CHAPTER – 7

CONCLUSION AND POLICY SUGGESTIONS
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Power development is one of the key infrastructural elements for the economic development of the country. In recent years, it has assumed paramount importance in view of its role in rapid development of industry, agriculture and service sector in the country.

The viability of project is a major consideration in selecting the power generating technologies in Andhra Pradesh, in India and also in other developing countries. Cost of power has become the most sensitive commercial and political issues in India; Government wants to produce power at the lowest price. Further grants, subsidies, tax incentives, low or no interest rate for farmers are important in the electricity sector.

The journey of the power sector in Andhra Pradesh in the recent past more than six years was tough and encountered four years of continued drought in the state and consequent hydro generation failures. In spite of the unkindness of rain in part of this period, the sector is able to pull through and achieved a turn around. The over all supply conditions have improved a lot with the system attaining a high availability factor. The power sector in Andhra Pradesh today is seen by many as an example for efficient and commercially viable operations and customers-oriented initiatives.

If we observe during the year 2005-06 the working expenses worked out to Rs.12070.13 crores, which constitutes 97.64% of gross revenue of Rs.12361.52 including subsidy of Rs.1599.48 crores receivable from Government of Andhra Pradesh. The deficit (without subsidy) before depreciation and interest was Rs.132.36 crores in 2005-06. Sales of energy with in state were 39651.71 MU during the period 2005-06. Revenue by sales of power during this year amounted to Rs.8875.26 crores. The total assets of the
APTransco as on 31-03-2006 stood at Rs.16810.15 crores and amount of Rs.358.16 crores was spend on capital works (including outside plan).

Power crisis many times not only disturbs the normal living but also the political parts and Government mechanism. The reforms taken up by the central and state government to overcome the crisis have not always yielded the targeted results. The mindset of the producers, distributors and users are equally important. Keeping concern for environment, coordinated efforts among various agencies public and government officials an required to overcome the misuse of regulatory mechanism to bridge the gap between demand and supply. Cautious policy in generation, transmission and distribution with the support of all is required for smooth working of power sector, which is core input for the economic development.

Given the back ground for the need of reforms in power sector, the current study was taken with the following specific objectives;

The specific objectives of this study are:

1. To examine the changes in organizational structure before and after reform period and its impact on the functioning of the sector. Also to study the methods of Regulatory Commission is fixing the tariffs.

2. To examine the technical efficiency of power sector in Andhra Pradesh.

3. To examine the financial efficiency of power sector in Andhra Pradesh.

For achieving athe above material or data was collected from secondary sources, mostly from the published annual administrative reports of the A.P.S.E.B and web sites of government of Andhra Pradesh.
The following hypotheses were set for testing in different chapters

In chapter four

\[ H_1 = \text{Reforms in power sector, benefited the consumers.} \]
\[ H_2 = \text{Decentralization helped better performance of the power sector.} \]
\[ H_3 = \text{The decentralized organization structure improved the functioning of the sector.} \]
\[ H_4 = \text{Changes in the organization structure helped in improving financial efficiency.} \]

In fifth chapter

\[ H_5 = \text{Changes in the organizational structure have helped in improving technical efficiency.} \]
\[ H_6 = \text{The rural electrification has improved in the post reform period.} \]

In sixth chapter

\[ H_7 = \text{The financial efficiency has improved in the post reform period compared to pre reform period.} \]
\[ H_8 = \text{Because of the reforms the financial condition of the Andhra Pradesh power sector has improved.} \]

7.1. SUMMARY OF THE FINDINGS:

Prior to the reforms in the power sector the erstwhile APSEB has become unviable resulting in inadequate production and distribution coupled with revenue losses. Therefore the government of Andhra Pradesh was forced to bring about dynamic change in its policy statement in 1997. APSEB was made into two corporations APGenco and APTransco in the first phase of reforms. In the second phase of reforms APTransco retained the business of transmission and bulk supply and four distribution companies
(APEPDCL, ACPDCL, APNPDCL and APSPDCL) were carried out of APTransco for the rest. After the state government undertook the reforms, national and international funding agencies came forward to help finance the power sector in the state. With regard to installed capacity, the number of high tension consumers and low tension consumers the growth rates were encouraging. With regard to installed capacity, the average annual growth rate increased.

Due to introduction of reforms in power sector private power producers entered the power industry, thus augmenting annual growth rate of installed capacity during the reform period. Reforms have created the hope in the consumers that the power sector can supply power with quality resulting in increase in the average annual growth rate of high tension and low tension consumes during the reforms period, on the other hand there is certain delay in the execution of private projects due to different factors including delay in getting different permissions from the government both at the center and state level, resulting in the decrease in the average annual growth rate of power generation during reform period in spite of the high average annual growth rate of installed capacity. Decrease in the average annual growth rate of revenue during the reform period indicated that the government is required to take some more steps in the area of revenue collection in the power sector.

To study the impact of reform, the period of study is divided into two parts namely pre-reform period (1991-92 to 1998-99) and reform period (1999-2000 to 2005-2006). The study of organization structure (chapter-4) highlights the changes in the structure and its impact on the performance. As a result of changes that took place in the organization structure the following activities were undertaken after reforms, Separation of trading business from A.P.Transco, commercial, activity, conducting training programs, vigilance services, energy auditing, conducting operation & maintaining work conferences after reforms. The APSEB has divided into four power distribution companies. 1) Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), 2) Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL), 3) Central Power Distribution Company of Andhra Pradesh Limited
(APCPDCL), 4) Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL). Each DISCOM is headed by Chairman & Managing Director. The DISCOMs purchase power from APGenco, Central Generating Station (CGS) and Independent Power Producers (IPPs). They are in charge of distribution system and serving all the consumers i.e., High Tension (HT), and Low Tension (LT) and are also looking after the Rural Electrification in the state. Andhra Pradesh Transco & Discoms are conducting training programs for employees on their rolls. There is a vigilance wing in the Discoms which consists of chief vigilance officers in the rank of S.P/ Addl. S.P. for all the four distribution companies with head-quarters at Hyderabad for CPDCL, Warangal for NPDCL and Visakhapatnam for EPDCL and Tirupati for SPDCL functioning directly under the supervision of JMD (Vig. & Sec). Each Anti Power Theft Squad police station has a sanctioned strength of 1 Inspector, 2 Sub-Inspectors, 2/3 Head-Constables and 4/6 Constables. The pilferage of energy are cases reported by DPE (Detection of Pilferage of Energy) and Operation Engineers are registered with concerned Circle.

It is found that the changes in organizational structure helped to improve the performance of power sector in terms of transparency, accountability and also in reducing the pilferages. It was done through the following actions:

- Spot billing using hand held computers introduced covering all the areas i.e., Towns, Municipalities, Mandals and Villages. Monthly spot billing is introduced in all Municipalities.

- On-line billing collection facility is available in Hyderabad city and all the towns through e-seva centers.

- On-line billing collection facility in rural areas through 1248 Rural Service Delivery Points (RSDPS) e-kiosks are already setup.

- Collection centers increased from 1390 in 2002-03 to 2712 at present.
There are 1120 e-kiosks in rural areas and 250 e-seva centers in urban areas.

Various IT initiatives have been taken up in Distribution Companies to improve the performance and bring in transparency/accountability.

- Consumer Analysis Tool (CAT)
- Monitoring and Tracking System (MATS)
- Transformer Information Management System (TIMES)
- Performance Monitoring and Reporting System (PMRS)
- Book Consolidation Module (BCM)
- Remote Meter Reading (RMR)

The regulatory commission was put in place to fix the tariffs. Flexibility in the structure of tariffs should benefit the consumers as well as the corporations.

Chapter 5 examines the technical efficiency of the power sector reforms, technical efficiency concerns evaluating the performance of power sector with respect to use of real resources in generation, transmission and distribution of power. The analysis has indicated that the installed capacity at the state level has increased significantly during the reform period and registered 7.46 % annual growth compared to 5.9 % in pre reform period. It seems that the reforms in power sector at state level could not boost the power generation capacity at state level. A factor contributing to this problem is the abandoning of Nellore Thermal Station which was one of the important power generation stations. The share of power generated by gas remarkably increased from 232.70 MU to 998.88 MU in the private sector. The other sources also contribute significantly after gas. Among the other sources hydel, wind, biogases, bio-mass and mini power plants also contribute notable percentage to the total power generated by private sector.

The exported power during the pre-reform period registered 7.95 % of growth. The state had excess amount of power after the domestic consumption. But after the reforms only in the initial period it has exported very meagre percentage of power from
the state sector. This may be attributed to low generation of power and increasing
tendency of power demand during the post-reform period. Due to the progress
electrification in remote areas by state government resulted in relatively lower demand
for power in relation to installed capacity during post-reform period. It may be noted that
electrification of remote (rural) areas may not generate commensurate demand and peak
demands in such areas and urban areas may be staggered thus lowering rate of growth of
overall peak demand.

The electrification performance is impressive in the post-reform period. The
services of electricity to towns and villages has significantly increased during the post-
reform period (7.48 % of growth) compared to pre-reform period (4.84 % of growth).
Clearly, the transmission and distribution network has seen further and faster expansion
in the post-reform period. The declining tendency of LT lines in post-reform period
resulted in the decline in growth rate of total length of lines and registered only 3.2 %
growth. It is noted that after the reforms the electricity board of Andhra Pradesh mostly
concentrated on the development of high tension (HT) lines due to its high ceiling rates
(tariff rates). Finally, there is significant and substantial increase in customers served per
employee in the post-reform period. This certainly is a positive and welcome
development.

From the analysis of financial efficiency of power sector in Andhra Pradesh,
(chapter 6) it was observed that financial health can be improved through cost reduction
and additional revenue earnings. Cost can be reduced in many ways. There are
possibilities of cost reduction though technical efficiency improvement and reduction in
labor cost, pilferage and interest burden, and the last of these can be reduced through
proper capital restructuring. The capital investment has increased and registered 16.42 %
of growth during the post reform period. It is more over in the post reform period (11.47
% of growth) compared to the pre-reform period (9.52 % of growth). From the analysis it
was found that after reforms the sales of energy is increased. The revenue also increased
during the entire period due to the power control of misusing electricity facility and
appropriate monitoring efficiency. The annual data on power sector revenue reveals that
during the total study period income from the selling of power has continuously increased even in the post reform period but at a lower rate compared to pre reform period. Further it was found that the gross revenue increased during the study period. So the above analysis indicates that the reforms have improved the financial efficiency during post-reform period.

The theft cases booked by the electricity department increased during the study period. These registered 35.65 % of growth in pre reform period and 44.84 % of growth in post reform period comparative to the pre reform period gap. The revenue increased during the entire period due to the control of misusing electricity facilities and putting in place appropriate monitoring. Effective working of staff and booking of theft and malpractices cases is also one of the reasons for profits of state electricity board.

To sum up, the analysis of data from the main chapters of the thesis indicate that due to change in organizational structure from board to corporation the technical performance and financial performance of the power sector have improved during post reform period.

7. 2. POLICY SUGGESTIONS:

There is need for further reducing Transmission and Distribution losses technical as well as commercial; and consumers should help to electricity board for better services, in a state Andhra Pradesh our where there is great demand for improvement of rural and urban energy supply. Improvement of the overall health of the power sector is possible, if these and other measures, such as improved metering, billing and better management practice are put into practice.