

# Physical Infrastructure in Development of Andhra Pradesh: A Region Wise Analysis

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## **Abstract**

*This paper attempts to analyze the role of infrastructure in the context of development of any nation particularly in the case of Third World countries. This paper examines the nature and extent of infrastructure development that has taken place in the three regions of Andhra Pradesh as a result of the concerted efforts of the Government of Andhra Pradesh.*

*The study has been carried out by using secondary data relating to infrastructural indicators such as facilities obtained through statistical Abstracts of Andhra Pradesh, and CMIE Reports of the period 1990-2005. The infrastructural development has been assessed in terms of growth of physical indicators in the districts and accordingly percentages are given.*

**Keywords:** *Development, financial, physical, infrastructural.*

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## **Introduction**

Development is a multidimensional process involving major changes in social structure, popular attitudes and national institutions as well as the acceleration of economic growth, reduction of inequalities and eradication of poverty.

(**Todaro**, 1994)

The terms 'infrastructure' and 'social overhead capital' (SOC) are used interchangeably in the development literature but the definitions given by World Development Report, 1994 (**World Bank**, 1994) and International Encyclopedia of Social Science (IESS) have created some confusion. World Development Report, 1994 (WDR) comments that infrastructure is umbrella term for SOC. However, the Report itself has preferred to use the term 'economic infrastructure' rather than 'infrastructure, for the same set of activities. The focus of economic infrastructure, as emphasized by WDR is on public utilities, public works and other transport sector. Perhaps WDR preferred to use the term 'economic infrastructure' for these activities so as to exclude socio-political activities.

IESS defines SOC in a 'narrow sense' to include transportation, communication and power facilities and encompasses education, health, maintenance of law and order and research etc also in the 'broad sense' Thus the term economic infrastructure of WDR coincides with SOC in narrow sense of IESS, while infrastructure as such may coincide with SOC in broad sense.

The difference between the two broad categories has been brought out as under:

- (i) Degree of Contribution – while contribution of economic infrastructure is much more immediate, like that of roads; of SOC, like education, is remote and far fetched.
- (ii) Microeconomic Approach – casting the two sets of activities in the format of micro economic analysis, whereby viewing the whole economy, as multi-product firm, then economic infrastructure facilities constitute the fixed factors and SOC in broad sense the variable factors.
- (iii) Public Goods – SOC in broad sense is a pure public good i.e. which once provided cannot be denied to any individual or society, while economic infrastructure are partial public goods i.e. though jointly consumable, yet can be denied to an individual or a group of individuals. (Halder, 1997)

The Report on Infrastructure (World Bank, 1994) found that the annual investment in infrastructure for developing countries should be around \$ 60 billion, which is 4.4 percent of GDP, but it was seen that low-income economies tend to have both low coverage and poor performance in nearly every indicator of infrastructure. This inadequacy is reflected in the following facts:

- a) Half the labour in Latin American railways is estimated to be redundant;
- b) The average port facility in developing countries moves cargo from ship to shore at 40 percent of the speed of the most efficient of ports;
- c) Some 40 percent of power generating capacity in developing countries is not available for production;
- d) The technical efficiency of power utilities in 51 developing countries has declined over the past 20 years. (Ferreira and Kamran, 1996).

The term infrastructure may mean a) Physical infrastructure including that set of facilities without which an integrated independent modern economy cannot function and is composed of transport, telecommunication, power, irrigation etc., (b) Social infrastructure, which represents the standard of living of human capital and includes housing, education, public health, sanitation and (c) Financial infrastructure which represents the spread of magnetization and other commercial activities across the region and includes money and capital markets.

(Ghose and Chattopadhyaya 1977, Guha 1997).

The Government of India realised the importance of infrastructural facilities and increased the allocations of funds to create such facilities in different plans. Under the Eighth Plan 61.1 percent of total outlay was allocated for infrastructural development and the basic thrust of Ninth Plan was to provide basic minimum services to the people. It has also announced several proposals to promote infrastructure development which include:

- a) Setting up of Infrastructural Finance Development Corporation (IFDC) with an authorized capital of Rs. 5000 Crore.
- b) Five Years tax holiday available to companies developing infrastructural facilities
- c) Income tax exemption on dividends, interest on long term capital gains earned by companies established to develop infrastructure facilities.
- e) Automatic approval for foreign equity participation up to 74 percent in key

infrastructure activities like electricity generation etc.

Keeping the importance of infrastructure for industrial development as a back drop, the present study has been carried out for Andhra Pradesh with the following objectives:

To examine the region wise development of infrastructure in Andhra Pradesh for the period 1990,97,2005.

The state of Andhra Pradesh has been divided into three regions i.e. Coastal Andhra, Telangana and Rayalaseema. The Coastal Andhra region consisting of 9 districts is highly developed compared to the other two regions in terms of agriculture, industry and service. It has perennial rivers, fertile land; rich natural resource endowments coupled with a good railway network, transport and communications facilities while Telangana and Rayalaseema are yet to catch up in this regard.

### **Data Base and Methodology**

The study has been carried out by using the secondary data and the requisite data were obtained from the following sources:

The data relating to infrastructural indicators such as facilities covering railways, roads, number of goods vehicles, post offices, ports, power, telecommunications, irrigation, transport, etc. will be obtained through

1. Statistical Abstracts of Andhra Pradesh of various years.
2. Seasonal Crop Reports of Andhra Pradesh of various years.
3. CMIE Reports and
4. Economic Survey Reports and
5. Records of Directorate of Industries, District Planning Office, and Collectorate, District Industries Centre etc.

Besides, many subject experts have been interviewed to get the relevant information in order to carry out an in- depth analysis of the research problem.

### **Variables and Methology**

A brief note on variables used in the study is presented below.

**Physical infrastructure:** - It includes that set of facilities without which an integrated independent modern economy cannot function and is composed of telecommunication, power, roads, irrigation, post offices etc. When a country moves from low income to middle income category the relative share of power, telecom and roads tends to increase while that of irrigation decreases.

#### **a) Regional Shares in Infrastructure**

The region wise shares in terms of Physical i.e roads, irrigation, power, post offices and telephone exchanges infrastructure have been obtained for three points of time i.e, 1990-91,1997-98and 2005-06.

This paper examines the nature and extent of infrastructure development that has taken place in Andhra Pradesh as a result of the concerted efforts of the Government of Andhra Pradesh.

It presents an analysis of region wise share in terms of infrastructure in the state during the period 1990-91,1997.98 and 2005-06.

It has been argued that infrastructure plays a key role in achieving higher rate of development in any state. In other words, development of infrastructure is an imperative for attaining industrial development. Hence, the Government of India as well as state Government have been trying to develop the infrastructure in the various plans and programmes.

An attempt has been made in this section to examine the nature and extent of infrastructural development that has taken place in the state of Andhra Pradesh during the last six decades of planning and Physical Infrastructure consisting of a) Roads b) Net area irrigated c) Post offices d) Telephone exchanges and e) Power Consumption. Data relating to these indicators have been collected for three points of time i.e., 1990-91, 1997-98 and 2005-06 and the region-wise shares are estimated and presented in Table 1.

### **Physical Infrastructure in AP:**

- i) **Roads:** It may be noted from Table 1 that Andhra Pradesh has accounted for 187036 Kms of roads in the year 2005-06 in which coastal Andhra represents higher share (36.55 %) than that of Telangana (42.22%) and Rayalaseema (21.22%).

According to Table1 the length of roads increased to 42.465 Kms in 1990.91 in the state while the share of Coastal Andhra slightly declined from 43.41percent to 40.22 percent. However, Telangana improved its share from 35.89 percent to 36.61percent during the period 1982.83 and 1990.91. Similarly, Rayalaseema also shows an increase in its share in total roads from 20.71percent in 1982.83 to 23.17percent in 1990.91.

Further the Table indicates that Andhra Pradesh has experienced an increase in its roads infrastructure from 42465kms to 54215kms during the period 1990-97

**Irrigation:** It may be noted from Table1 that Coastal Andhra accounted for a higher share in Irrigation to the extent of 53.23 percent in Andhra Pradesh than that of Telangana (23.99 %) and Rayalaseema (13.77%) in 2005-06. Andhra Pradesh has exhibited 3,3880590 hectares of land irrigated in the year 2005-06. The Coastal Andhra even in the year 1991 accounted for a higher share in terms of net irrigated land to the extent of 35 percent followed by and Rayalaseema (12%). Further the Coastal Andhra has retained its place by accounting for 54 percent in 1997-98 followed by Telangana (31%) and Rayalaseema (15%).

**Post Offices:** Andhra Pradesh has accounted for 16,190 Post Offices in 2005. The number of post offices however declined from 16,203 to 16,172 in 1997 and increased to 16,190 in 2005. The region wise analysis indicates that Coastal Andhra has accounted for the highest share to the extent of 42.64 percent in Andhra Pradesh in the year 2005-06 compared to that of Telangana (36%) and Rayalaseema (21.34%). Similarly, in the year 1990-91 also Coastal Andhra has accounted for the highest share and continued the same trend in 1997-98 also. While Telangana has not improved its share in terms of the number of Post offices and accounted for 36 percent in the same year. However, Rayalaseema has experienced a decline in its share in terms of the number of Post offices from 23 percent to 24 percent between 1982-83 to 1997-98.

- ii) **Power Consumption:** It is evident from Table 1 that Andhra Pradesh recorded 37617.6Kw of Power Consumption in the year 2005-06 .However, its

Table 1: District Wise shares of Physical Infrastructure in AP: 1990,97, 2005

S.no	District	ROADS (inKm.)	Net Irrigation (in ha.)		Post Offices (in Nos.)		Tele Exchange (in Nos.)		Power Consum. (in M.KH)		
		1990	shares	1990	shares	1990	shares	1990	shares	1990	shares
	<b>COASTAL ANDHRA</b>	<b>17,080</b>	<b>40.22</b>	<b>2270379</b>	<b>52.73</b>	<b>6692</b>	<b>41.30</b>	<b>817</b>	<b>42.05</b>	<b>4212.2</b>	<b>29.17</b>
	<b>RAYALASEEMA</b>	<b>9,839</b>	<b>23.17</b>	<b>537653</b>	<b>12.49</b>	<b>3683</b>	<b>22.73</b>	<b>437</b>	<b>22.49</b>	<b>2427.5</b>	<b>16.81</b>
	<b>TELANGANA</b>	<b>15,546</b>	<b>36.61</b>	<b>1497446</b>	<b>34.78</b>	<b>5828</b>	<b>35.97</b>	<b>689</b>	<b>35.46</b>	<b>7802.5</b>	<b>54.03</b>
	<b>ANDHRA PRADESH</b>	<b>42,465</b>	<b>100.00</b>	<b>4305478</b>	<b>100.00</b>	<b>16203</b>	<b>100.00</b>	<b>1943</b>	<b>100.00</b>	<b>14442.1</b>	<b>100.00</b>
S.No	District	1997	shares	1997	shares	1997	shares	1997	shares	1997	shares
	<b>COASTAL ANDHRA</b>	<b>21644</b>	<b>39.92</b>	<b>2134202</b>	<b>54.10</b>	<b>6641</b>	<b>41.06</b>	<b>836</b>	<b>42.16</b>	<b>117299.5</b>	<b>87.78</b>
	<b>RAYALASEEMA</b>	<b>13204</b>	<b>24.35</b>	<b>595788</b>	<b>15.10</b>	<b>3683</b>	<b>22.77</b>	<b>463</b>	<b>23.35</b>	<b>3808.1</b>	<b>2.85</b>
	<b>TELANGANA</b>	<b>19367</b>	<b>35.72</b>	<b>1214612</b>	<b>30.79</b>	<b>5848</b>	<b>36.16</b>	<b>684</b>	<b>34.49</b>	<b>12520.6</b>	<b>9.37</b>
	<b>ANDHRA PRADESH</b>	<b>54215</b>	<b>100.00</b>	<b>3944602</b>	<b>100.00</b>	<b>16172</b>	<b>100.00</b>	<b>1983</b>	<b>100.00</b>	<b>133628.1</b>	<b>100.00</b>
S.No	District	2005	shares	2005	shares	2005	shares	2005	shares	2005	shares
	<b>COASTAL ANDHRA</b>	<b>68373</b>	<b>36.55</b>	<b>2065850</b>	<b>53.23</b>	<b>6905</b>	<b>42.64</b>	<b>1308</b>	<b>39.15</b>	<b>11899.4</b>	<b>31.63</b>
	<b>RAYALASEEMA</b>	<b>39694</b>	<b>21.22</b>	<b>534455</b>	<b>13.77</b>	<b>3455</b>	<b>21.34</b>	<b>656</b>	<b>19.63</b>	<b>6315.8</b>	<b>16.78</b>
	<b>TELANGANA</b>	<b>78969</b>	<b>42.22</b>	<b>1280285</b>	<b>23.99</b>	<b>5830</b>	<b>36.00</b>	<b>1377</b>	<b>41.22</b>	<b>19402.4</b>	<b>51.57</b>
	<b>ANDHRA PRADESH</b>	<b>187036</b>	<b>100</b>	<b>3880590</b>	<b>100</b>	<b>16190</b>	<b>100</b>	<b>3341</b>	<b>100</b>	<b>37617.6</b>	<b>100</b>

Source: Estimated by using the data obtained through statistical abstract

consumption is less by 7802.5Kw in the year 1990-91 and by 12520.6 Kw in the year 1997-98. The region wise analysis indicates that Telangana has accounted for a higher share to the extent of 51.57 percent in total power consumption during the year 2005-06, compared to that of other two regions Coastal Andhra (31%) and Rayalaseema (16%). Similarly, in the year 1990-91 also Talangana has accounted for the highest share (54%) but experienced a decline in the year 1997-98 on the other hand Rayalaseema has experienced a decline in its share in terms of Power Consumption from 15 percent to 2.8 percent between 1982-83 to 1997-98

**Telephone exchanges :** Their number has increased from 1943 to 1983 in 1997 and to 3341 in 2005-06. The region-wise analysis indicates that Telangana has recorded a number of 1377 Telephone Exchanges and accounted for the highest share to the extent of 41.22 percent in Andhra Pradesh in the year 2005-06 compared to that of Coastal Andhra (39%) and Rayalaseema (19%). Similarly in the year 1990-91 Coastal Andhra has accounted for the highest share and continued the same trend in 1997-98 also. While Telangana has not improved its share in terms of Telephone Exchanges. Infact it has shown a decline from 35 percent to 34 percent in the year 1997-98 whereas Rayalaseema has experienced an increase in the number of telephone exchange to 23.35% in 1997-98.

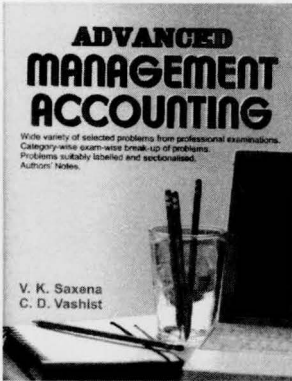
## CONCLUSION

One may conclude on the basis of the above analysis that infrastructure acts as a stimulating factor for development in any country. By realizing the importance of infrastructure in the context of development, many countries have been trying to develop their infrastructural base through various plans and programmes. India is not an exception to it. Infact it has been implementing various programmes through Five Year Plans for creating infrastructure for development in the country since independence. Coastal Andhra has registered the highest level of infrastructural development compared to that of Telangana and Rayalaseema regions during the study period in Andhra Pradesh.

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## Book Review

Advanced Management Accounting (2010) authors : V.K. Saxena and C.D. Vashistha, Pages : XXI + 1101 + XIII, price Rs. 550/-, Sultan Chand and Sons, Educational Publishers, New Delhi

The treatise 'Advanced Management Accounting' has been authored by practitioners and not by theorists. The Authors have long experience of working and dealing in finance and cost in public sector enterprises and Govt. of India. This is one of the greatest strengths of the book as the practitioners have vast experience which has been amply reflected in the various chapters of this treatise.

The book has been divided into three sections. Section A deals with cost management area while section B depicts financial decision modelling which imbibers the skill of applying quantitative techniques in management accounting. Section C is devoted to unique problems asked in professional exams like CIMA, ICAEW, ACCA and AAT which are still thriving for correct answers. Hence the coverage of the book is quite comprehensive and highly useful for students and faculty of professional courses mentioned above.

The book succeeds in shifting the paradigm in management accounting area. By devoting one specific appendix to how to prepare for professional exams, the authors have done a great service to the professional academia. There are a number of books available on this discipline but this particular book gives a lateral approach and breaks the linear and conservative approach in the discipline of management accountancy.

Supplementing practical problems, ticklish examples with theoretical discussion is the unique setting proposition (USP) of this book. The book is highly useful for C.A. Students, Cost Accountants, Chartered Accountants and faculty members of this discipline. However, the font used by the printer is quite flimsy at some places which sometimes may become a hurdle to a reader. The language is lucid. Sequencing of Chapters has been nicely planned. The book may be recommended to students of all professional courses and academia of commerce and management disciplines. Price of the book seems to be insignificant looking to its value and usefulness. The publishers of the book Ms. Sultan Chand and Sons deserve commendations for publishing this treatise.

**Dr N.D. Mathur**, Professor, Deptt. of Economic Administration and Financial Management, University of Rajasthan, Jaipur

# REPORT

# ON

# 10th International Conference

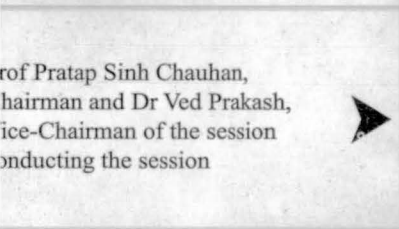
10<sup>th</sup> International Conference on Emerging Global Trends & Future Challenges in Economic Development, Accounting & Finance, Information & Communication Technology, Business & Management was held under the auspices of Research Development Research Foundation & Research Development Association Jaipur in collaboration with Rajasthan Chamber of Commerce & Industry, Rajasthan, Jaipur during January 22-23, 2011. The conference attracted 211 delegates from all the states of our country and seven other countries. The conference was inaugurated by Her Excellency Dr Kamala, Governor of Gujarat. Dr. K.L. Jain, President of RDA welcomed the gathering, Prof. Sujan C. Jain presented the scope of the RDA and Prof. G.C. Maheshwari, Dean, Faculty of Management, M.S. University, Vadodara proposed a vote of thanks.

In all there were six technical sessions, out of which 3 were devoted to the theme of Emerging Issues in Accounting & Finance; two to Emerging issues in Business Management & Management; and one was devoted to Emerging Issues in Information Technology. In all 418 research papers were presented. The valedictory function of the conference was presided over by Dr. K.L. Jain, the Vice-Chancellor of Rajasthan Technical University delivered the valedictory address and Prof. Sujan C. Jain proposed a vote of thanks. The highlight of this conference is that the best papers were selected from each of the technical sessions by the jury of experts and the awards were presented to the winners during the valedictory function.





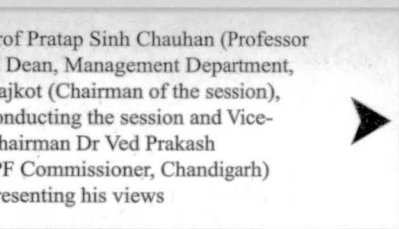
Dr B. Charumathi (a delegate from Pondicherry) receiving the 'Best Paper Award' from the Chief Guest at the Valedictory Session



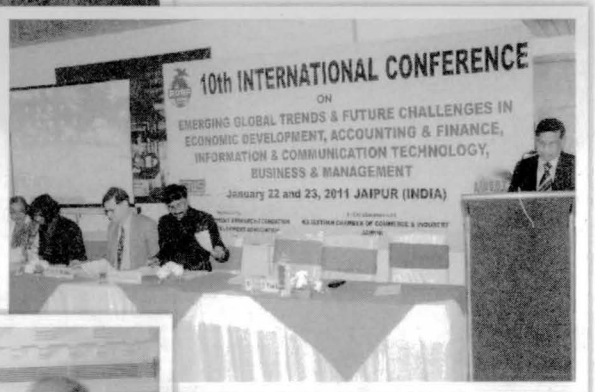
Prof Pratap Singh Chauhan, Chairman and Dr Ved Prakash, Vice-Chairman of the session conducting the session



Professor Sujan C. Jain (Honorary Secretary General, RDA & RDRF) proposing a vote of thanks at the Valedictory Session



Prof Pratap Singh Chauhan (Professor and Dean, Management Department, Rajkot (Chairman of the session), conducting the session and Vice-Chairman Dr Ved Prakash (IITF Commissioner, Chandigarh) presenting his views



Dr. K. L. Jain, President, RDA & RDRF presenting a Memento to Prof D. Prabhakar Rao (Professor, Dean and Honorary Secretary General, IAA) Chairman of the session



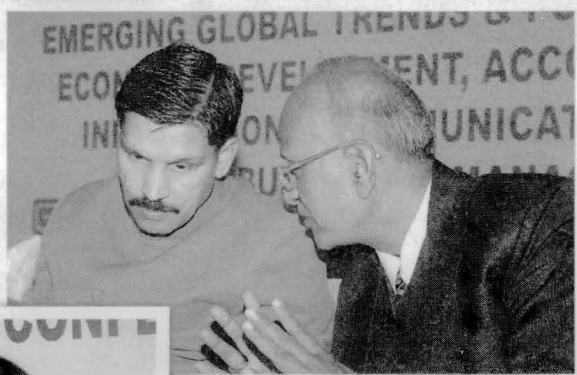
The organizers of the Conference Dr K. L. Jain, Dr R. C. Agarwal, Prof. Sugan C. Jain and Subhash Singh receiving the Chief Guest for the Inaugural Session

A section of the participants



Dr Neeru Suman (a delegate from Delhi) presenting her paper

Prof Sugan C. Jain, Honorary Secretary General, RDA & RDRF discussing with the Chief Guest (Hon'ble Vice-Chancellor, RTU) at the Valedictory Session



Dr Sanjay Bhayani (a delegate from Rajkot) receiving the 'Best Paper Award' from the Chief Guest at the Valedictory Session