectively to enhance power generation. In expanding the power generation capacities encouraging private participants have to be encouraged shedding the accumulated prejudices against the private sector.

➢ At present to meet the immediate requirements the power corporations are purchasing power from private generators. It is causing an enormous drain on their finance resources. This practice should be stopped immediately. The private sector power generators have to be streamlined and made to stick to their earlier agreements and complete the projects within the time-frame agreed upon. This would save prevent the power sector from buying power from outsiders at higher rates. During the $10^{th}$ plan period (2002-2007) an additional capacity of at least 5000 M.W would be required to meet the projected demand in the state. As reforms in the power sector have already been started in the state, a competitive environment has been created and the private generators would be willing to enter into agreement to sell power directly to each of the zonal distribution companies. Therefore it is essential to speed up the process of encouraging power generation companies to meet the additional demand in the years to come.
For that in the process of reaching understanding with private companies the regulatory commission should take care to make sure that consumers are benefited to the maximum extent possible. Thus it shall regulate generators and distribution companies. Consumer protection should always be the key consideration in any major decision in the power sector. In the present restructured power sector set up power generation and distribution should be constantly and properly monitored to maximise efficiency. Under no circumstance the restructured power sector should give any scope for private participants to exploit the situation.

As want of adequate financial resources and continued losses have been the crux of the problems faced by the power sector, the A.P. Power Corporations should be made commercially viable and run on commercial lines earning legitimate profit. They should fix the price according to the cost of production. The advantage to the consumers should go directly to the extent of the subsidy offered by the state government. This equally important that the state governments policy should not be after the commercial activities of the corporations. Then only the newly established power corporation can grow in all dimensions to give the required power and services to consumers.

The power corporations should attract funds from various financial sources for investment to start new power generators to increase power generation. They should raise long term loans at reasonably low interest rates. Further it is essential to compute fast benefit analysis to assess the profitability of
the corporations. They should improve their efficiency on power sector and transmission.

- Outdated and wash out equipment, and methods of production have to be discarded, and the modern production equipment and systems should be adopted to generate power to improve production efficiency. This would also improve without the overall profitability in production. Of course, investment is limiting factor here but it can be overcome with the finance aid obtained from international financial institutions like World Bank, IMF etc. While raising these funds it is very important to assess clearly the financial advantages to be gained from the huge investment in this sector.

- Similarly, new investments should be made to establish latest transmission structures, to prevent the heavy T&D losses which have been increasing. Adopting modern and efficient technologies and equipment only can prevent these losses.

- Non-conventional and renewable resources of energy such as wind and sun which are readily available in plenty have to be encouraged to augment power generation. Rather than making random and sporadic attempts, a specific well-planned strategy should be adopted and encouraged. To encourage non-conventional and renewal resource based projects, concessions and incentives have to be given by the central and state governments. As a possible source of energy industrial wastage could be considered. Package of benefits could be given to encourage its production. Conserving energy and avoidance of wastage of energy are as energy
conservation measures should be promoted. Since electricity can not be stored and preserved, it is very important that the sources of energy are properly protected.

➢ Theft of power, illegal and unauthorized use of power should be stopped at all costs. A great part of the financial problems of the erstwhile APSEB and the present corporation are due to unscrupulous thriving of power. A mechanism for vigilance and control of malpractices has to be set up and made to function properly. A separate Act should be acted to control and punish the culprits in the misuse of power. As power is very vital, aspects and trespassers have to be dealt with promptly and without compunction.

➢ Generation and Distribution of power are the two faces of the power sector, maintaining a proper balance is the task of the corporation. The A.P.Genco should plan properly to meet the power demand for power during the 10th plan period up to 2007 and even beyond. Towards this end it has to work and streamline the entire production system by entrusting some power projects to the private sector taking care to have controlling safeguards in its hands. This would facilitate augmenting power generation and meeting the power requirement. Since demand for power would only increase, power generating is an area where constant and alert watch for the needs is necessary, and appropriate steps have to be taken for generation to meet the increasing demand. There can be let up on this regard or time to relax. It would be wisdom to play a long-term power generation strategy to enhance power generation efficiency.
Likewise power distribution efficiency should also be improved with an appropriate new technology. Leakages and wastages have to be prevented at all costs. Totally concealed power lines and substations should be erected to transmit power without any undue loss in power distribution. Like the APGENCO the A.P. Transco too has to plan for long-term development of the distribution system, to give satisfactory service to consumers of all categories. And it is the responsibility of the A.P. Transco to have a foolproof transmission system, free from leakage, wastage, pilfering etc.

All substations should be strengthened and restructured to transmit the power without any loss to the consumers. Further transformers have to be set up at different stages of transmission of power. They have to be fault free and of quality. Spurious or substandard ones have to be replaced by genuine and efficient ones. Frequent power cuts, fluctuations of village etc can be prevented by these and other steps. While distributing power a new strategy should be adopted minimise power losses. Transmission and distribution losses add to the financial burden of to the corporation. Faulty lines have to be replaced by new transmission lines and distribution centres.

The power sector its - Boards and corporation – alone cannot be blamed for its lapses and failures. Consumers, for whose benefit the corporation strive, have their share of responsibility. Consumers have to be responsible and must not take to unethical practices and malpractices such as illegal tapping of power, and unauthorized use of power. In return for the service they
receive, they should feel a sense of responsibility and properly utilize power and account for the power consumed by them. They should impose self-discipline and to pay their bills properly and regularly. That would facilitate the power corporation to render better service to them. As a law abiding and consumer of power, each consumer in his own way contributes to the stability and sustenance of the power sector, and to the economy of the state. His contribution may seem negligible, but this wrong to think so or regarded it as unimportant.

➢ People should get rid of the idea of getting power free of cost. As power generation involves considerable cost, the consumer has to pay promptly for the cost of power he consumes. His paying promptly helps the recycling of funds which can be used for power generation and distribution to of consumers. In a democratic set up responsibilities and duties are as important as rights and privileges.

➢ The line staff of the power sector also have to realize this responsibility. They have to perform them, appointed tasks, as a matter of duty and not a forum. They have to be vigilant and keep watch over proper use of power. If these staff members are strict and correct in their duties, automatically consumers will have to be likewise correct and responsible. They should resist the temptation to seek gratification for the work they have to do. They should report to the authorities the illegal connections they detect, so that action against the culprits may be taken. This would go a long way in checking malpractices at the gross roots level in rural areas. It follows that
if the consumers expects the lineman to be honest and upright, he too in his
turn to be upright and correct. It is a manual obligation.

➢ The government should maintain better operational control over the power
sector and see that power tariff should not be over burden consumers. If the
government strengthens the power base and generation capacities with
financial discipline and control, certainly efficiency in power generation
would go up. This will further enhance the power efficiency and minimize
the cost of production and distribution.

➢ Above all the consumers as well as the staff of the electricity department
should realise on realistic terms that power should be rightly and promptly
utilized for the benefit of the people as well as the state. Discipline is
necessary in consumers as well as those in the power sector.
Administration control, legal measures, punitive actions against offenses are
perhaps unavoidable. But they cannot impose and sustain discipline and
upright conduct for long, unless consumers and employees make an effect
on their own.

➢ In view of the plight of the power sector in our state and in the country in
general, it is very necessary to take up with all seriousness, measures to
improve capacity addition to maximize power generation in order to
balance supply and increasing power demand by different categories of
consumers. Unless power is sufficiently available to the industrial sector,
the state cannot be progress industrially. Industrial backwardness in today's
would is an indication of economic backwardness. Therefore availability of
sufficient power is an index of economic development. Likewise uninterrupted power supply to consumers is as important as power generation. Consumers expect power to be supplied as a reasonable price, a price that they can afford. Regular supply of power would in fact gain the confidence of consumers.

The suggestion offered above are all viable and practicable. They cover all those who are connected with the power sector including consumers. Each has his part to play. As for the corporations and those that man them, it has to be recognized that they have an onerous responsibility. In their efficiency and competence depends the stability of the economy and economic development.
The era of the State Electricity Boards had to end because they failed on grounds of both generation of power, and transmission and distribution, largely become they could not manage prudently and efficiently their finances, when is the crux of the matters. Under the restructured set up it would take some more to time to find tangible results. The efforts are on. There is every reason to hope that the two Corporations in Andhra Pradesh, APGENCO and APTRANSCO, would succeed in improving the power situation in the state and set the house in order before long. But it calls for concerted effort by all concerned.