CHAPTER - I

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Power is a critical infrastructure for economic development and a vital to sustenance of modern economy. It is the power which moves things and makes things work. The electric power is essential for the development of the country. In fact modern life depends largely on the use of electricity. Electricity can provide cheap power for pumping water for irrigation and numerous operations in agriculture and in the home. Extensive use of electricity can bring about the much needed change in rural life of India.

Genesis and development of power sector in India

The genesis of the electricity supply industry in India dates back to the end of the 19th century. The electricity production was started in India at Darjeeling in the state of West Bengal in 1897. Its capacity was 130 kilowatts and two years later i.e. in 1899, the first thermal power generation was also established in Calcutta by Calcutta electricity supply company with a plant generation capacity of 1000 kilowatts. The first major scheme taken up in the country was the Sivasamudram Hydro electric project in Karnataka (the then princely state of Mysore). The first stage of this project with an installation capacity of 4.5 megawatt was completed in 1902. Soon after, the power plants began to spring up in several parts of India mainly around urban centers like Calcutta, Bombay, Madras, Kanpoor and Delhi. Almost all the initial ventures were due to the enterprise of private entrepreneurs. The most impressive scheme of power development in the early stages was Khopali hydro electric scheme near Bombay. It was started in 1914 by Tata electric co. for diversion of water of a tributary of the east fallowing river Krishna. This scheme’s power generating capacity was 50 mega watts. A small thermal and diesel installation was also begun to mushroom in other important towns.
At the time of Independence in 1947, the installed capacity stood at about 1900 megawatts (500 megawatts in hydro-electric plants and 1400 in thermal and diesel plants). After independence several state governments enter the field of power development. The central and state governments initiated the development of hydro, thermal and nuclear power generating plants in public sector through five year plans.

During the first plan a number of major multipurpose projects like Bhakra-Nangal, Damodaravilly and Chambalvally were taken up with an installed capacity of 5.65 million kilowatts. Before the plan, the installed capacity was 2.3 million kilowatts. The targets of power generation were not fulfilled in any of the five years plans. In every five year plan there was a short fall in achievements, 15 per cent in first plan and as high as 53 per cent in ninth plan.

**Power generation and Development in Andhra Pradesh**

Power generation was started in Andhra Pradesh area by Nizam government. One hydro electric unit, one Diesel power unit and also the Department of electricity were initiated at Hyderabad in 1912 and the Hyderabad electricity act came into force in 1938. After the formation of Hyderabad state, the first hydel power generation project (Nizamsagar) was initiated in 1955 with a power generation capacity of 15000 kilowatts. The Andhra and Rayalaseema were under the control of Madras state government. In these areas the power was supplied by madras state electricity board (M.S.E.B.) which was formed in 1926-27. There were three thermal power stations at Visakhapatnam, Nellore and Vijayawada with a total power generation capacity of 24000 kilowatts.

**APSEB**

Andhra Pradesh State Electricity Board was formed in 1959 and its main functions were generation, transmission and distribution of power in the state. Between 1959 and
2010 the installed capacity increased from 213 megawatts to 14625.52 megawatts. The number of consumers served rose from 2.7 lakh to 2.18 crore and agricultural services increased from 0.18 lakh to 27.27 lakh. The energy handled per annum increased from 686 million units in 1959 to 74612 million units in 2010. The annual revenue increased from Rs 5.50 crore in 1959 to Rs 24508.64 crore in 2010 including non-tariff income (excluding subsidy or support from government of A.P). The per capita consumption also increased from 7 kWh in 1956 to 746 kWh in 2009.

The history of Andhra Pradesh electricity can be divided into thee periods.

**Rising period: 1970-90**

During this period the expenditure rose at the rate of 18.5 per cent. While income by sale of power increased by 18.6 per cent, the consumer price index rose by 18.8 per cent keeping high level of efficiency in generation, transmission and distribution.

**The period of fall: 1990-96**

The period of 1990-91 to 1995-96 was characterized by low growth rate of generation capacity. This increased slightly by less than 5 per cent. But energy availability increased by 8 per cent as the addition during this period was mostly thermal with high plant load factor. The employment cost and administration cost appears to have increased rapidly as the expenditure increased from Rs 248 crore in 1990-91 to Rs 451 crore in 1995-96. The increase in the revenue by sale of power was less than that of expenditure. As a result the deficit increased from Rs 856 crore in 1994-95 to Rs 1128 crore in 1995-96.

**The period of Reforms: 1996-2000**

The government became concerned at the fast deteriorating financial and overall performance of APSEB and set up a high level committee for restructuring of APSEB
under the chairman ship of Dr. Hiten Bhayya. The government accepted the committee's recommendations and decided to seek World Bank assistance. The Andhra Pradesh reforms act was enacted in 1998 and the rules were issued in 1999. Andhra Pradesh Electricity Regulatory Commission (APERC) was appointed in 1999 and APSEB was restructured (on February 1st 1999) into APGENCO and APTRNSCO. The APTRANSCO was further reorganised into four distribution companies namely APSPDCL, APCPDCL, APNPDCL, APEPDCL.

A.P. State government's subsidiary policies

Flat rate: A minor upward revision for agriculture was attempted by increasing the flat rate per horsepower from Rs. 50/HP to Rs. 75/HP but it was "corrected" due to the "political will" in 1995 to be back to where it was in 1989. The actual metered sales decreased and un-metered supply increased. As a result the APSEB became an organization with increasing loss and to depend on the government for subsidies to the extant of Rs 1260 crore in 1995-96.

Free power: The government provided free power to agriculture sector with effect from May 5th 2004 in view of extreme hardship faced by the agricultural consumers in the past years and to avoid the power consumption arrears amounting to Rs.1259 crore to agricultural consumers. Later on it was modified and made applicable to the dry land up to 3 connections and farmers having 2.5 acres of wetland.

Benefit to BPL domestic consumers: Government is extending a subsidy of Rs. 10 per month towards the cost of consumption on 40 watt bulb (6 hours per day) for 13.92 lakh consumers with a connected load of up to 250 watts and consuming up to 15 units per month.
Development programmes

HVDS: High voltage distribution system was introduced in the state aiming at reduction of losses through replacement of the low voltage network with high voltage and installation of large number of smaller capacity 11 kv/400 transformers viz. 25/16/10 KVA for supply to agriculture consumers.

APDRP Accelerated Power Development Reforms Programme was launched in 2002-2003. The Government of India is extending financial support for the development of power in Andhra Pradesh through introduction of accelerated power development and reform programme for gradation of sub transmission and distribution network (below 33 kV) including accounting and metering.

RGGVY: Rajiv Gandhi Grameen Vidyutikaran Yojana Programme was launched by the Prime Minister, Dr. Man Mohan Singh, on 4th April 2005. This programme aimed at achieving 100 per cent rural electrification in next 6 years and full coverage of all households by the end of the 9th plan. Credit was extended to SEBs for speedly electrification of Dalitwadas, households of scheduled tribes and other weaker sections of society and improving the quality of power supply in villages by strengthening the distribution network in rural areas.

APSPDCL: Andhra Pradesh Southern Power Distribution Company Limited was formed on April 1st 2000 and initiated first phase of reforms in A.P. Electricity sector. APSPDCL serves Krishna, Guntur, Prakasam, Nellore, Chittoor and Kadapa districts with a vision to become on efficient utility supplying, reliable and quality power, promoting economic development and became self-reliant. A.P.S.P.D.C.L had a distribution network to cater to customers spread across 81545 sq.km covering 326 mandals, 6177 villages and 86 assembly constituencies.
Review of Literature

A.V. Raman Rao (1993) ¹, in his study on Electricity and Industry in Andhra Pradesh Economy Science Independence, analyses source wise electricity generation, region wise transmission and distribution developments in the state. He also explained the progress in the electricity generation and consumption. At the same time he discussed the problems like increase in transmission losses, irregular plan outlay and lack of uniform growth in power.

Sebastian Mories (1996) ², in his article namely Political Economy of Electricity Power in India, discussed the recent policy changes and immediate actions towards a healthy electric power system.

Shantanu Dixit and Girish Sant (1997) ³, in their paper namely How Reliable Are Agricultural Power use Data? they found discrepancies in official data relating to irrigation pump sets. Also analysed the impact of tariff on rationalization.

Madav Godobole (1998) ⁴, in his article namely What is Right in Economics Is Wrong in Politics, criticized the economic terrorism as much a means in India today as is political terrorism. Both Andhra Pradesh and Haryana had to go back on their decision to supply free electricity to agriculture because of the divasting implications of the move for the state governments.


Kamelesh Paliwal (2000) ⁶, in his study namely Power Resources: Electricity and Energy, discussed the geographical requirements for generation of thermal, hydel and nuclear power and also other sources of energy.
Sajeev S. Ahluwala (2000)⁷, in his paper namely Power Tariff Reforms in India, assessed the historical imperatives of those precedent experience with their validity in the light of the recent experience with reforms.

K.P. Kannan and N. Vijaymohan Pillai (2001)⁸, in their article namely Plight of Power Sector in India – Financial Performance of SEBs, examined the aspects of inefficiency, cost involved in SEBs functioning, physical performance, technical inefficiency, T&D losses. As well as some aspects of institutional and organizational inefficiency, supply cost of electricity, tariff and revenue as well as financial performance.

B. Negi (2001)⁹, in his study namely Electricity, compared the per capita consumption of electricity with a substance economy and a high developed economy. He also analysed the potential and production of hydel power in various countries.

Montek Singh Ahluwalia (2001)¹⁰, Chairman of the export group, suggested a package of incentives and disincentives like commercial discipline, and initiation of a process of reforms and establishing same linkage between the settlement of dues and start of a reform process for the states participating in the scheme.


Rakesh Agarwal (2001)¹², in his article, Micro Power: User Friendly and Efficient, studied the eclectic power generation from small ghat’s built over rivers in Uttarakhand region. He also found that they provide electric power in remote areas.

Ahuja Gurtoo and Rahul Pandy (2001)¹³, in their study namely Power Sector in Utter Pradesh: Past Problems Initial Phase of Reforms, gave the information of Utter
Pradesh State Electricity Board, problems in the period of pre-reforms and the remaining part.

Navroz K. Dubash and Sudhir Challa Rajan (2001)\textsuperscript{14}, in their paper namely Political Process of Power Sector Reforms in India, found that the power sector policy of India appeared to have locked itself into adverse arrangements at least twice in its history. The first was when agricultural consumption was de-metered and extensive subsidies were offered. The second one was IPP contracts with major fiscal implications signed by SEBs.

A.P.S.E.B (2002)\textsuperscript{15}, in its article namely Reforms and Restructuring of Andhra Pradesh (India), analyzed briefly the performance of A.P.S.E.B and its functions, reform process, the required institutional changes in power sector.

Ministry of Power, Government of India (2002)\textsuperscript{16}, in its publication namely Blue print for Power Sector development in India, Vision 2012 Power for All, discussed the power sector problems, objectives, distribution, reforms of core sector, electrification of villages and households, augmenting planning, short term measures, development of hydro projects, augmenting power transmission capacity and the development programme at district level.

Ministry of Power, Government of India, (2002)\textsuperscript{17} in its report namely “Distribution Policy Committee Reports”, discussed the critical importance of reforms in the distribution sector.

B.M.Kurnaratne (2002)\textsuperscript{18}, in his report namely Recommendations of the President to the Board of Directors on A Proposed Loan to the State Power Sector Reform Project, gave the information of power sector performance, problems, opportunities, projects benefits, impacts and risks.
Government of Maharastra (2002)\textsuperscript{19}, in its paper namely Maharastra Power Sector Reforms (under Industries and Energy Labour Department), gave the information on performance of power sector, need, elements of reforms and implementation of reforms in other states.

S.L.Rao (2003)\textsuperscript{20}, in his article namely Electricity Bill-2001, Many Shortcomings, But a Step Forward, discussed the major issues of power sector. He found that the Electricity Bill, 2001 was introduced for restructuring the electricity system in India.

C.R.Reddy, G.Ramana Reddy and V.Prabhakar Reddy (2003)\textsuperscript{21}, in their article namely, Power Sector Reforms, stressed the need for political thrust with political agenda to provide quality power service with quantity prudent management and expertise.

T.L.Sanksr (2003)\textsuperscript{22}, in his study, stated that A.P.S.E.B has been maintaining steadily a profitable profile with a surplus and also found that the performance of A.P.S.E.B between 1970 -1990 was good. State Electricity Board achieved the high rate capacity in sale of energy and good financial results. During 1990 -96, A.P.S.E.B incurred losses and recorded low growth rate of power generation.

CEA (2003)\textsuperscript{23}, in its Executive Summary report namely Demand Forecast – Methodological Aspect, analysed the working of Andhra Pradesh power sector. This study was carried out with the request of Andhra Pradesh Electricity Regulatory Commission.

Varinder Jain (2004)\textsuperscript{24}, in his article namely Punjab Reviving Power Sector Need for a Rethink, explained that the Punjab state electricity board faced problems. There is need to abolish the provision of electricity subsidy and trading into only those who deserve it.
Madhav Godbde (2004) 25, in his paper Power Sector Reforms: No Takers, criticised the policy of free power for farmers. The suicidal policy of giving power free of cost to agriculture appears to have been lost sight.

Surinder Kumar (2004) 26, in his study namely Electricity Theft: Empowerment of People and Reforming, discussed the performance of Haryana and Punjab state electricity boards. The results of the survey reveal that the power theft is the starting point.

Erhur Kula (2004) 27, in his study namely Economics of Nuclear Power, explained the nuclear power development in the world.

Siddartha Sinha (2005) 28, in his paper namely Introducing Competition in the Power Sector Open Access and Cross Subsidy, described the system of power subsidies and cross subsidies in the power sector. He also stressed the need for the arrangement of separate organization and rural supply net work.

Jaskiran Kumar Mathur and Dhiraj Mathur (2005) 29, in their study namely Dark Homes and Smokey Hearths Rural Electrification and Women, conducted two field surveys in rural areas. The first was conducted by the ORG Marg under the Canadian International Development Agency (CIDA) funded by Energy Infrastructure project (EISP). The second, an Indian Rural Energy Study was funded by ORG Marg. Their study tried to show the strong positive spin offs for women and rural households that could result the use of electricity.

Sumir Lal (2005) 30, in his paper Can Good Economics Ever Be Good? A Case Study of Power Sector in India, identified the political impediments that have obstructed power sector reforms in India.

Sudhir Kumar Katriyar (2005) 31, in his study namely Political Economy of Electricity Theft in Rural Areas: A Case Study from Rajasthan, revealed that the state
power sector got distribution losses. The main cause of loss was illegal hooking by both the domestic and agriculture categories.

V. Ranganatham (2005), in his study namely Determining T&D Losses in India: Their Impact on Distribution, Privatization and Regulation, addressed one key component of power sector reforms namely reducing transmission and distribution losses. It outlined the problems in measurement and asymmetry between the regulator and licenses on this account. This study also found differing performance levels among different SEBs.

M.V. Ramana, Antonetle D’sa, Amulya and K.N.Reddy (2005), in their study "Economics of Nuclear Power from Heavy Water Reactors, analysed the current cost of electricity and compared this cost to that of coal based thermal plant.

R.Rejikumar (2005), in his article namely National Electricity Policy and Plan: A Critical Examination. Criticized that the amendments made by Ministry of Power failed to make any significant improvements in the power sector.

Nikit Abhyankar (2005), in his paper namely Power Sector Restructuring in Madhya Pradesh, gave an overview of major developments in state’s power sector in the last decade or so based on various parameters such as operational performance, private sector participation and the regulatory process.

Joel Ruet (2005), in his publication namely Privatising Power Cuts? Ownership and Reforms of State Electricity Boards in India concluded that reforms should aim at improving efficiency and not to succeed based on monetary incentives.

Sunil Mathrani (2006), in his study namely China’s Power Sector Shortages & Complicate Reforms, started that shortages in China have led to a nation wide boom in power plants constructions and demand is still rising and a significant proportion of new capacity is likely to be in surplus leading to a glut. The China electricity sector is also
experiencing considerable transitional difficulties in implementing the reforms undertaken in 2002.

Bikash Chandra Dash (2006) in his article namely Governance of Power Sector: Orissa's Experiments with Villages Electricity Committee, discussed Orissa's village committee's formation and functions. The major problems in the distribution segment of power sector are poor billing, collection and metering, theft and commercial losses.


Kadapa District Electricity Committee (2006), in its report Development in Kadapa District, explained a brief history of power sector development in Kadapa district and also analysed the generation, transmission and distribution position in Kadapa district with support of statistical data.

Kulwath Nehra, Amit k. Srivastava and Rajesh Kumar (2007), in their article namely Power Sector Reforms in Haryana: An Analysis, examined the performance of power sector in Haryana in the pre-reforms as well as in the post-reforms period. It also highlighted the various steps taken in the reforms process in the state.

N.Sreekumar, M.Thimma Reddy and K.Raghu (2007), in their article namely Strength and Challenges of Andhra Pradesh Power Sector, they compared the cost of Gas-Based projects in joint sector and MOU rate plants. They also discussed the distribution issues and gave the information on performance of four distribution companies briefly, conditions of rural power supply and free power supply.
Harbans L. Bajaj and Deepak Sharma (2007) 43, in their paper namely Power Sector Reforms in India, they analysed the pre-reforms era and the features of the Act and its likely impact on the Indian electricity industry in the emerging scenario. The major issues like role of Regulator in the new regime, issues of open access, power trading, introduction of power markets and role of Appellate Tribunal for Electricity in harmonizing the orders of the various regulators were also discussed.

B.Sarangapani, N.Sreekumar and M.Thimma Reddy (2007) 44, in their working paper, Power Sector Reforms in Andhra Pradesh: Their Impact and Policies Gaps, they divided their study into 3 periods between 1980-81 to 2005-06. The first period is pre reforms period from 1980-81 to 1990-91, the second is introducing reforms period from 1991-92 to 1999-2000 and third period is on going reforms from 2000-01 to 2005-06. They found positive impact on DISCOMS on financial performance. At the same time the subsidy levels both in gross terms and as a percentage of revenues of the utilities and the state budget have declined considerably. They criticized private sector participation only in the area of generation.

Abjit Dutt (2007) 45, in his publication Infrastructure Finance: An India Perspective, discussed the power sector reforms, the problems in respect of power sector, its reform process, status of privatized power sector and its performance.

K.Ramachandra Murthy and K.Raghu (2008) 46, in their study explained the status of power sector prior to the formation of APSEB and its performance. They also discussed the importance, impact of power sector reforms in phase wise and changes of Electricity Acts, rules and regulations.

M.Venugopal Rao (2008) 47, stated in his study that the cost of purchasing power constituted more than sixty percent of the power tariff being paid by the consumers. The
power purchase agreements have been made with private projects with manipulated and fraudulent provisions. Even distortion implementation of PPAs is contributing to excessive payments to the private projects. APERC had taken an erroneous that it had no power to review and amend the PPAs. He also gave suggestions to improve the power sector and reduce the burdens of tariff, governments' subsidies.

Rudder Dutt and K.P. Sundaram (2008) \(^{48}\), in their book namely Indian Economy, discussed the power sector performance in terms of targets and achievements and pattern.

Ministry of New and Renewable Energy (2008) \(^{49}\), in its paper namely Development of Renewable Energy Sources, this paper gives the information of resources, renewable power generation and its importance.

G.S. Premakumara (2008) \(^{50}\), in his article namely Impact of power industry on Economic Development A Mathematical Analysis, discussed the importance of power industry in economic development.

Srijan (2008) \(^{51}\), in his article namely Rajiv Gandhi Gramin Vidyutikaran Yojana Electrification without Electricity, explained the aim of RGGVY scheme and implementation problems. He also discussed the Operation & Maintenance of villages electrification, problems in ground level and the management of rural distribution system.

Ajali Garg, Vikas Gaba and J L Bajaj (2008) \(^{52}\), in their publication namely Regulation in Practice, Impact of Tariff Orders on the Indian Electricity Sector, focused on the impact of issued tariff orders (distribution), regulator governance and regulatory substance and the process through which regulatory decisions are made in the context of key areas of regulatory intervention.

V. Santa Kumar (2008) \(^{53}\), in his publication namely Analysing Social Opposition to Reforms: The Electricity Sector in India, explained the view of social opposition.
Electricity reforms were opposed by general public. Because of reduction in subsidies and increase in the cost. He also concluded the financial difficulties of government-owned utilities, arising mainly out of the provision of electricity at heavily subsidized tariffs to households and agriculture consumers.

Central Electricity Authority (2008)\textsuperscript{54}, in its publication namely General Review, explained the growth of Indian electricity sector and analyzed the power sector performance with the support of statistical data.

Ajay Mathur (2009)\textsuperscript{55}, in his article namely Energy is Life - Conserve it, presented the information of Energy Conservation Act 2001, its importance and action plan.

Daritri Panda (2009)\textsuperscript{56}, in his article namely Rural Electrification in India, says that electrification rates vary dramatically between the urban poor (33\% without connections), rural poor (77\% without connections) and obviously between the rural poor and the rich. Only a small percentage of rural poor are benefited from subsidies. This study also reveals that the rural electrification programs have not reached the most marginalized and needy sections of the society.

Kranthi Kiran M (2009)\textsuperscript{57}, in his article namely Power Sector Reforms in India, discussed the privatisation process, private bidders performance and restructure of power sector in the state of Delhi.

Navigation search (2009)\textsuperscript{58}, explained related stories of Electricity in India and Analysed the progress of power sector in India, the mission of power for all by 2012, objectives, and strategies.
Govt. of India, Ministry of Information and Broadcasting (2009) 59, in its publication namely India 2009: A Reference Annual, discussed the power sector strategy, autonomous bodies and organisation and role of power in development.

Jayaprakesh (2009) 60, in his paper namely “International Conclave on Key Inputs for Accelerated Development of the Power Sector 12th Five year Plan and Beyond Recommendations, discussed the experts’ opinion on power sector and recommendations in an International Seminar. This seminar was organised by Ministry of Power and Central Electricity Authority in partnership with Industry Association and IEEMA.


Rajive Anantaram (2009) 62, in his paper namely The Development of the Power Sector in India: Issues and Prospects, focused the power sector in India and discussed the sector-specific issues that still remain unresolved.

Misra & Puri (2009) 63, in their publication namely Indian Economy, discussed the power generation, the role and importance of power in economic development.

**Importance of the present study**

Electric power plays vital role in economic development. People cannot live comfortably without electricity. Electricity became an essential input in all sectors of the economy. In Andhra Pradesh the installed capacity increased from 213 megawatts in 1959 to 14625.52 megawatts in 2010 to meet the increasing demand. The number of consumers served rose from 2.7 lakh to 2.18 crore during the same period. The annual revenue also increased from Rs 5.50 crore in 1959 to Rs 24508.64 crore in 2010. In spite of this progress some problems like losses, shortage of power supply, low voltage,
frequent power cuts became common in power sector. As a result the consumers are facing a number of problems. The studies completed so far have not covered all these aspects. Hence the present study makes a modest attempt to know the performance of power sector, problems of electricity consumers and suggest some suitable measures.

**Objectives of the present study**

- To analyse the progress and problems of power sector in India and Andhra Pradesh
- To know various reforms introduced for the development of power sector;
- To assess the performance of A.P.S.P.D.C.L.
- To highlight the problems of rural electricity consumers; and
- To suggest measures for improving the performance of power sector based on the findings of the study.

**Hypotheses**

- The progress of power sector in Andhra Pradesh is not up to the mark.
- The reforms introduced from time to time did not help to improve the performance of power sector.
- The performance of A.P.S.P.D.C.L is not satisfactory.
- The rural consumers of electricity are facing many problems.

**Data and Methodology**

The present study requires both primary and secondary data. The secondary data relating to different aspects of power sector has been collected from annual reports of A.P.TRANSCO, annual financial reports of A.P.S.P.D.C.L reports relating to reforms on India’s power sector –Ministry of power, Government of India, state government records of S.E.office, Cuddapah, divisional, sub-divisional, section level offices, Research
institutes and University libraries, articles published in different journals, downloaded material from websites and other related reports, research studies and books.

**Sampling design**

In order to know the problems of electricity consumers, a field survey was conducted in 2010-11 with the help of (pre tested) schedules. Since it is not possible to collect the primary information from each and every consumer, due to time and financial constraints, a multi-stage random sampling method is adopted here. It is already mentioned that the study is confined to Kadapa district one of the six districts covered by A.P.S.P.D.C.L. According to the data given by the Electricity department the district has been divided into six divisions. Out of them one division namely Proddatur is selected randomly in the first stage. Again Proddatur division has been classified into four sub-divisions. All these four sub-divisions have 21 sections. In the second stage, one section from Proddatur sub-division, three sections from Proddatur rural sub-division, to sections from Jammalamadugu sub-division another two sections from Yerraguntla sub-division are selected randomly. Altogether 8 sections have been selected. Each section covers one mandal and it is under the control of the Assistant Divisional Engineer. In the third stage 35 consumers covering domestic/non- domestic and agriculture are selected. While selecting farmers care is taken to cover all categories viz. small, marginal and large farmers. Similarly in the case of domestic/non- domestic consumers all categories are covered. Thus the study has chosen 280 consumers from the eight sections for the purpose of collecting primary data. The officials concerned are also contacted to know the different aspects relating to electric power.
Statistical Tools

The statistical tools like percentages, averages and growth rates are calculated to assess the development in generation, transmission and distribution. Graphs and diagrams are also presented to make the analysis effective.

Limitations of the study

The survey is confined to Proddatur Division of Kadapa district. The secondary data collected for our study covers a period from 2000-2001 to the available latest data. While the data collected from the consumers of rural domestic, non-domestic and agriculture related to the year 2009-10 and earlier years. The quality and reliability of data depends on the information given by the households, farmers and the officials concerned. However, the element of bias and subjectivity was consciously kept under check to make the study as objective as possible. The conclusions arrived at and inferences drawn are applicable to sample consumers of cuddapah district. The study has not covered all consumers of power sector. The study covers only the economic aspects of power sector.

Chapter plan

The present study has been divided into seven chapters.

❖ The first chapter introduces the subject of the study and also presents objectives, methodology and review of literature.

❖ The origin and progress of power sector in India is discussed in chapter two.

❖ Third chapter presents different power sector reforms introduced from time to time.
❖ The chapter four is devoted to analyse the growth and problems of power sector in Andhra Pradesh.

❖ Performance of A.S.P.D.C.L. is analyzed in chapter Five.

❖ The sixth chapter discusses the problems of rural electricity consumers.

❖ The Last chapter presents the summary of findings and suggestions.
References


45. Abijit Dutt, “Power Sector,” Infrastructure Finance: An Indian Perspective, Mahamaya publishing house, New Delhi, 2007, pp 81-139.


