Chapter 9
SUMMARY OF CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

In this chapter a brief summary of the earlier chapters of the study, conclusions arrived thereon, findings of the hypotheses visualised and proposed recommendations have been presented.

This chapter is divided into eleven sections. Sections one to eight deal with the summary of the earlier eight chapters of the study. Section nine deals with findings; section ten presents recommendations; and section eleven deals with scope for further research in the field of industrial infrastructure.

9.1 Infrastructure and the Industrial Estates Programme

The study under chapter one is divided into two sections. First section has reviewed the trends and policies in the development of infrastructure in the present context of liberalisation and privatisation. Second section has reviewed the industrial estates programme in India.

9.1.1 Infrastructure at the National Level

a) India Infrastructure Report (1996): The committee constituted by the Government of India under the Chairmanship of Dr. Rakesh Mohan to consider the issues relating to Commercialisation of Infrastructure Projects submitted its report in June 1996. The committee while providing a medium term forecast for infrastructure investments, their financing pattern and distribution, has focussed on the role of private - public participation in attaining the same.

b) Infrastructure Development Finance Company (IDFC): The Company (IDFC) has been promoted in early 1997 jointly by the Central Government, Reserve Bank of India (RBI), IDBI, UTI, IFCI, ICICI and Housing Development Finance Corporation (HDFC) and other leading development financial institutions, with an authorised capital of Rs.5000 crore comprising equity capital of Rs.4000 crore and unclassified share of Rs.1000 crore. Its paid
up equity capital is Rs.1,000 crore. IDFC will lead private capital into commercially viable infrastructure projects in India; the purpose is not primarily capital or to conduit capital but to ensure that non-traditional investment capital begins to flow to the sector in order to meet the challenges ahead. It is envisaged that IDFC provides strong input into policy decisions with respect to constraints presently being faced by infrastructure projects in terms of financial closure and implementation thereafter. Initially, the IDFC will concentrate on five key segments of infrastructure sector, viz., power, telecommunications, ports, roads, and urban finance.

c) **National Level Task Force on Infrastructure**: A task force on infrastructure at the national level has been constituted to monitor the progress of individual infrastructure items on a priority basis. The task force will facilitate the inflow of foreign direct investment in various sectors, apart from reviewing policy formulation periodically.

d) **IDBI Financing for Infrastructure**: Industrial Development Bank of India (IDBI) adopted infrastructure financing as a key focus area. The Bank, as part of an institutionalised mechanism, has been interacting with different Government Departments for resolving various issues inhibiting the flow of assistance to the major infrastructure sub-sectors viz., power, telecom, roads and ports. During 1997-98, over all sanctions of IDBI to infrastructure projects was Rs.8,197.7 crore, comprising Rs.5,034.2 crore to power projects, Rs.2,217.5 crore to telecom projects and Rs.946 crore to projects in roads/bridges and ports. The sanctions of IDBI for the infrastructure sector during the last five years (1993-98) aggregated to Rs.17,494.3 crore, of which nearly 47 per cent was sanctioned during 1997-98.

e) **Study on Infrastructure by the PHD Chamber of Commerce and Industry**: The study has called for greater participation of the private sector in the infrastructure projects on a build-operate-transfer (BOT) basis.

9.1.1.1 Policies/Current Trends on Key Infrastructure segments

f) **Power (Electricity)**: In view of the large scale requirement of power in the country, it is important to ensure that its development takes place at a growth rate of 10-12 per cent annually. To meet this objective, the country needs a total political consensus on power related
issues. Restructuring of the power sector, reforms of State Electricity Boards (SEBs), rationalisation of tariff, improvement in both generation, and transmission & distribution, and above all a commercial orientation of the entire sector are necessary for toning up its performance. India Infrastructure report (1996) estimated the additional power requirement for the country for the next ten years, up to 2006 at 1,11,500 MW at a cost of Rs.6,24,400 crore which requires innovative approaches and private sector participation in a large way. Setting up of an Electricity Regulatory Commission at the national as well as state levels is a step in the right direction in the context of liberalisation and privatisation. The states of Andhra Pradesh, Haryana, Karnataka, Maharashtra, Orissa and Rajasthan have started working on reforms and the other states are yet to start. A nominal cess of 10 paise/kwh can be levied on energy sold in the country to create a "Power Development Fund" which can be used to finance renovation and modernisation as well as transmission and distribution improvement of power. China adopted this method for raising resources for improving the power sector and succeeded. Reforms to make State Electricity Boards healthy and Competitive, and adoption of innovative approaches are crucial for improving the performance of the power sector.

g) **Telecommunications:** Telecom is intimately linked up with computer technology. Modern telecommunications, and computer net works, are a key conduit through which India gains access to ideas from all over the world. Telecom policy formulation and regulation have been streamlined delineating the terms and conditions on which private sector can function, foreign investments can be attracted, and minimising the role of the Government in a number of areas. Telecom Regulatory Authority of India (TRAI) has been constituted to oversee tariff structure, and other relevant areas, as an independent body which is the first regulatory authority set up in the country in the infrastructure sector. New National Policy of Telecom (1994) aimed at attracting direct foreign investment and stimulating domestic investment in the telecom sector.

h) **Sea Ports:** To achieve the ambitious target of a total cargo throughput of 424 million tonnes a year, by the end of Ninth Five Year Plan, the Union Ministry of Surface Transport (MOST) is determined to take the privatisation route. BOT (Build, operate and transfer) is the MOST's current mantra, and it has cleared a good number of privatisation proposals of various port trusts. The Ministry is allowing automatic approval of up to 74 per cent of foreign equity participation in any of the projects pertaining to the ports sector. The current thinking is to
accord automatic approval even for 100 per cent foreign direct investment (FDI). Government of Andhra Pradesh has cleared Krishnapatnam port (Nellore District) and Kakinada Port (East Godavari District) to be developed by private parties. The Government of Gujarat is developing ten ports under its modernisation programme, of which six are to be developed by private parties.

i) **Airports:** The Task Force on Infrastructure recommended that five major airports in the country would be corporatised and would be on the lines of the Mahanagar Telephone Nigam Limited (MTNL). An Airport Regulatory Authority would be set up for evolving and enforcing regulatory framework for airports under Airports Authority of India (AAI) as well as for moderating tariffs, pricing, ancillaries and interfacing with airports. Five airports, viz., Delhi, Mumbai, Chennai, Calcutta and Bangalore have been identified for corporatisation, and the Union Cabinet has announced in January 1999 that these five major airports would be brought on par with international standards by the end of 1999.

j) **Expressways and Flyovers:** The country's first privatised 100 km. long, Rs.1650 crore, six-lane expressway between Pune and Mumbai is expected to be opened to traffic by January 2000. A study undertaken with the assistance of Asian Development Bank has identified that there will be need for a highway network of about 10,000 km by 2015 to meet the traffic demand in the country. Fifty-plus flyovers planned in the metropolitan region of Mumbai is a major effort to de-bottleneck the city's traffic with funds raised through bonds issued by the Maharashtra State Road Development Corporation. In Andhra Pradesh, Andhra Pradesh Road Development Corporation has been formed and a length of 5406 km. of R&B roads is transferred to this Corporation. Improvement of state highways and bridges, widening of roads and, works relating to bridges on National Highway and bypass roads are already in progress under the BOT pattern.

k) **Integrated Water and Sewerage Project at Tirupur:** The proposed Integrated Water and Sewerage Project is coming up at Tirupur (Coimbatore district of Tamil Nadu) under the joint initiative of the private and public sectors. The cost of the project is of Rs.1200-1500 crore. The funding of the project will be on a recourse basis. Industrial users who would be consuming nearly 60 per cent of water would cross-subsidise the domestic users. It is planned to recycle the water used by domestic consumers for industrial purpose. The project involving
a supply of 185 million litres of water daily will be done on BOOT (build, own, operate and transfer) basis, and carries a concession period of 30 years.

9.1.2 Industrial Estates Programme in India

a) Background: Industrial Estates have been extensively used as a tool for accelerating the pace of industrialisation in developed and developing countries with multiple objectives. In India, the industrial estates programme was initiated in 1955 with the twin objectives of i) promoting modern small industries and through them generation of industrial entrepreneurship, and ii) attracting industries to backward areas, small towns and rural areas. The programme was started for providing a package of infrastructural facilities to small scale entrepreneurs. Main features of the industrial estate in the initial years were construction of factory buildings in anticipation of demand and provision of common services, apart from development of the entire area. In later years, from the early seventies, largely developed plots are being made available. Building construction by the Government Corporations is reduced to the minimum. As the programme gained experience, more objectives were added to cater to the needs of specific regions.

After 1965, industrial areas were promoted as an extension of the industrial estate concept for providing developed sites to medium and large industries in addition to small industries with focus on stimulation of industrial activity in backward regions. In the eighties, the thinking was in terms of consolidation of the existing industrial estates and industrial areas, and devote attention to the establishment of mini-industrial estates, mini-industrial areas and artisan complexes to provide infrastructural support for clusters of tiny and village industries in rural and semi-urban locations. In the post-liberalisation period from 1991, emphasis is on creating high quality infrastructure in select locations in each state, for specific objectives.

There are many commonalities between an industrial estate and an industrial area, as both provide infrastructure for industrial units. In Gujarat, Gujarat Industrial Development Corporation (GIDC) refers to both of them as industrial estates. In many parts of the country, these are referred to as industrial estates and industrial areas. In Andhra Pradesh, industrial area is referred to as industrial development area (IDA).
b) **Objectives of the Programme:** Even though the programme was started in 1955 with the twin objectives as stated above, several objectives have been added over years. Some of them are - promotion of small scale industries, stimulation of entrepreneurship, dispersal of industries to backward areas, promotion of specific industries like ancillaries and functional complexes, relieving congestion of cities by re-locating industries, promotion of export-oriented industries, inviting foreign technology and foreign capital, etc.

c) **Types, Patterns of Financing and Management:** Initially, industrial estates were meant exclusively for small scale units and sponsored by governmental agencies. Built-up factory accommodation was provided along with developed facilities such as roads, water, power, drainage, etc. The next stage was to provide developed sites in estates sponsored by different agencies including associations of entrepreneurs, cooperative societies and joint stock companies. There are few instances of private entrepreneurs developing industrial estates. The third stage was encouraging the establishment of small, medium and large industries side by side through industrial areas under institutional sponsorship. The fourth stage is development of specialised estates or parks with custom-made facilities.

Patterns of sponsorship and management, financial assistance and types of estates have become considerably diversified over years. In the beginning entire cost of the industrial estate programme was met by way of loans from the Union Government to the states. From the Fourth Plan (1969-74) onwards, industrial estates programme has been made a state plan scheme. Loans from financial institutions are being encouraged for the construction and development of the estates.

Industrial estates can be categorised from three angles, viz., i) based on sponsorship of the estate ii) based on the nature of industrial activity of the estate, and iii) based on the location and any other special feature of the estate.

Industrial estates and industrial areas in most of the cases have been sponsored by the state governments or state Corporations. Other sponsors are - cooperative societies of entrepreneurs, individual entrepreneurs or entrepreneurs' associations. On this basis, estates can be grouped as Government/Government Corporation's estates, Cooperative estates and private estates. Based on the nature of industrial activity, the estates can be categorised as
general purpose, ancillary, single trade and functional; based on location, the estates can be
grouped as metropolitan, urban, semi-urban and rural. Industrial estates have also been
promoted for certain specialised roles, such as Science and Technology Entrepreneurs' Parks,
Software Technology Parks, Export Processing Zones, etc.

d) Institutional Financing: In the initial years, Central Government provided long term
loans for the development of estates, and in the recent years, state governments provide
nucleus funding and the Corporation concerned raises loans from commercial banks, with
refinancing facility made available by the Industrial Development Bank of India (IDBI) and
later Small Industries Development Bank of India (SIDBI). Development of suitable
infrastructural facilities for the SSI sector is one of the thrust areas of SIDBI. During 1990-98
SIDBI's refinancing for industrial estates in terms of sanctions was Rs.50.96 crore, and
disbursement was Rs.43.43 crore in respect of 184 estates. SIDBI provides direct finance
facility under infrastructure development scheme and under integrated infrastructure develop-
ment scheme. During 1990-98, an amount of Rs.65.85 crore was sanctioned, and Rs.14.76
crore was disbursed for 25 integrated infrastructure development centre projects. In addition,
an amount of Rs.904.35 crore was sanctioned and Rs.120.62 crore was disbursed for 27
Infrastructure development projects. Thus, under direct financing provision, SIDBI sanctioned
Rs. 970.20 crore and disbursed Rs. 135.38 crore for a total of 52 projects.

9.1.2.1 Infrastructure in the Liberalised Context:

World class or five-star infrastructure facilities are planned to be developed in certain
locations in a large number of states for attracting NRIs and multi-nationals to start enterprises
of highly sophisticated nature with export commitment such as export promotion industrial
parks, software technology parks, science and technology entrepreneurs parks, etc. In the
liberalised context, emphasis is on private sector investment in infrastructure projects and in
developing comprehensive infrastructure facilities in various locations by joining hands with
a large industrial house or by attracting capital from abroad.

In the management of infrastructure facilities created in various estates and areas,
Attempts are being made to involve industry associations extensively. The associations may
take over the maintenance function from the government organisations in future. These are
in the form of notified areas as practised in Gujarat, new township municipal councils as practised in Maharashtra and local authority status as extensively adopted in Andhra Pradesh.

The expert committee (Abid Hussain Committee) on small enterprises (1997) recommended that both central and state governments redirect their existing growth centre and other infrastructure development schemes to upgrade the infrastructure available in the existing small scale enterprise (SSE) clusters. The committee also recommended that state governments set up State Industrial Parks Promotion Authorities (SIPAs) which will regulate the setting up of industrial parks, and assist and negotiate with the private sector for its participation.

High level committee (Kapur Committee) on credit to small scale industries (1998) recommended that RBI might consider, in consultation with the Government of India, the need to set up a Small Industries Infrastructure Development Fund (SIIDF) for developing industrial areas in and around metropolitan cities, urban and semi-urban areas which are not covered by Rural Infrastructure Development Fund of NABARD. To start with, a corpus of such a fund of about Rs.1000 crore be kept with SIDBI for lending to the state level organisations. Rural Infrastructure Development Fund of NABARD may be permitted to be utilised for supporting infrastructure for rural industries, and complexes in the micro, tiny and small enterprises sector.

9.2 Research Design and Methodology

The industrial estates programme in India is being undertaken by specialised corporations of the respective states. In Andhra Pradesh, a Corporation, namely, Andhra Pradesh Industrial Infrastructure Corporation (APIIC) was established in 1973 as a public limited company of the Government of Andhra Pradesh for this purpose. Even though several studies have been undertaken on the industrial estates programme at the national level and at the state level, no study has been taken up to evaluate the performance of the APIIC in fulfilling its objectives of providing sound industrial infrastructure facilities in the state. Therefore, an attempt is made in this study to evaluate the performance of the APIIC, examining it from different angles, viz., physical performance in terms of land acquisition, development, development of plots and allotment, construction of sheds and allotment for industrial units, and houses for the workers and executives; select thrust activities of the
Corporation undertaken by it or catalysed by it; financial performance in terms of capital structure, value of estate and deposit works taken up, and the recoveries realised. APIIC's organisational aspects like recruitment and promotion policies, and staffing pattern have also been reviewed. Based on the available data on the performance of similar corporations in Maharashtra, Gujarat, Karnataka and Tamil Nadu states which are industrially advanced, the contribution of the APIIC has been compared and conclusions drawn for strengthening the infrastructure programme in the state.

Feedback from the entrepreneurs and entrepreneurs' associations who have housed their industrial units in the estates of APIIC, and the officials of APIIC and their association, have also been obtained through two well structured questionnaires. The feedback thus obtained has been suitably analysed.

9.2.1 Specific Objectives of the study are: to study the development of industrial infrastructure in Andhra Pradesh, efforts made by APIIC, impact of the policies of APIIC, study the select thrust activities of the Corporation undertaken by it or catalysed by it, capital structure and financial performance of APIIC, and organisational and managerial aspects of the working of APIIC. Feedback from entrepreneurs and their associations, and from the officials of APIIC and their association and various aspects of industrial infrastructure in the state, and the performance of the Corporation constitutes an important segment of the study.

9.2.2 Study Period and Sample Selection

For this purpose, the study period covered is 22 years, (1974-1996), 1974 being the year of commencement of APIIC's operations. Eight industrial estates and areas have been selected from the four districts of Visakhapatnam, Chittoor, Ranga Reddy and Medak covering the three regions of Coastal Andhra, Rayalaseema and Telangana. The estates and areas selected for primary investigation are those where the Local Authority status programme of APIIC has been implemented during 1996 and 1997. In the four districts selected for study, 33 per cent of the estates and areas of APIIC are located, and these estates account for 48.6 per cent of working industrial units established in all the estates and areas of APIIC. In the eight estates and areas selected, 114 working industrial units, against 364 total working units in the eight estates and areas which constitute 31.3%, have been contacted for detailed survey. The
units covered included 24 representatives of 12 industry associations. Similarly, 30 officers of APIIC against 95 officers upto the cadre of Deputy Manager have been contacted for their response. This constitutes 31.6 per cent. In addition 5 representatives of their Association have also been contacted. Thus, response has been received from 114 SSI entrepreneurs and 35 officers of APIIC.

9.2.3 Methodology

Two questionnaires have been used to solicit feedback from the SSI entrepreneurs and officials of APIIC. Separate section was devoted in the questionnaires on the view points of the office bearers of the association/the association itself.

9.2.4 Tools of Analysis

For interpreting the data collected from both primary and secondary sources, simple statistical tools have been used. These included averages, percentages, compound annual growth rates, and weighted average method using the five-point scale.

9.2.5 Limitations

Though the study covers the period 1974-96, wherever possible recent picture right upto 1998 has been presented. In respect of financial statements, data gathered is based on Balance sheets of five years (1989-90 to 1993-94) & profit and loss statements for a period of seven years (1989-90 to 1995-96). Analysis attempted is based on the accessibility of data of APIIC. For sister corporations of the four states covered for inter-state comparison of Maharashtra, Gujarat, Karnataka and Tamil Nadu with APIIC, data availability was meagre. Personal knowledge of implementation of the programme in these states, and readily available data from corporations of these states, have been used for presenting the view points.

9.2.6 Chapterisation

The study is divided into nine chapters. Chapter one deals with infrastructure and the industrial estates programme, and presents the national level picture, and trends in recent years
in the context of liberalisation and privatisation. Chapter two deals with review of literature, and research design and methodology of the present study. Chapter three cover industrial development and infrastructure growth in Andhra Pradesh. Chapter four deals with origin and role of APIIC. Chapter five covers selected thrust activities of APIIC. Chapter six deals with operational performance of the Corporation. Chapter seven deals with the capital structure and financial performance of the Corporation. Chapter eight deals with perceptions of SSI entrepreneurs and representatives of their associations, as well as officials and representatives of their association on the development of industrial infrastructure in the state, and the performance of the Corporation. Chapter nine presents the summary of conclusions, findings and recommendations of the entire study.

9.3 Industrial Development and Infrastructure Growth in Andhra Pradesh

Third Chapter is divided into three sections. First section dealt with Industrial and Economic Policies of India and Andhra Pradesh; Second section dealt with Industrial Development of Andhra Pradesh, and Third section dealt with Infrastructure Growth in Andhra Pradesh.

9.3.1 Industrial and Economic Policies of India and Andhra Pradesh

9.3.1.1 Liberalisation in the Industrial Sector

Policies regarding liberalisation, privatisation, globalisation, and international competitiveness were initiated by the Centre in a comprehensive manner from July 1991 in industry, trade, finance, banking, capital markets, fiscal policies and some segments of infrastructure. The thrust of the Major Industrial Policy Statement of July 1991 has been to provide free access to foreign capital, technology and markets in order to induce greater industrial efficiency and international competitiveness. Domestic competition has been introduced by delicensing of industries, and by liberalising the policy related to foreign direct investment. Deregulation, delicensing and debureaucratisation are the guiding principles of the new market-friendly environment. Industrial location policy has been liberalised.
In the small scale sector, liberalisation has posed certain challenges as well as opportunities. Investment limit in plant and machinery of small industries has been raised in 1991 and later in 1997. Recent upward revision is from Rs. 60 lakh to Rs. 3.00 crore for all SSI categories, and from Rs. 5 lakh to Rs. 25 lakh for tiny units.

9.3.1.2 Incentives for Industrialisation of Backward Areas

In the package of incentives offered by the Centre, the prominent ones are: capital investment subsidy and concessional finance. Capital subsidy was in operation from 1972 to September 1988, and was withdrawn thereafter. Concessional finance was in operation from 1972 and beyond September 1988, and was discontinued in the nineties.

9.3.1.3 State Package of Incentives and Target 2000

The state package of incentives has also been in operation in Andhra Pradesh from 1969, though its impact has been much smaller during the period when central incentives were in operation. After the capital investment subsidy was withdrawn by the Centre, the state incentives package assumed importance. The recent packages are those announced in 1993 and 1996. The latest one of 1996, referred to as TARGET 2000 is in operation from November 1995 till March 2000. Entire state, with the exception of only the municipal corporation areas of Hyderabad, Visakhapatnam and Vijayawada is covered by this package. Incentives offered at present by the state under this package are: investment subsidy of 20 per cent, subject to a ceiling of Rs. 20 lakh, deferment/tax holiday on sales tax, power subsidy, incentives for SC/ST entrepreneurs, incentives for mega projects to be decided on a case to case basis, and incentives for existing units wanting to expand projects in eligible areas.

9.3.1.4 Policy for Small Enterprises of the Government of Andhra Pradesh (1998)

The policy for small enterprises evolved by the Government of Andhra Pradesh in close consultation with small industry associations in different parts of the state reflects the collective view as represented by the state in this document. It is directed at assisting SSI units to become competitive, domestically and internationally, help the sector acquire new technolo-
gies and improve the export performance. Technological support for modernisation and access to R&D facilities and broad-based infrastructure support are also covered in the policy. Industry Associations are being invited to shoulder greater responsibilities to contribute to the industrialisation of various regions in a constructive manner.

9.3.2 Industrial Development of Andhra Pradesh

Industrial development of Andhra Pradesh has been analysed from the data available from two sources: (I) the Commissionerate of Industries, Andhra Pradesh, (ii) Annual Survey of Industries available from the Directorate of Economics and Statistics, Andhra Pradesh.

9.3.2.1 Growth of Large and Medium Scale Industries

Large and medium industries are contributing 93.4 per cent of capital investment in the industrial sector, and 38.6 per cent of industrial employment. Registered SSI units of two categories put together, contribute 6.6 per cent of capital investment and 61.4 per cent of industrial employment. In the SSI, the share of the bigger SSIs is 2.8 per cent of capital investment and 7.8 per cent of industrial employment, whereas the smaller SSIs contribute 3.8 per cent of capital investment and 53.6 per cent of industrial employment. Micro SSI sector has the highest labour intensity, whereas the large and medium industries sector has the highest capital intensity. Development of large and medium, as well as small industries in Andhra Pradesh has been substantial from 1980. The Seventh and Eighth Plan periods recorded faster progress.

Prominent districts based on the cumulative picture at the end of December 1996 for large and medium industries are 11 out of 23: (I) Coastal Andhra: Visakhapatnam, East Godavari, Guntur, and Krishna, (ii) Rayalaseema: Chittoor, Anantapur, and Cuddapah, (iii) Telangana: Medak, Ranga Reddy, Nalgonda, and Khammam. Average capital investment per unit in large and medium industries for the state is Rs. 17.39 crore, with average employment of 421 persons. Investment per unit is high in Coastal Andhra region, whereas employment per unit is high in Telangana region, in relation to the state averages. In both the indicators, Rayalaseema's record is low. Reasonable amount of dispersal of a sizable number of large and medium industries has taken place in various districts, particularly during 1974-96 period.
Large industries moved to a number of backward districts. The number of districts covered through dispersal is still limited, compared to what it could be.

9.3.2.2 Growth of Small Scale Industries

For all registered SSI units at the end of December 1995, in terms of number of units, the shares of Coastal Andhra, Rayalaseema and Telangana regions were: 44.3%, 12.3% and 43.4% respectively. In capital investment, the shares of the three regions were : 37.0%, 10.6% and 52.4% respectively. In employment, the shares were: 44.5%, 12.3% and 43.2% respectively. Districts prominent in the descending order of investment region-wise for SSI are 11 out of 23: Ranga Reddy, Hyderabad, and Nalgonda in Telangana region, Krishna, Guntur, West Godavari, Visakhapatnam, and East Godavari in Coastal Andhra region, Chittoor, Kurnool, and Anantapur in Rayalaseema region. In capital investment, Telangana has higher share and in employment, Coastal Andhra has higher share. Telangana's importance is because of industrial development, in districts near to the metropolitan city of Hyderabad. In Coastal Andhra region, industries promoted have closer linkages with the hinterland and are more employment intensive.

9.3.2.3 An Overview on the Total Industrial Sector of the State

For all industrial units, large, medium and small, the share in capital investment for Coastal Andhra, Rayalaseema and Telangana was 49.0%, 7.0% and 44.0% respectively. Their share in industrial employment was: 36.2%, 10.4% and 53.4% respectively. In terms of capital investment, Coastal Andhra is in a better position. In terms of employment, Telangana is in a better position. Prominent districts region-wise in the descending order of capital investment for all industries are 8 out of 23: Medak, Ranga Reddy, Nalgonda, Khammam, Karimnagar, Visakhapatnam, East Godavari, and Chittoor. Districts prominent in the descending order of employment generation for all industries are 9 out of 23: Khammam, Ranga Reddy, Hyderabad, Medak, Visakhapatnam, Krishna, East Godavari, Chittoor, and Anantapur.
9.3.2.4 Industrial Development in Backward and Non-Backward Districts of the State

From an analysis of industrial development by groups of districts referred to as backward and non-backward, it is seen that non-backward districts have high proportion of capital investment in all categories of industries, whereas backward districts have a high share of industrial employment. In the SSI sector, in terms of employment, non-backward districts have a slight edge over backward districts. Industries located in backward areas are providing more employment.

Per capita capital investment in Coastal Andhra region is the highest among the regions with Telangana as a close second. Rayalaseema is at a much lower level. In relation to employment per lakh population, Telangana stands first, followed by Coastal Andhra and Rayalaseema. There is wide disparity between the regions.

9.3.2.5 Analysis of Annual Survey of India (ASI) Data

Analysis of ASI data for Andhra Pradesh reveals that during the 1970s, compound annual rate of growth of factory employment was the highest (8.5%) among the periods analysed. The second highest period noted for high growth of employment is the first half of 1990s (1990-91 to 1994-95), the period of liberalisation (6.0%). In the nineties, capital in industry did not grow significantly (2.6%), but employment has grown substantially (6.0%). Rate of growth of output and value added was also significant. The 1980s are known for appreciable rate of growth of fixed capital and productive capital.

9.3.3 Infrastructure Growth in Andhra Pradesh

This section covers the study of (1) Key infrastructural facilities needed for the growth of industries in the state, and (2) package of industrial infrastructure facilities.

9.3.3.1 Key Infrastructure Facilities

Under key infrastructure facilities, review has been made of the following: power, railways, roads, sea ports, airports, and telecommunications.
a) *Power Scenario:* In Andhra Pradesh more hydel power was being generated than thermal power over decades. At the end of March 1996, the state had 5,258 MW of installed capacity. An installed capacity of 5,055 MW is envisaged to be added during the Ninth Plan period (1997-2002). By the end of March 1998, installed capacity reached the level of 6,887 MW. This capacity is planned to be doubled within the next five years.

A good beginning has been made in the commissioning of a 112 MW gas based power station at Vijjeswaram (West Godavari district), and another 400 MW gas-based power plant at Jegurupadu (East Godavari district) in the joint sector. A 400 MW gas-based power plant of National Thermal Power Corporation (NTPC) and Spectrum Technologies has also come up near Kakinada (East Godavari district) in the joint sector. Setting up of an autonomous Electricity Regulatory Commission restructuring the APSEB into a nodal agency, and its functions being distributed among seven separate companies wholly owned by it, and induction of the private sector, and fostering competition in the field, are good directions for improving the power position in the state.

b) *Railway network:* The state of Andhra Pradesh is served by three railway zones - Southern Railway, South Eastern Railway and South Central Railway. The total route length is 7227 km., with 947 stations. Electric traction has been extended to 1263 km. Andhra Pradesh stands at the third position in the railway route length among the four southern states. All metre guage lines in the state are planned to be converted into broad guage during the Ninth Plan period.

c) *Road Network:* Total road length of Andhra Pradesh in 1993-94 was 1.41 lakh km. which consists of 45,032 km. of national and state highways and 95,968 km. of district roads. Road network is to be developed in each district connecting villages and remote areas to national and state highways by all weather roads of good riding quality.

d) *Sea ports:* At present Visakhapatnam is the only sea port with modern facilities in the state. Another three minor ports viz. Kakinada (East Godavari Dist.), Machilipatnam (Krishna Dist), and Krishnapatnam (Nellore Dist.) need to be developed.
e) **Airports:** In the present context of privatisation and liberalisation of the economy, the airports play a vital role in attracting investment from outside the state and other countries. Hyderabad, Visakhapatnam, Tirupathi and Vijayawada of the state are on the air map. Hyderabad needs to be developed as a fulfledged international airport and others need considerable development.

f) **Telecommunications:** Telecommunications play a very important role in the business transactions of any industry. Because of insufficient and unreliable telecommunication system in most of the industrial estates/areas, many units are forced to maintain a second establishment in the city/town. Up to the end of 1995-96, there were 4,152 Telegraph offices, 2058 Telephone exchanges in the state and 7,97,326 telephone connections were released.

9.3.3.2 **Package of Industrial Infrastructure Facilities**

Under the package of industrial infrastructure facilities, a review has been made of the following: industrial estates/development areas, infrastructure with focus on export promotion, and establishment of related institutions.

i) **Industrial Estates/Development Areas:**

The programme of Industrial Estates in the state is mainly taken up by APIIC. A detailed study on the development of industrial estates by APIIC has been presented under chapters IV to VII of the thesis. APSSIDC has promoted Technocrats Industrial Estate at Balanagar of Ranga Reddy District and Craftsmen Guild at Mallepally in Hyderabad. ANRICH has developed an industrial estate at Bollarum (Medak District) for the benefit of Non-Resident Indian (NRI) entrepreneurs. Around 12 cooperative industrial estates were developed. Real Estate developers have also promoted a few private industrial estates and development areas.

ii) **Infrastructure needed for Export Promotion:**

a) **Visakhapatnam Export Processing Zone (VEPZ):** Visakhapatnam Export Processing Zone which is the 7th one in the country became operational in 1992. This has been developed
on an area of 370 acres in Duvvada, near Visakhapatnam. High quality infrastructure facilities are provided here since the zone is to attract 100 per cent export-oriented units.

b) **Port-based EXIM Park**: Visakhapatnam Port Trust (VPT) has promoted a port-based EXIM park on 800 acres of land for allotment to port-based industries.

c) **Air cargo complex**: Air cargo complex was set up by the Airports Authority of India (AAI) near the Airport at Begumpet in Hyderabad in 1977 to promote exports from the state.

d) **Inland Container Depot (ICD) and Container Freight Station (CFS)**: Container Corporation of India (CONCOR) and South Central Railway established the container transfer terminal, namely, Inland Container Depot (ICD) at Sanathnagar in Hyderabad which became operational in 1990. This has elevated the city of Hyderabad to the status of a 'dry port' and facilitates exports through containers. The ICD has opened a Container Freight Station (CFS) at Sanathnagar managed by the Central Warehousing Corporation on behalf of CONCOR on agency basis. In three other centres on the Coastal side, ICDs are functioning for facilitating exports.

e) **Software Technology Park**: Computer software exports including software services are the fastest growing Indian exports. In order to increase these exports, Department of Electronics (DoE), Government of India has evolved the Software Technology Park (STP) scheme. Presently STPs are operating in 12 locations, out of which Hyderabad STP is one which was started in 1991 on 58,000 sq.ft. built up area.

f) **HI-TEC City**: Development of Hyderabad Information Technology Engineering and Consultancy City (HI-TEC City) has been taken up by the Larsen & Toubro (L&T) Infocity project on an area of 158 acres of land in Madhapur, near Jubilee Hills in Hyderabad with an outlay of Rs.1500 crore in six phases over a ten-year period. The first phase with 5 lakh sq.ft. plinth area of high quality space with an outlay of Rs.90 crore on a six acre site with a ten storeyed structure has been completed. The HI-TEC City will have the state of art facilities.

g) **Establishment of IIIT and ISB**: In order to achieve excellence in information technology, an institute, namely, Indian Institute of Information Technology (IIIT) has been
established at Gachi Bowli near Hyderabad in 1998 by global leaders of IT. Similarly, the prime industrialists of the country have taken up the establishment of Indian School of Business (ISB) in Hyderabad for which Government of Andhra Pradesh has provided land of 250 acres.

9.3.3.3 Recent efforts of the Government of Andhra Pradesh for the Industrial/Infrastructure Development

Government of Andhra Pradesh has been trying through all possible means to strengthen the infrastructure base in the state. A few of these efforts are listed here.

a) Government Hospitals in Industrial Estate/Areas: In order to provide health care to industrial workers, efforts are being made under the joint management of Andhra Pradesh Pollution Control Board (APPCB) and Institute of Preventive Medicine (IPM) to establish Government Hospitals in the leading industrial estates located on the out-skirts of the city of Hyderabad.

b) Andhra Pradesh Infrastructure Development and Finance Corporation: In order to provide minimum infrastructure facilities all over the state like water filtration plants, sanitation, roads and development of underground drainage system, Government of Andhra Pradesh has established a corporation namely "Andhra Pradesh Infrastructure Development and Finance Corporation. Finances for the Corporation will be mobilised through public issue.

c) Vision 2020: Keeping in view the speedy and planned development of the state, a perspective plan document namely, Vision 2020 has been released for implementation with effect from April 1999. Population Control, Education, Health and other developmental activities like social welfare schemes are some of the priorities indicated the document.

d) Andhra Pradesh Technology Development Centre: In order to provide a helping hand to industries and entrepreneurs to reach and compete in global markets, through technology innovation and upgradation, and induction of new technology by small and medium enterprises in the state, Andhra Pradesh Technology Development Centre (APTDC) has been established as a joint venture of Government of Andhra Pradesh, Confederation of Indian
Industry, and the Technology Information, Forecasting and Assisting Council (TIFAC) under the Department of Science and Technology, at a Cost of Rs. 90 lakh.

9.4 Origin and Role of APIIC

Origin of the APIIC, its development and functions/role of the corporation are studied in the fourth chapter.

9.4.1 Origin

Industrial estates programme in Andhra Pradesh was undertaken by the Department of Industries, Government of Andhra Pradesh till 1973. The experience of states like Maharashtra and Gujarat where the industrial estates programme was proved to be successful by setting up a separate institution for providing industrial infrastructure facilities motivated the Government of Andhra Pradesh to start a separate Corporation for this purpose. Further, to provide greater flexibility and minimise procedural aspects, in managing industrial estates, Government of Andhra Pradesh decided to establish a separate Corporation, viz., Andhra Pradesh Industrial Infrastructure Corporation (APIIC). APIIC thus has been registered as a limited company of the state Government on 26th September 1973 under the Companies Act 1956. It has started functioning from 1.1.1974 independently by getting transfer of industrial estates and industrial development areas from the Department of Industries, Government of Andhra Pradesh, pending settlement of the value.

9.4.2 Development

APIIC has been developed as one of the viable Corporations of the state. As on 31.8.1996 it has acquired 25,358 acres (10,262 hectares) of land, and developed 13,272 acres (5,371 hectares). In addition to the head office located at Hyderabad, it has 10 zonal offices and sub-zonal offices too covering the entire state for its activities. It is the only Governmental Corporation which is involved in providing industrial infrastructure in the state of Andhra Pradesh. It has about 800 employees on its rolls both at Head Office and Zonal/Sub-zonal offices, out of which 235 are of Manager cadre.
9.4.3 Functions

Main functions of the Corporation are: identification of suitable sites for new industrial estates/industrial development areas, land acquisition through the land acquisition procedure or through private negotiations, development of the land acquired, construction of factory sheds, making arrangements for power and water supply, industrial housing, allotment of developed land, plots and sheds, and promoting effluent treatment plants, etc.

Conferment of Local Authority Status to APIIC with effect from 1.10.1994 for all its industrial estates and industrial development areas including its housing complexes for collection of property tax, approving building plans and other related activities, and maintenance of facilities in the estates, is one of the remarkable decisions of the Government of Andhra Pradesh. The other remarkable decision is the delegation of powers of Urban Development Authority and Town Planning Department to APIIC in approving the building plans on the sites of APIIC. These are expected to facilitate entrepreneurs in getting their works done on time and will help in hastening the execution of works in industrial estates and industrial development areas.

9.4.4 Power & Water Supply

Most important factors for location of any industry are availability and reliability of power and water.

Due to financial constraints, the APSEB stopped to lay the power lines to the estates at its own cost and introduced a scheme called voluntary loan contribution (VLC). APIIC was called on to make the contributions towards the capital expenditure as loan to APSEB. This scheme worked well. It was suspended in 1985, and the same has been replaced by Service Line Charge Scheme (SLCS) which is in vogue now. This expenditure is first borne by the APIIC and subsequently loaded on to the price of the land/plot/shed payable by the entrepreneurs.

APIIC is maintaining both its own water schemes and purchasing water from Manjeera water supply/Hyderabad Metro water schemes, and supplying to industries. Water charges are
collected from the entrepreneurs. Based on the requirement of water worked out to 45 MGD for the major industries proposed to be located in and around Visakhapatnam, water is proposed to be drawn from the Yeleru canal project. A reservoir will also be constructed to store and supply water during summer when the canal is closed for maintenance work.

9.4.5 Allotment of Developed Land/Plot/Shed

There is a prescribed application form priced at @ Rs.50/- each for applying for a piece of land/plot/shed. The intended applicants are expected to apply in the form prescribed along with the other supporting documents like SSI registration, project report, partnership deed etc., duly paying the EMD and processing charges. SC/ST applicants are exempted from the payment of application cost, EMD and processing fee.

There are certain priorities for allotment. 15% of vacancies shall be reserved for the SCs, and 6% for the STs, is the first priority; applicants of 100% export units having green card is the second priority; existing entrepreneurs asking adjoining plot/shed for expansion is the third priority; and balance of the vacancies is the fourth priority. Earlier allotment was on hire purchase, rental, and on outright sale basis. But now, all the allotments are on outright sale basis only. On allotment, the allottees are expected to pay the total cost within 60 days from the date of receipt of the allotment letter.

As at the end of August 1996, the Corporation could develop 17,911 plots, and construct 3,819 sheds and 4,678 houses. Against the above, 14,001 plots, 3,496 sheds and 4,499 houses were allotted. Thus, the rate of allotment was at 78.17%, 91.54% and 96.17% respectively.

9.4.6 Organisation Structure

The Head Office of the Corporation is located at Hyderabad which is mainly divided into 4 departments viz. Development & Finance, Lands, Engineering and Internal Audit. All the industrial estates/areas of the Corporation in the state were looked after by its Regional offices located at 15 places in addition to 6 Engineering divisions located at different places of the state. The powers were centralised and a centralised accounting system was followed.
This was continued till June 1992. In June 1992, the Vice-Chairman and Managing Director, Sri K.V. Rao has modified the structure, and an integrated pattern has been evolved merging the cadres of development and engineering at Zonal Manager's level. As a result, instead of 15 Regional Offices, 14 zonal offices have been formed, and the 6 Engineering Wings have been continued. Certain powers have also been delegated to the Zonal Managers including drawing of the salaries of the staff working under them and allotment of land/plot/shed, etc.

The number of zones have been reduced to 10 w.e.f. December 1996, and 6 Project Manager Wings have been created.

9.4.7 Management

The Chief executive of the Corporation is the Vice-Chairman and Managing Director who is appointed by the Government of Andhra Pradesh from the IAS cadre. He is responsible for the activities of the Corporation. Planning which is the foremost function of management is done at the Head Office level, and the Vice Chairman & Managing Director while preparing the plans will take his team of heads of departments into confidence.

The integrated pattern of the Zonal Office seems to be functioning well but lot of cooperation and coordination among the engineering and development wings are needed which are said to be lacking at present. In addition to the seniority cum fitness principle followed for promotions, merit aspect is to be given due weightage in order to encourage the efficient and committed staff.

Except in 1985, APIIC never tried for its perspective plans which are very much required for its sustainable success.

9.5 Select Thrust Activities of APIIC

Some of the specialised activities undertaken or catalysed by APIIC presented in the Fifth Chapter. These are: centrally sponsored growth centres, integrated infrastructure development centres, export promotion industrial park, apparel export park, common effluent treatment plants, and implementation of Local Authority Status conferred on APIIC.
9.5.1 Centrally Sponsored Growth Centres

Out of the four locations planned as centrally sponsored growth centres in Andhra Pradesh from 1988, two have shown faster progress as they have considerable development potential and locational advantages. These centres are Ongole in Prakasam district, and Bobbili in Vizianagaram district. They are on the Chennai-Howrah National Highway (NH5). The State Government plans to concentrate on these two centres at present, and take up the other two centres (Hindupur in Anantapur district, and another centre yet to be finalised in Nalgonda district) at a later date. Pace of development has been quite slow and organisational efforts needed have to be substantial for attracting entrepreneurs and for hastening the pace of infrastructure development. Involvement of the private sector in the development of growth centres has not been significant so far.

1491 acres of land was acquired up to the end of March 1996 (Ongole 515 acres, Bobbili 840 acres, and Hindupur 136 acres) and requisitions were filed for a total of 4512 acres in respect of these three centres. Up to the end of March 1998, Centre released an amount of Rs. 11.40 crore, State Government Rs.5.00 crore, out of which expenditure of Rs. 13.03 crore was incurred. It is suggested that a separate organisation known as Growth Centre Development or Industrial Area Development Authority be created for overseeing the working of four centrally sponsored growth centres, and special projects such as Export Promotion Industrial Park and Apparel Export Park which can be a subsidiary of APIIC. With sizable delegation of powers, and special efforts put in by this authority, apart from inviting participation of private capital in a substantial manner and coordinated efforts of state institutions can speed up the process.

9.5.2 Integrated Infrastructure Development Centres, Export Promotion Industrial Park, and Apparel Export Park

Out of the three IID centres proposed from 1992, one centre near Nandyal in Kurnool district, approved in 1994, on an area of 68.5 acres has made moderate progress. Centre released Rs. 63.5 lakh up to the end of March 1997. Clearance is still to be received for the other two centres in Nellore and Warangal Districts. Gajularamaram in Ranga Reddy district
is another location approved in March 1998 for IIDCs. A woman entrepreneurs industrial estate is proposed in this location. Export Promotion Industrial Park is being developed at Pashamylaram of Medak district on an area of 200 acres, as part of a larger industrial area. Apparel Export park is coming up at Gundla Pochampally, close to Hyderabad in Ranga Reddy district, on an area of 176 acres. These parks are in the early stage of development.

9.5.3 Common Effluent Treatment Plants (CETPs)

In respect of CETPs, a good beginning has been made in the state by promoting the plants as joint stock companies, owned by entrepreneur-members of the area. Three CETPs are functioning and a few more are planned. Jeevemteeta CETP became operational in 1989. Its progress has been quite exemplary. Patancheru CETP is the largest and is yet to become fully operational; it is still facing teething problems. The Bollaram plant, the youngest, is the smallest in capacity. Other plants are still in the planning stage. Gestation period for these plants seems to be high.

9.5.4 Local Authority Status Conferred on APIIC

Local authority status conferred on APIIC duly amending the Hyderabad Municipal Corporation Act 1955, Andhra Pradesh Municipalities Act 1965 and Andhra Pradesh Panchayat Raj Act 1994 has been implemented from October 1994 in select industrial estates and industrial areas in the state.

The Local Authority Status conferred on APIIC is being implemented in the notified industrial estates/areas directly by APIIC where Entrepreneurs' service societies are not formed and through the entrepreneurs service societies where such societies have been formed.

For each of the service societies, the managing committee consists of 5 to 12 members, and the tenure of the committee is one year. In addition, nominees of government departments/public institutions will be ex-officio members. The chairman is an entrepreneur elected by the members. Zonal Manager of the APIIC concerned zone shall be the ex-officio Vice-Chairman. The powers and functions of APIIC after the conferment of local authority status are: collection of property tax which includes education tax, library cess, etc. tax on
advertisement, approval of the building plans, grant of permissions for construction, establishment or installation of factory, removal of encroachment, and maintenance of civic amenities with maintenance of roads, drainage, street lights, etc., in the notified areas. It has been agreed that 30 per cent of the property tax, thus collected is to be remitted to the local body concerned over half years, and total of education tax and library cess is to be sent to the district authorities concerned. Only 70 per cent of property tax collected is left for the maintenance of the facilities of the estates concerned. State Government has also delegated the powers of sanction of building plans of industrial buildings, hitherto exercised by UDAs/Director of Town Planning to APIIC in the APIIC notified areas, subject to the condition that the overall supervision regarding implementation of rules/regulations regarding building permissions will be done by the UDA/Town Planning Department, and the total fees collected in this regard should be remitted to the UDAs/Director of Town Planning.

Notified industrial area service societies have so far been formed in 27 locations covering 13 districts. Few service societies started operations from 1996; majority of them from 1997. The scheme of self governance by involving entrepreneurs for the maintenance of industrial estates has been attracted more in Coastal Andhra and Rayalaseema compared to Telangana region. Ranga Reddy district has implemented the scheme in almost all industrial estates and areas of APIIC. Mahabubnagar and Warangal districts have implemented the scheme in one location each in the districts. In all, there are ten districts where the scheme is yet to be initiated and even in districts where the scheme has been implemented, there are a number of other locations where it has yet to be adopted. Maiden experience of two to three years has certainly given encouraging results.

A few suggestions are made here to strengthen the programme of maintenance of estates and areas by service societies.

1. For the service societies to perform their functions, APIIC should extend all cooperation, including making available technical staff from the Engineering Department. In the long run, the entrepreneurs associations can be conferred the local authority status.

2. A few points agreed to by entrepreneurs are: (a) additional/new structures added to the existing buildings are to be assessed following the norms in vogue; (b) the programme of levy,
demand and collection of advertisement tax in the notified areas is to be pursued; (c) In order to mobilise donations from members in the notified industrial areas, the matter is to be pursued with the income tax authorities by APIIC and entrepreneurs for getting tax exemption.

9.6 Operational Performance of APIIC

The study in the Sixth Chapter is divided into two sections. First section deals with the physical achievements of the Corporation in terms of land acquisition and its development, plots developed and allotted sheds constructed for industrial units and allotted, and houses built for industrial executives and workers and allotted. Second section presents the inter-state comparison of policies and achievements of similar corporations involved in the development of industrial estates and areas, like Maharashtra Industrial Development Corporation (MIDC), Gujarat Industrial Development Corporation (GIDC), and Karnataka Small Scale Industries Development Corporation (KSSIDC) with that of APIIC.

9.6.1 Physical Achievements of APIIC

9.6.1.1 Overview on the Land Acquisition

As on 31-8-1996 APIIC acquired 25,358 acres (10,262 hectares) of land, and out of this, an area of 13,272 acres (5,371 hectares) was developed. In the acquisition of land, shares of Telangana, Coastal Andhra, and Rayalaseema regions are 45.4%, 42.1% and 12.5% respectively. Out of the developed land, the shares of the three regions are 56.4%, 28.8% and 14.8% respectively. It could be observed that eight out of 23 districts, viz., Ranga Reddy, Medak, Khammam, Visakhapatnam, East Godavari, Krishna, Vizianagaram, and Chittoor, together account for 74.9% of land acquired. In four districts, viz., Adilabad, Karimnagar, Nizamabad, and West Godavari, land acquisition was very poor. An attempt is also made to observe the proportion of land acquired to the actual area of the district/region concerned.

When the area of the Telangana region was 41.75% of the state, land acquired in this region was 45.4%. When the area of Coastal Andhra region was 33.78% of the state, land acquired was 42.1%. When the area of Rayalaseema region was 24.47% of the state, area acquired was 12.5%. Therefore, Telangana region had a major share. A comparison has also been made between the total of backward districts (14) and non-backward districts (9). The share of backward districts in land acquisition was 44.84%, and it was 55.16% in non-backward
districts. Similarly, development of land in backward districts was 44.31% and it was 55.69% in the non-backward districts. Land acquired per 1000 sq.kms. of area was 58.35 acres in backward districts and it was 174.4 acres in non-backward districts, the average for the state being 92.2 acres. The above analysis reveals that even though there is some industrial progress in a number of backward districts, some of these districts continue to lag behind, when compared to non-backward districts.

9.6.1.2 Development of Industrial Estates/Areas

Based on the nature of the estate, total estates (15 types) developed by APIIC till 31-8-1996 have been grouped into six categories viz., 1) industrial estates (6 types), 2) industrial development areas (5 types), 3) commercial complexes, 4) autonagars, 5) mini-industrial estates and 6) industrial housing complexes. As per this grouping, out of 263 industrial estates/industrial development areas, 98 are industrial estates, 88 are industrial development areas, 20 are commercial complexes, 17 are autonagars, 23 are mini industrial estates and 17 are industrial housing complexes.

9.6.1.3 Industrial Estates

Out of 98 industrial estates falling under this group, 68 are government promoted conventional industrial estates, 20 are assisted private industrial estates where entrepreneurs constructed factory buildings, 3 are ancillary industrial estates, another 3 are rural industrial estates, 2 are satellite industrial estates and 2 are self employment industrial estates. For developing these 98 industrial estates an area of 3,598 acres of land was acquired, out of which 3,000 acres was developed. In the developed land, 4,317 plots were developed, and 1,687 sheds were constructed. Out of this, 3,515 plots and 1,543 sheds were allotted. The rate of allotment of plots and sheds was 81.4% and 91.5% respectively. Industrial estates are developed in all the 23 districts of the state.

9.6.1.4 Industrial Development Areas

Out of 88 industrial development areas falling under this group, 81 belong to normal pattern of industrial development areas, one is an integrated infrastructure development centre
(IIDC), 3 are growth centres (GCs) (IIDCs & GCs have been sponsored by Government of India), two are wood complexes and one is an electronic complex. For developing these industrial development areas, an area of 19,989 acres of land was acquired, out of which 9,104 acres was developed. 6,401 plots were developed, and 4,504 plots were allotted. 1,367 sheds were constructed, and 1,317 were allotted. The allotment of plots and sheds was 70.4% and 96.3% respectively. Industrial development areas are developed in 19 districts (except West Godavari, Kurnool, Hyderabad, and Adilabad) of the state.

9.6.1.5 Commercial Complexes

20 commercial complexes were developed in 11 districts of the state on an areas of 8.3 acres of land. 305 tenements were constructed, out of which 241 were allotted. The rate of allotment was 79%.

9.6.1.6 Autonagars

To reduce traffic congestion, autonagars were developed in 17 locations in 11 districts. An area of 1,407 acres of land was acquired, out of which 956 acres was developed. 7,186 plots were developed, out of which 5,976 were allotted. Out of 213 sheds constructed, 207 were allotted, resulting in the allotment of plots and sheds of 83.2% and 97.2% respectively.

9.6.1.7 Mini Industrial Estates

For the benefit of SC/ST entrepreneurs, mini industrial estates have been developed by APIIC normally on an area of around one acre of land, from the funds provided under the special component plan of the state of Andhra Pradesh. 23 mini industrial estates have been developed in 18 districts of the state, for which 25.3 acres of land was acquired and fully developed, wherein six plots were made, and all the 6 plots were allotted. Out of 247 sheds constructed, 191 sheds were allotted. The allotment of sheds was 77.3%.
9.6.1.8 Industrial Housing Complexes

Industrial housing is an important social infrastructure facility. Realising this, APIIC could venture for the development of 17 industrial housing complexes in 10 districts of the state. An area of 330 acres was acquired for this purpose, out of which 179 acres was developed. Out of 4,678 houses constructed, 4,496 houses were allotted. The allotment was 96.1%. This indicates the demand for the industrial housing, which needs special attention of the authorities concerned. However, it is learnt that due to the market competition in the promotion of housing colonies by private builders, the APIIC is not enthusiastic to undertake the development of industrial housing complexes.

9.6.1.9 Regional Imbalances and Development of Growth Centres

From the foregoing statistical information on the development of various kinds of industrial estates/areas in different locations of the state, it could be observed that non-backward districts are having a higher share compared to backward districts. Even among non-backward districts, some of the districts which are adjacent to major urban areas and metropolitan cities account for a major share. Based on this information, the districts have been categorised into four groups. First group consists of Ranga Reddy, Hyderabad, and Medak districts of Telangana region. Second group consists of Chittoor and Ananthapur districts of Rayalaseema region. In Coastal Andhra region, two groups have been identified. First group consists of Vizianagaram, Visakhapatnam, and East Godavari districts, and second group consists of Krishna, Guntur, and Prakasam districts. The first group consisting of three districts of Telangana region accounts for the highest among all the groups. Another classification attempted is based on the size of industrial estates/areas. In 15 districts, 29 locations of IEs/IDAs have been identified where the size of land acquired ranges from 200 to 1650 acres each. These 29 locations, together account for 69.4 per cent of land acquired by APIIC. Area acquired in six locations with 1000 to 1650 acres each accounts for 30 per cent. In 13 locations of 400-1000 acres each accounts for 28.7 per cent, and in 10 locations of 200-400 acres each accounts for 10-7 per cent.

Analysis made from different angles reveals that the spread of industrial estates and industrial development areas is higher in advanced districts than in backward districts. Land
acquired per 1000 sq.kms. area was 58.4 acres in backward districts as compared to 174.4 acres in advanced districts for the industrial estates programme. Therefore, the analysis indicates that vigorous efforts have not been made by the APIIC for the development of industrial estates in backward areas. In a number of backward districts, industrial estates programme needs to be pursued vigorously.

9.6.2 Inter-state Comparison

A comparative study has been presented in this section on the role, performance and policies of industrial infrastructure corporations in a few states like Maharashtra, Gujarat, Karnataka and Tamil Nadu with that of APIIC. The infrastructure organisations considered are MIDC, GIDC, APIIC, KSSIDC, KIADB, SIDCO, SIPCOT and TACID.

9.6.2.1 Organisational Aspects

MIDC was formed in 1962 by an enactment of the state legislature under the Maharashtra Industrial Development Act 1961. GIDC was also formed in 1962 by an enactment of the state legislature under the Gujarat Industrial Development Act 1962. Minister for Industries of the state concerned is the Chairman of the Corporation in both the cases. Therefore these corporations are enjoying more support from the Government. APIIC was established in 1973 as a company of the Government of Andhra Pradesh and it was registered under Companies Act 1956. Both KSSIDC and KIADB have also been registered under Companies Act.

9.6.2.2 Physical Achievements

MIDC developed 195 industrial areas which are large in size, GIDC has developed 274 industrial estates/areas, most of which are also larger than the estates of APIIC; APIIC has developed 226 industrial estates/areas; KSSIDC of Karnataka has developed 129 industrial estates and KIADB of Karnataka has developed 71 industrial areas. The estates developed by APIIC are relatively small in size even though the number is reasonably good.
MIDC of Maharashtra has acquired about 41,000 hectares of land, GIDC of Gujarat has acquired 21,600 hectares of land, and APIIC could acquire only 10,262 hectares of land.

Out of 35,546 plots developed by MIDC, 30,802 plots were allotted, and allotment was 86.7% of developed plots. To the extent of 86.7% of the land developed by GIDC was allotted. Out of 17,911 plots developed by APIIC, 14,001 plots were allotted, and it was 78.2%. Out of 4,534 sheds/galas constructed by MIDC, 4,253 were allotted, and it was 93.8%. Out of 12,291 sheds constructed by GIDC, 11,844 were allotted, and it was 96.4%. Out of 3,819 sheds constructed by APIIC, 3,499 were allotted, and it was 91.6%. Out of 5,451 sheds constructed by KSSIDC, 5,129 were allotted, and it was 94.1%. Out of 2,806 residential plots demarcated by MIDC, 2,114 were allotted, and it was 75.3%. Out of 12,822 housing quarters constructed by GIDC, 11,183 were allotted, and it was 87.2%. Out of 4,678 houses constructed by APIIC, 4,496 were allotted, and it was 96.1%. Number of industrial units established in the areas of MIDC was 23,095 (including projects under implementation); in the estates of GIDC, functioning units were 16,304, and in the estates of APIIC, the number of units established (including the projects under implementation); was 11,300. Number of medium and large industrial units located in MIDC and GIDC areas is much larger than the corresponding number in APIIC areas. GIDC has promoted 8 common effluent treatment plants and APIIC has promoted only 3 common effluent treatment plants.

From all angles, industrial infrastructure development in Andhra Pradesh through the pivotal role played by APIIC, could be considered a modest attempt, and needs strengthening in certain directions for the future. APIIC has a few creditable accomplishments where it has shown the lead for other states. Medium-term perspective of 15-20 years, a broad vision and full support from the state government can bring about high level of success in the implementation of this programme. Involvement of industry associations for a variety of purposes can go a long way in improving the quality of implementation of the infrastructure programme. In the four industrially developed states covered in this section, particularly Maharashtra and Gujarat, the associations in major industrial centres have become models of industry - institution interaction for the benefit of the industrial community.

As an organisation, APIIC is rated to be quite sound in its finances and is one of the best managed public sector organisations of the state. Development of townships and social
infrastructure near industrial areas towards comprehensive pattern of development in leading industrial areas of MIDC and GIDC is a prominent feature for adoption in other states.

9.7 Capital Structure and Financial Performance of APIIC

In view of the importance of finance for any organisation, an attempt is made in the Seventh Chapter to study the financial pattern of APIIC, utilisation of its funds and results thereon. Audited annual reports of the Corporation and interim reports prepared by the authorities of Corporation, and personal discussions the researcher had with them are the main sources of information for the study as covered in this chapter.

In this evaluation study of the financial performance of the Corporation, its capital structure, analysis of balance sheet data for a period of five years and pricing policies of the Corporation have been reviewed.

9.7.1 Capital Structure: APIIC being the state public sector enterprise has the following sources of finance.

a) Equity: The Corporation has an authorised capital of Rs.20.00 crore (earlier it was Rs.10.00 crore) and paid up capital (by the Government of Andhra Pradesh only) of Rs.16.04 crore as on 30th September 1996.

b) Loans from the State Government: Loans to the tune of Rs.15.97 crore have been raised from the Government of Andhra Pradesh. The Corporation has cleared all loans, leaving an amount of Rs.0.70 crore, as on 31.3.1996.

c) Loans from Commercial Banks: The Corporation raised loans from commercial banks to the tune of Rs.2.85 crore which were fully cleared by 31.3.1993.

d) Loans for Industrial Housing Schemes: Loans were also raised to the tune of Rs.4.02 crore from HUDCO for housing schemes and the same have been cleared, leaving a balance of Rs. 4.79 lakh as on 31.3.1996.
e) **Loans on unguaranteed debentures**: Loans from financing cooperative Sugar factories, Government Companies and other developmental activities were raised to the tune of Rs. 12.27 crore which were subscribed by commercial banks on unguaranteed debentures. These were fully repaid prior to March 1998.

f) **Internal sources**: The corporation's main source of income is recoveries from the sale/lease/hire of its land/plots/sheds. In addition, it could also raise some resources by undertaking civil works of State/Central governments and other organisations on deposit work basis. During the year 1996-97, its total recoveries were Rs. 31.3 crore.

9.7.2 **Analysis of the Balance Sheets Data**

From the analysis of the audited balance sheets of the Corporation for a period of 5 years (1989-90 to 1993-94) and profit and loss account (including unaudited figures) for a period of 10 years (1987-88 to 1996-97), it is confidently observed that the Corporation was being run on healthy lines following prudent and careful financial practices. In this regard, some of the observations of the auditors of the company are important to be noted which have stated that APIIC has not accepted any deposits from public, the Corporation is regular in depositing provident fund dues with the appropriate authorities, and the Corporation is not a sick industrial company within the meaning of the Sick Industrial Companies (Special Provisions) Act 1995. These observations reveal that the Corporation is running systematically and self-sufficiently. The net profit position for the last seven years i.e., 1989-90 to 1995-96, reveals that the Corporation is earning reasonable profits except during the year 1993-94 (when the profit was only Rs. 7.73 lakh) which reveals that it is a viable Corporation of the state Government running on sound lines.

The value of the land acquisition and recoveries made during the recent ten years period of 1987-88 to 1996-97 reveals that land acquisition during the recent years is low when compared to earlier years. However, recoveries seem to be making good progress because of the special drive taken up by the Corporation in recovering the amounts. It is observed from the composition of recoveries that the major portion is from deposit works undertaken by the Corporation utilising the manpower available in its Engineering Department. Even though it appears that the Estate works of the Corporation are neglected because of taking up substantial
quantum of deposit works, the authorities stated that the interest of the Corporation had been taken care of while entertaining the deposit works.

9.7.3 Pricing Policy

Pricing policy of APIIC on the allotment of land/plot/shed has been changing from time to time. Such policy changes have taken place thrice. Therefore, for reviewing the pricing policies of the Corporation, the period has been divided into three blocks, viz., 1974-78, 1979-81 and 1982 onwards.

a) **Pricing Policy during 1974-78:** Since it was the initial period of the functioning of the Corporation, the pricing policy was not based on commercial considerations. While fixing the sale price, actual cost of the land and the estimated development expenditure for the infrastructure facilities used to be taken into consideration. No cushion for the probable liabilities that would accrue later or interest on land cost or on the construction cost from the date of incurring expenditure, till it is disposed off was not taken into consideration. This policy was adopted only to encourage prospective entrepreneurs even though the Corporation had to incur losses in the beginning.

b) **Pricing policy during 1979-81:** During 1979-81, due to the price escalation on the acquisition of land consequent upon the court decrees, Corporation had to pay large amount of compensation to land owners. This necessitated change in the pricing policy. Keeping in view the earlier experience of enhanced compensation paid to land owners, the Corporation included the probable compensation in the price based on the maximum cost fixed by courts for a particular piece of land in an estate. As a result, the prices substantially increased, and there was considerable criticism from entrepreneurs stating that this policy was countering the very promotional policy of the Government in industrialising the state. It has also adopted the principle of cross subsidisation while fixing the price which was also not welcomed. Therefore, the Corporation had to decide to provide only the basic infrastructure, and not to take up activities like black topping of roads, avenue plantation, etc. This has also led to lot of criticism from entrepreneurs.
c) **Pricing Policy from 1982:** The existing pricing policy has been reviewed in 1981 and decided to provide basic infrastructure facilities like black topping of roads, avenue plantation, side drains, etc as these were all part of its main charter. As per the Town and Country Planning regulations including Urban Development Authority, 40% of the area in an estate is to be earmarked for common facilities. Therefore, this cost of 40% of the area is to be charged on 60% of the land available for allotment. Therefore, the Corporation considered the cost of total land, its development charges and all statutory/incidental charges while fixing the sale price. The cost escalations are being collected from the allottees on the decisions of the courts for which a suitable clause was incorporated in the agreement of sale deed.

Even though, there was resistance from entrepreneurs in accepting the pricing policies, the Corporation was successful in implementing its policies from time to time.

9.8 Perception of SSI Entrepreneurs and APIIC Officials on the performance of the Corporation

Analysis report of the Eighth Chapter is based on the feedback received from entrepreneurs and their Associations, and the officials of APIIC and their Association. This report is presented in two sections. First section of the report is on the perceptions of sample entrepreneurs and their associations, and the second section of the analysis report is on the perceptions of the officials of APIIC and their Association.

The statistical tool of weighted average method was used for ranking the views/ideas wherein 5 points were given for excellent, 4 for good, 3 for satisfactory, 2 for poor and 1 for very poor.

9.8.1 Perceptions of SSI Entrepreneurs

Feedback from entrepreneurs has been gathered from four districts, viz., Visakhapatnam, Chittoor, Ranga Reddy and Medak, covering all the three regions of the state through a questionnaire. From the four districts, 8 locations of IEs/IDAs have been selected from which 90 entrepreneurs and 24 representatives of Entrepreneurs' Associations (total 114) have been consulted.
9.8.1.1 Profiles of Selected Entrepreneurs/Enterprises

Analysis has been made based on the personal data of entrepreneurs, viz., community, age, state of origin, qualifications, experience, family background and reasons for selecting the product line. Similarly, analysis has also been made based on the information on their enterprises, viz., age of the enterprise, form of organisation, category of industry, size of investment in plant and machinery, main source of borrowed capital, employment size, and annual turnover.

The analysis reveals that the size of sample units is a combination of all communities of entrepreneurs though the proportion of BC/SC/ST communities is small, having high maturity, from different parts of the state, and also few from other important states of the country like Tamil Nadu, Maharashtra, Gujarat, Karnataka and Delhi, possessing non-technical as well as technical qualifications and also having sufficient experience in the field of activity.

9.8.1.2 Views on Opting for the Plot/Shed of IE/IDA of APIIC

The information about APIIC was known to entrepreneurs mainly through the officials of Department of Industries, relatives and friends, and other sources. APIIC's contribution in this regard is very limited. Majority of entrepreneurs have opted for land/shed/plot of the APIIC hoping that good infrastructure facilities will be made available by APIIC, and the land is trouble free.

9.8.1.3 Membership in the Entrepreneurs' Association and its Services

Some of the factors like development of fraternity among members, promotion of mutual cooperation, easy supply of scarce raw materials, easy availment of governmental subsidy, reduction of unhealthy competition among members, and to have the benefits of an Association, have motivated the entrepreneurs to become the members of the Entrepreneurs' Association at the respective estates/areas. These associations are serving its members in many ways like representing the problems to the organisations, providing various types of information to the members, coming to the rescue of members whenever needed, establishing common effluent treatment plants, and collecting the property tax and maintaining the estates.
9.8.1.4 Views on APIIC & other Agencies

The analysis report reveals that the infrastructure facilities like levelled plots, formation of roads, avenue plantation, drainage system, water and power supply, effluent treatment facility, industrial housing, and other services like post offices, banks, schools, hospitals, etc., which were provided or coordinated by APIIC are not even at the nearing rank indicating satisfactory. These facilities were ranked as substandard. The maintenance of the estates was also ranked as below poor. Even though APIIC has been conferred the local authority status for collection of property tax and maintenance of estates, entrepreneurs are in doubt regarding the cooperation and support to be extended by the APIIC which is needed for its success. However, entrepreneurs are hopeful of bringing about improvements in the maintenance of the estates. The report reveals that the APIIC very rarely responds to representations made by entrepreneurs on various problems being experienced by them on power and water supply, drainage system, street lights, roads, etc.

The report reveals that the administration of APIIC is far below satisfactory level. It is ranked as just poor. However, entrepreneurs ranked the administration of other governmental agencies like Inspector of Boilers, Directorate of Industries, A.P. Pollution Control Board, and A.P. State Electricity Board at nearer to the satisfactory level. Therefore, entrepreneurs have a better image of the other state level organisations and financial institutions when compared to APIIC. The services of local bodies, viz., panchayats, municipalities and corporations in the maintenance of the IEs/IDAs, and other related services have been ranked as below satisfactory.

9.8.1.5 Suggestions for Improved Services of APIIC

Out of 114 entrepreneurs, 85 (75.4%) have come forward to offer their suggestions for improving the services of APIIC. Some of the important suggestions offered by entrepreneurs are: APIIC should have a liberal attitude towards entrepreneurs; it should not do real estate business; simplified procedures should be followed; it should have very cordial coordination with other governmental agencies like APSEB, APPCB, Directorate of Industries, etc.; it should provide additional borewells for supply of sufficient water; it should provide sound and
high quality of infrastructure facilities; political interference should be reduced; all support services like transportation, post offices, banks, schools, housing facility, canteen, health centre and police station at the estates should be provided, and full support should be extended by APIIC on the maintenance of estates by Entrepreneurs’ Associations.

9.8.1.6 Views of the Entrepreneurs’ Associations

24 representatives from 12 industry associations have been contacted. These associations are representing 2,117 industrial units. Analysis report on their views also revealed that neither the APIIC nor the other governmental agencies are attaching importance to the problems placed before them for redressal. They are of the opinion that if the entrepreneurs' representations are attended to from time to time, it will boost the morale of entrepreneurs. The report also reveals that sound and high quality industrial infrastructure is required for accelerating industrialization of Andhra Pradesh. If infrastructure provided is inadequate or unreliable as felt by entrepreneurs, prospective investors will continue to prefer to start their industries in industrially advanced states like Gujarat, Maharashtra, Tamil Nadu or Karnataka where better infrastructure facilities are available.

9.8.2 Perceptions of APIIC Officials

Views of the officials of APIIC and their Association regarding various organisational and managerial aspects, and also on the quality of entrepreneurs have been gathered. The Corporation was having 798 staff members on its rolls as on 31.12.1996. All the senior level officers up to the Deputy Manager cadre who were 93, have been approached through a questionnaire, out of which 30 have responded. The office bearers of the employees association have also been approached, and 5 of them have responded. Out of 10 zones, except Kurnool and Warangal zones, the remaining 8 zones have responded covering 11 districts, viz., Srikakulam, Visakhapatnam, East Godavari, Krishna, Nellore, Chittoor, Cuddapah, Nalgonda, Ranga Reddy, Medak and Hyderabad.
9.8.2.1 Personal Data of Sample Officials

Out of 35 officials, 26 (74.3%) are of the age group of 41-50 years and 5 (14.3%) are of the age group of 51-58 years. Remaining fall in the miscellaneous category. 14 (40%) are Managers, another 14 (40%) are Deputy Managers. Most of the Officers, i.e. 27 (77.1%) are having experience of about 21-30 years; 18 (51.4%) are possessing conventional qualifications like B.A., B.Com., M.A., M.Com., etc., and 16 (45.7%) are possessing technical and professional qualifications like B.E., B.Tech., LL.B., M.B.A., etc.

9.8.2.2 Organisational Aspects

Except the staffing pattern which is close to satisfactory level, the remaining aspects are above satisfactory level. The punctuality, regularity, promptness in disposing of cases, maintenance of records, relations with colleagues, relations with entrepreneurs, and feedback to officers by the supporting staff are above the satisfactory level. The job satisfaction of the officials is also above the satisfactory level. Therefore, it could be known that the Corporation is running on sound lines.

9.8.2.3 Views on the Business Transactions of APIIC

Out of 35 officials, 7 (20%) agree with the views of the entrepreneurs that the APIIC is doing real estate business rather than serving as a promotional agency. Even though it is the view of only 20% of respondents, since it is the opinion of senior level officials, it cannot be ignored, and therefore, lot of change in the policies of APIIC needs to be brought about.

Majority of officials have expressed that the Corporation would hereafter be in a position to provide improved facilities and ensure good maintenance of its estates, as it can collect the maintenance charges from entrepreneurs, and spend it for the maintenance of the respective estates on the conferment of Local Authority Status.
9.8.2.4 Views on the Fulfillment of Corporation's objectives

The report reveals that the officials ranked infrastructure, viz., development of IEs/IDAs, its allotment, industrial housing, autonagars, water and power supply are at above 'satisfactory' and below 'good' level. Effluent treatment plants and other support services like technical advice, market information, post and telegraph, transport, etc. are at below the satisfactory level. Therefore, there is need for augmenting the existing facilities.

9.8.2.5 Views on Entrepreneurs

The report reveals that quality of entrepreneurs is just above the satisfactory level, and therefore it is important to improve the quality of entrepreneurs through orientation/training programmes. More than 25% of entrepreneurs are disappointed about the services provided by APIIC.

The report also reveals that more than 20% of the allottees are not implementing their projects successfully because of several reasons like financial problems, family problems, avoiding tactics. This kind of crisis is being managed by APIIC by granting some more time than stipulated in the agreement for implementing the project, cancelling such allotments, and re-allotting the plots to the next interested entrepreneurs, etc.

9.8.2.6 Views and Suggestions of Employees' Association of APIIC

The report reveals the relationship between the subordinates and executives at different levels. General treatment and receptivity are above satisfactory level, and guidance and motivation are below satisfactory level at the top-level management. General treatment, guidance, receptivity and motivation are at above satisfactory level at middle-level management. Guidance and receptivity are in a better position when compared to the other two. All the four aspects are at above the satisfactory level at lower-level management. Therefore, some attitudinal changes are required at the top-level Management. The relation between the Association and the management at the top level is above satisfactory level. It is still better at the middle and lower level management.
Some of the important suggestions of the employees' association are as follows:
back-door entry of class IV employees should be stopped; recruitment should be through
public service commission and need based; professionals should be recruited at Assistant
Manager and above levels; merit element should be given proper weightage in promotions;
time bound promotions should be given; work load should be assessed periodically, and staff
should be provided accordingly; staffing pattern as suggested by the Andhra Pradesh
Productive Council in 1975 should be followed; pay structure of the Andhra Pradesh State
Financial Corporation should be adopted; weightage is to be given to the field staff;
accountability should be introduced in each cadre; organisation at various levels and in
different departments should be computerised for increasing the operational efficiency;
chief executive of the Corporation should not be changed frequently; and his term should be at least
3 to 5 years; there should be reward for excellence and punishment for negligence of officials;
the Corporation after developing the area and allotment of plots/sheds of an estate, should
handover the estate to the local body/entrepreneurs' association, and vacate that place to
develop another location; the present zonal system should be re-organised in such a way that
the jurisdiction of the zone should be easily approachable from different centres of the zone.

9.9 Findings

From the analysis of both primary as well as secondary data attempted in the study, the
following conclusions and findings are arrived at on the hypotheses visualised for the study:

1) Development of Industrial Estates and Industrial Development Areas contributes to
balanced industrialisation of the state. However, in view of the faster growth of potential
centres and clusters, imbalance persists and even gets accentuated.

The study, particularly as presented in chapters three and six revealed that even though
some industrial dispersal could be seen in backward areas, it is not up to the expectations.
Even among the backward and non-backward districts, few districts are dominating in the
concentration of industries because of the potentiality of the centres. As a result, the gap
between backward and non-backward areas is increasing. Therefore, the above hypothesis is
proved. The study has also revealed that the APIIC's contribution to backward areas is much
less when compared to that of MIDC and GIDC. Even in the context of development of
growth centres in different parts of the state, progress made has been quite limited. It has
further revealed that the concept of 'balanced regional development' has not been vigorously
pursued by the APIIC.

2) **Sound industrial infrastructure attracts prospective entrepreneurs with technical
background and industrial experience, and also migrant entrepreneurs from outside the state.**

The study as presented in chapters six and eight revealed that 47.5 per cent of sample
entrepreneurs are with technical background and experience. Andhra Pradesh could not attract
prospective entrepreneurs in large numbers from other states. In the sample covered in the
study, the number of such entrepreneurs was only 11.5 per cent. It could be observed from the
study that the percentage of entrepreneurs with technical background is less than the
non-technical ones, and the percentage of entrepreneurs from outside the state is quite low.
The reasons for these situations are attributed to not so attractive infrastructure facilities
provided in the state. Therefore, the above hypothesis is proved.

3) **Entrepreneurs have been playing a significant role through their Associations in the
development of Effluent Treatment facilities, and in the maintenance of facilities developed
in the IEs/IDAs of APIIC.**

The study, as presented in chapters five and eight revealed that because of the
commitment and initiative of entrepreneurs, three Common Effluent Treatment Plants
(CETPs) have come up around Hyderabad. Consequent upon the involvement of entrepre-
neurs' associations in the maintenance of facilities in the estates through "Entrepreneurs'
Service Societies", implementation of local authority status experiment is progressing well.
Wherever the Entrepreneurs' Service Societies have been formed, revenue realisation is much
better and maintenance of the estate facilities has certainly improved. Therefore, the above
hypothesis is proved.
4) **Focus of infrastructure development by APIIC has been more on physical facilities, directly linked with industrial activity, and not on social infrastructure such as housing, educational and health facilities, etc.**

The study as presented in chapter six and eight revealed that industrial infrastructure developed by APIIC is modest, and cannot be compared with the high quality of infrastructure provided by other similar corporations such as MIDC and GIDC. The study also revealed that in respect of creation of social infrastructure facilities which include housing, schools, health facilities, play grounds and recreational centres, APIIC's contribution has been very low as the housing belts developed were only 17 in ten districts, and relatively small ones. Development of townships near industrial belts has not been pursued in Andhra Pradesh. In Maharashtra and Gujarat, because of the vast areas acquired for industrial use, township development, and development of social facilities in other areas where housing was taken up in a substantial way, social facilities were developed in a planned manner in many locations. Therefore, the above hypothesis has been proved.

5) **Integrated pattern of the organisational structure of APIIC operating through zonalisation is more effective.**

In chapters four and eight, reorganisation of the zonal pattern of working of APIIC is covered. The main wings of the corporation, namely, development, engineering and finance, were operating independently at the zonal level and the officers concerned were reporting to their respective heads of departments at the head office, in the earlier pattern. In this pattern of working, as there was no unified command at the zonal level on behalf of the corporation, the work was hampered. This made the corporation reorganize the zonal set up and integrate it. With one zonal manager, either of engineering or development background, he is supported by a team of personnel consisting of all the three disciplines of engineering, development and finance. Coordination of work of the three wings at the zonal level in the reorganised pattern has been proved to be much better in the recent years. The present reorganised pattern came into existence in 1996. Functionally, the reorganised and integrated pattern of working at the zonal level, has yielded results. Zonal manager's post has been made a combined cadre of engineering and development wings. In the reorganised pattern, greater delegation of power is given to the zonal managers and other field level officers like Deputy
Zonal managers. However, as reported by officers of APIIC and covered in chapter eight, promotional aspects of development department personnel were affected, with weightage given to engineering personnel for posting as zonal managers. Recruitment and promotion policy needs to be studied from this angle and the discrepancies sorted out. Integrated zonal pattern, though technically sound from a functional angle, should not adversely affect the carrier prospects of development personnel. The hypothesis has been partially proved right, and the adverse implications of its working need to be analysed, and corrective steps taken by the management in the near future.

9.10 Recommendations

A few important recommendations that have been generated from the study, are presented in this section and grouped them into i) Organisational, ii) Entrepreneurial, and iii) General.

9.10.1 Organisational

1) The experience of the Corporation is that, in a period of 22 years, 22 chief executives (Chairman/Vice-Chairman/Managing Director) were changed. As frequent changes in the position of the Chief Executive of the institution will have an adverse effect on the policies and their implementation, it is suggested that a minimum period of 3 years may be followed as a fixed tenure. This may be extended by one to two years based on the circumstances, and results, accruing to the Corporation.

2) Staffing pattern and promotion policies of the Corporation need review as several officials seem to be frustrated on this account. A management expert agency may be commissioned for a thorough study of the work load, staff required, and promotional avenues to be created, etc. It will help not only in providing need based staff at different places and also help in reducing the non-coordination among the engineering and development wings. Merit should be given due weightage in the advancement of the careers of employees.

3) In MIDC and GIDC, zonal set up continues to be operated with three independent departments of engineering, development and finance operating at the field level, and reporting
directly to the head office. Accountability has been specified clearly. There is no overlapping of functions. This has created a friendly atmosphere among the employees at the field level. This pattern needs to be studied and results compared with the integrated pattern of the zonal set up of APIIC. Frustration of development department's personnel needs to be overcome and harmonious working relationship needs to be revived at the field level. The study can bring out a pattern considered desirable for Andhra Pradesh. This may be given priority attention.

4) Uniform pattern of records is to be maintained at all zonal and sub-zonal offices of APIIC, and the required returns from all the wings should reach the Zonal Office and/or Head Office in time. This will enable the Head Office to finalise their accounts in time and release the annual reports. When compared to the similar corporation like MIDC, GIDC, KSSIDC, etc., APIIC is the only Corporation which is releasing its annual report so late, as late as three to four years after the completion of the period.

5) A separate organisation, namely, Growth Centre Development Corporation or Industrial Area Development Authority is to be created for overseeing the working of special programmes. These can include the four centrally sponsored growth centres, integrated infrastructure development centres, Export Promotion Industrial Park, Apparel Export Park, etc. This can be a subsidiary of APIIC, with sizable delegation of powers and provision of single window services, for facilitating the effective functioning of the new organisation.

6) The Zonal structure in terms of the area covered needs revision as some of the senior level officers revealed that the jurisdiction of some of the zonal offices is unmanageable. Delegation of powers at the zonal office level is not sufficient. Further delegation is required. Even to managers at the Assistant Manager cadre who are handling the sub-zonal offices, further delegation of powers is suggested. This will help in the smooth functioning of the Corporation. However, along with delegation, accountability is also to be linked.

7) The study revealed that the concept of balanced regional development has not been pursued vigorously by the APIIC. It needs special attention of the Corporation. Medium and large industries are to be taken to more growth centres in backward areas through industrial areas. For this, sound and attractive high quality infrastructure is very essential. This should
include provision of water supply, telecommunication and the required social infrastructure. Training infrastructure is another direction to be added.

8) According to the new industrial policy of Andhra Pradesh, incentives are now made available to the whole of the state, excepting three major municipal corporation areas, irrespective of their backwardness or non-backwardness. This will certainly help in the further development of non-backward areas rather than backward areas. This needs immediate corrective steps. One important corrective step is to make available high quality infrastructure in more locations, particularly in backward areas, to attract medium and large industries to those locations. State sponsored growth centres in potential centres of backward districts is the direction to be pursued.

9) Land, plot/shed should be given on lease/rental basis in the beginning, and when the entrepreneur develops and become prepared to purchase the same, then only the option may be given to the entrepreneur for an outright purchase of the plot/shed.

10) The study revealed that owners of the Auto Trade & Servicing units are not willing to shift their units to the outskirts of the city/town concerned where Autonagars are developed. This trend is mostly due to the non-availability of sufficient facilities at Autonagars. This requires immediate attention of the APIIC and APPCB.

11) More industrial estates and areas need to be developed in the Coastal districts where sufficient scope is available to develop a number of agro-based industrial units along the coast line right from Srikakulam to Nellore. Same is true with a few of the Telangana districts like Nizamabad, Karimnagar and Adilabad, where the area acquired so far is the minimum.

12) A special drive for recovering the long pending dues from the allottees may be launched announcing the waiver of heavy penal interest charged earlier. This will enable the Corporation to realise the pending recoveries and also reduce the problem of bad-debts.

13) The Corporation could not provide the latest information about the estate-wise particulars of enterprises on total number of industrial units, units under implementation, functioning and sick (category-wise: large, medium and small scale), investment, production,
and employment. Therefore, the information of 1995 was taken. The Corporation should strive to get the information regularly from the sub-zonal/zonal offices and consolidate the same. Importance is to be given to data collection for facilitating policy decisions and for periodic reviews. After conducting an economic survey of industrial units in IEs and IDAs, a Directory of Industrial units covered by APIIC's estates and areas may be brought out. Updating it every five years is important.

14) The conferment of Local Authority Status is on APIIC. Even though the powers are indirectly exercised by the service societies of entrepreneurs, APIIC can't shirk its responsibility. Moreover, the service societies are not having sufficient support structure for collecting tax, preparing work estimates, work supervision, etc. Therefore, APIIC has to extend its committed support to the service societies till the latter equip themselves or till they become self sufficient. Specific directions from the Head Office to Zonal/Sub-Zonal Offices fixing the accountability for non-compliance may help in this regard.

15) Periodic counselling services may be organised for entrepreneurs by a team of senior officials from APIIC, Local body, UDA Town and Country Planning Directorate to appraise them of the advantages of self governance of the maintenance of estates. This will go a long way in motivating entrepreneurs towards regular payment of property tax which will in turn be of help for the better upkeep of their own industrial premises.

16) Since 30 per cent of the property tax collected is made available to the concerned local authority, local bodies should extend all support needed by the APIIC or by service societies either in the assessment of tax, eviction of encroachments, etc. For this purpose, specific directions are required from the concerned departments of the State Government.

17) Since some of the estates are relatively small in size, and the number of units set-up there, on such estates may suffer from inadequacy of financial resources, mobilisation of donations may become necessary to some extent. In order to attract the mobilisation of donations, APIIC and Entrepreneurs' Associations have to pursue with the Income Tax authorities for tax exemption for such donations under sec 80 (G) (2) (V) of the Income Tax Act 1969.
18) After gaining sufficient experience on the functioning of the service societies, if the scheme proves to be viable and successful, APIIC may have to try to get the conferment of Local Authority Status transferred to the service societies concerned. After this is done, in estates where development and allotment are fully completed APIIC may also have to try to hand over the estate to the service societies concerned and the establishment of APIIC may needs to be shifted to a new place where development is to be initiated.

19) The concerned officials of APIIC and important nominees of service societies are to be trained properly in the fields of tax assessment, approval of building plans, etc. The training may cover all relevant aspects of administration of Panchayat/Municipality/Corporation, and UDA & Town & Country Planning Department. This was attempted before the Local Authority Status programme was launched. Redoing it for the present incumbents with current day orientation is important.

20) A common services building, to be named UDYOG SADAN is to be built in every industrial estate to cater to the need of APIIC, Industries Association and any other agency for which accommodation facility is needed in that industrial belt. This may cover the office premises of the association, a large auditorium for organising meetings, one or two conference halls for smaller gatherings including training programmes, a good library, a facility for technical consultancy and display space for organising a permanent exhibition of products manufactured in the area. The complex may include a few shopping complexes covering services as well. By adopting commercial approach, some of the activities in the complex may yield revenue annually. Display can include make and design of the machinery used, and sample products of industrial units of that area, apart from setting apart sufficient space for exhibiting products of various units by rotation. A small guest house for the use of visitors can also form part of it. The scale on which these facilities are planned can vary with the size and importance of the estate/area. In Maharashtra, Thane Small Scale Industries Association is modelled on these lines. In a number of other locations in Maharashtra and Gujarat, this type of facility is a common occurrence. It is a joint effort of the entrepreneurs and the government.

21) With the involvement of the Entrepreneurs' Associations, a number of orientation programmes may be organised in the industrial estates in the Association hall itself. These can be an entrepreneurship development, orientation to the current day policies and programmes
through an interface with the functionaries of the respective organisations, awareness
programmes on priority items of relevance to entrepreneurs, such as quality certification and
total quality management, environment management, environment certification, pollution
control, energy audit, energy conservation, adoption of clean technologies, etc. In estates,
such as mini-industrial estates, or relatively new estates situated in backward areas, where
entrepreneurial response has not been encouraging, counseling and awareness camps may be
organised for prospective entrepreneurs. In programmes meant for existing and prospective
entrepreneurs, interface with functionaries of various departments, organisation, and
opportunities to clarify points of interest should be fairly frequent.

9.10.3 General

22) The Expert Committee on Small Enterprises (1997) has emphasised the role of State
Industrial Parks Promotion Authorities (SIPAs) to regulate the setting up of industrial parks,
and assist and negotiate with private sector for its participation. Small Scale Enterprise (SSE)
Cluster Associations is another direction emphasised by the Committee for strengthening the
development of existing clusters and also for planning for the growth of new SSE clusters in
respect of micro, tiny and small enterprises. These needs to be pursued vigorously in a few
identified locations in the state. Private sector taking the lead in developing industrial estates
and areas, and private sector being involved in promotion of specific activities in various
existing estates and areas is another direction to be pursued. Office of the Development
Commissioner (Small Scale Industries), Government of India can support these associations
in activities of their interest, such as setting up of sub-contracting exchanges, research and
development centres or tool room and testing facilities, training institutions, etc.

23) Small Industries Infrastructure Development Fund is to be created by SIDBI for
developing industrial estates and industrial areas, as recommended by the High Level
Committee on Credit to Small Scale Industries (1998). Simultaneously, Rural Infrastructure
Development Fund of NABARD could be permitted to be used for industrial estates in rural
and semi-urban areas.

24) All India gathering of industrial infrastructure development Corporations may be
convened in the near future. It was last convened at Hyderabad with the initiative taken by
APIIC in 1990. This can be a forum for reviewing areas of topical interest in recent years, and also to look ahead on certain key aspects that influence development of infrastructure under different programmes. Considerable amount of preparatory work, can prove to be useful, in facilitating arriving at fruitful conclusions relevant for different regions. One of the topics for detailed analysis is institutional finance for industrial infrastructure, both direct finance and refinancing from IDBI, SIDBI and NABARD. Status paper may be prepared by these apex organisations, also detailing the problems experienced, and viewpoints for consideration. The Corporations may also present their thinking and experiences. A dialogue of the Corporations with IDBI, SIDBI, commercial bank and Reserve Bank of India representatives can pave the way for crystallising certain viewpoints for modification in policies.

25) A few case studies on involvement of large industrial houses and industry associations in specific programmes can be brought out to illustrate the potential of the private sector investment and involvement in developing comprehensive infrastructure facilities. Similarly, case studies on the experiences of maintenance of infrastructure in industrial estates and areas can bring out lessons for broad based strategies that can be replicated in a number of states.

26) A management development institution in association with National Environmental Engineering Research Institute, Nagpur and the Union Ministry of Environment and Forests, may conduct case studies of the common effluent treatment plants and individual treatment plants in a few locations spread over at least three to four states, for different industry clusters. The study can cover techno-managerial aspects. Involvement of entrepreneurs and their associations, and financial institutions can also be covered in the study.

27) Social infrastructure is a neglected field in industrial infrastructure. A few case studies of industrial townships and comprehensive industrial housing belts developed in a few locations of different states can bring out strategies to be adopted for promoting social infrastructure. The organisations to be involved can also be pinpointed. It can be partly industrial infrastructure corporation, and very often other specialised corporations, including extensive involvement of private sector.

28) In states such as Maharashtra, Gujarat and Harayana, entrepreneurs prefer high quality best facilities, even if the cost to be borne by them is likely to be higher. Sustainability and
growth of enterprises in the medium term perspective is considered desirable by entrepreneurs. The same spirit has to be kept in view of Andhra Pradesh as well in the context of liberalisation, privatisation and globalisation. Entrepreneurs from other states should find Andhra Pradesh an attractive destination for small, medium and large enterprises. It is the quality of infrastructure and the support given by state level organisations and local institutions in particular which should weigh with entrepreneurs of the state and of other states. Collaborative arrangements with entrepreneurs from other countries can also be pursued.

9.11 Scope for Further Research

The present study has analysed development of industrial infrastructure in Andhra Pradesh with focus on the following aspects:

1. to evaluate the performance of the Corporation implementing the programme in the state;
2. inter-state comparison of performance of the respective state level corporations;
3. feedback from entrepreneurs and entrepreneurs' associations, as well as officials of the corporation and their association, on various aspects of development of industrial infrastructure in the state and the performance of the corporation, and suggestions for strengthening the programme.

With the experience gained in conducting this study and the limitations experienced, the researcher suggests the following aspects that can be considered for further research in this field. Industrial estates is a favourite theme for doctoral research. It is important to consider certain new directions where work done so far is inadequate or non-existent.

1) Inter-state comparison of the working of the respective corporations and the programme implemented by them can be viewed from a number of angles. What is attempted in this study is just a beginning. Study of managerial and organisational aspects of the working of the corporation including personnel matters, programme as implemented in the state, corporation-client and corporation other organisations relationship, a comparison of the distinctive features of the programme in a few states; can be a rewarding experience to suggest a few directions for more effective implementation of the programme. Study of two or more advanced, and two or more less developed states can bring out a few useful viewpoints.

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2) Feedback from entrepreneurs and officials on certain aspect of the programme such as quality and maintenance of infrastructure facilities in the estates, common effluent treatment plants and administration of special programmes or specific category of estates, with role of industry associations, and of different organisations, and legislation governing these aspects. Planning for strengthening the existing clusters or development of new clusters, and associated special features or facilities to be created can be another aspect of study. Role of associations and of specialised institutions including financial institutions needs to be spelt out. Comparative account of a few states on these aspects will be fruitful.

3) Implementation of the infrastructure programme covering industrial estates and areas in centres of varying levels of industrialisation, in moderately developed, less developed and least developed locations can be studied. Comparative analysis can be made of growth of estates and areas, as well as of enterprises located in estates, areas and those situated outside these clusters in or near the respective towns. While talking of growth of enterprises, data for the enterprises for at least two points of time can be considered for analysis.

4) Case studies of certain success or failure stages of patterns adopted in different states, experience of liberalisation and privatisation adopted in select aspects can be captured.

5) Implementation of local authority status conferred on APIIC and role of Entrepreneurs' Service Societies in a number of districts of varying levels of industrialisation can be studied to analyze the extent of participation of entrepreneurs, and the managerial practices followed in different locations.