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**A STUDY ON THE IMPACT OF INFRASTRUCTURE PROJECTS  
ON THE CONSTRUCTION EQUIPMENT BUSINESS IN THE  
STATES OF TAMILNADU AND KERALA.**

By

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**Department of Management Studies  
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Coimbatore**



**A PROJECT REPORT**  
Submitted to the

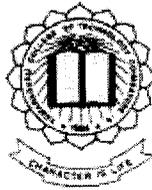
**FACULTY OF MANAGEMENT SCIENCES**

In partial fulfillment of the requirements  
For the award of the degree

Of

**MASTER OF BUSINESS ADMINISTRATION**

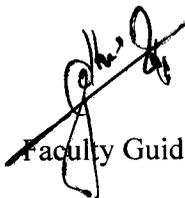
**May, 2008**



**DEPARTMENT OF MANAGEMENT STUDIES**  
**KUMARAGURU COLLEGE OF TECHNOLOGY**  
**COIMBATORE**

**BONAFIDE CERTIFICATE**

Certified that this project report titled “A Study on the Impact of Infrastructure Projects on the Construction Equipment Business in the states of Tamil Nadu and Kerala” is the Bonafide work of **Mr. G. Balachandran (71206631007)** who carried out the research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

  
 Faculty Guide

  
 Director

Evaluated and vice-voce conducted on .....02-07-08.....

  
 Examiner I

  
 Examiner II

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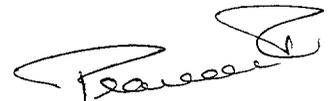
## PROJECT COMPLETION CERTIFICATE

\*\*\*\*\*

This is to certify that Mr. / Ms. Balachandran.G (Roll No. 06MBA07) a student of KCT Business School, Kumaraguru College of Technology, had undergone a project between January 10, 2008 (date of joining) and March 24, 2008 (date of leaving) titled "A study on the impact of Infrastructure Projects on the Construction Equipment business in the states of Tamilnadu and Kerala".

During the tenure his / her performance was **Good**.

Yours faithfully  
For Sakthi Finance Ltd



**R.PRAVEENA**  
HR Executive

## DECLARATION

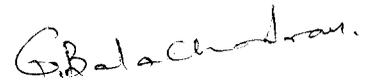
I, **G. Balachandran (Reg. No.71206631007)**, final year MBA student of Department of Management Studies, Kumaraguru College of Technology, Coimbatore, hereby declare that the project entitled **“A Study on the Impact of Infrastructure Projects on the Construction Equipment Business in the states of Tamil Nadu and Kerala”** is done by me under the guidance of Prof. Col. N. Jothilingam and is submitted in partial fulfillment for the award of the degree of Master of Business Administration of Anna University, during the academic year 2006-2008.

I, also declare hereby, that the information given in this report is correct to best of my knowledge and belief.

Place:

Signature of the Candidate

Date:



(G. Balachandran)

## EXECUTIVE SUMMARY

Every nation needs good infrastructure facility for an overall socio-economic development. Investments are attracted by the state only if there is a sound infrastructural foundation. Availability of adequate and efficient infrastructural set up not only promotes rapid industrialization, but also improves the quality of life of the people of the State. Infrastructure sector includes railways, roadways, ports, aviation, power, telecommunication, etc. All such services, by connecting the State with other parts of the country and world, ensure the progress and growth of the whole nation.

As India is a developing nation with fast growth in various sectors there is a need and scope of investment in its infrastructure facilities. Investments within the states and foreign investments would be there only when there are enough infrastructures.

Construction equipments are utilized in large in the development of infrastructure. As the investment in the infrastructure increase the need and usage of the equipments also increase. The construction equipment business has a booming market at the current scenario. Many financial institutions like Sakthi Finance Limited are involved in this business by funding for purchase of these equipments.

The objective of this study is to find out the impact of the infrastructure projects on the construction equipment business and to know the number of equipments that would be required in the next five years in various infrastructure sectors in the states of Tamil Nadu and Kerala. The data for the study has been collected through both primary and secondary sources and it is a descriptive study as the facts and information in the market is been used.

The macro and micro analysis on the investments in infrastructure sectors and the construction equipment business is made. The report could enable us to know about the requirement of the construction equipment in the states of Tamil Nadu and Kerala and the investment that would be made in the purchase of these equipments. Through this the market opportunity for the financial institutions in funding for these equipments are known. The equipments that are considered are Excavators, Backhoe Loaders, Tippers, Cranes, Road Rollers, Concrete Mixers and Paving machines.

## ACKNOWLEDGEMENT

Few people are as fortunate as I have been. Throughout my life I have always benefited from many wonderful people around me, and the last two months of my summer project have been no exception. I have many people to be thankful to.

I thank our respected chairman **Dr. N. Mahalingam** who helped us to undergo this master's degree and acquire a lot of knowledge.

I thank our beloved correspondent **Mr. M. Balasubramaniam**, for his kind blessings and moral support for carrying out this project.

I express my sincere thanks to our principal **Dr. Joseph V Thanikal** for allowing us to carryout this project.

I express my gratitude to our director **Prof. S. V. Devanathan**, for his kind patronage and for his consent to carryout this project.

I take privilege and immense pleasure in expressing my sincere gratitude to my guiding spirit, **Prof. Col. N. Jothilingam**, for his in-depth guidance, motivation and encouragement in executing this project right from beginning and making it a success.

I am highly obliged to extend my sincere thanks to **Mr. S. Velusamy**, Managing Director for his effective guidance and valuable support to carryout this project for their organization.

My special acknowledgements and thanks to Department of Management Studies, Faculty Members and my friends for their help and motivation throughout.

Finally I thank my parents for their constant care and support.

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# CHAPTER I

## *INTRODUCTION*

## CHAPTER 1

### INTRODUCTION

#### 1.1 BACKGROUND

A sound infrastructural foundation is the key to the overall socio-economic development of a State. This acts as a magnet for attracting additional investment into a State and thus provides a competitive edge to it over other States. Availability of adequate and efficient infrastructural set up not only promotes rapid industrialization, but also improves the quality of life of the people of the State. This sector includes railways, roadways, ports, aviation, power, telecommunication, etc. All such services, by connecting the State with other parts of the country and world, ensure the progress and growth of the whole nation.

Until recently, the State Governments had been creating infrastructural facilities in their respective States out of their own budgetary resources, supplemented with some assistance from other Governmental and international agencies. But with the opening up of economy and the resulting increase in competition (both domestic and abroad), there has been a depletion in the resources available for infrastructure development and maintenance. Hence, the State Governments have been making all efforts for attracting capital inflows into the infrastructure sector. The most important step in this direction has been the initiation of 'Public Private Partnership (PPP)' programme. PPP refers to a long-term contractual partnership between the public and private sector agencies, specifically targeted towards financing, designing, implementing and operating infrastructure facilities and services in the State. These PPPs aim to achieve the twin objectives of high growth and equity on a sustainable basis.

The Eleventh Plan (2007-08 to 2011-12) aims at a sustainable growth rate of 9 percent with emphasis on a broad-based and inclusive approach that would improve the quality of life and reduce disparities across regions and communities. There is consensus that infrastructure inadequacies would constitute a significant constraint in realizing this development potential. To overcome this constraint, an ambitious programme of infrastructure investment, involving both public and private sector, is being developed for the Eleventh Plan. The programme ensures strengthening and consolidation of recent infrastructure related initiatives, such as the Bharat Nirman for building rural infrastructure, as well as sectoral initiatives, such as the National

Highways Development Programme (NHDP), the Airport Financing Plan, and the National Maritime Development Programme and the Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

Financing of the proposed investment of Rs. 20,27,169 crore over the Eleventh Plan relies only to the extent of Rs. 6,20,780 crore (31%) on budgetary support. The remaining Rs. 14,06,389 crore is expected from private Sector and from public sector. The figure for budgetary support is limited because of the large requirements of agriculture, health and education. What is available will be directed largely towards rural infrastructure and the North-East, leaving little room for funding other infrastructure projects. The large volumes of investment required for projects in power, telecom, railways, highways, ports, and airports, therefore, have to be funded either from internal generation and extra budgetary resources of public sector or from pure private investment and PPP projects. The ability to attract these investments depends critically on a regime where there are reasonable and predictable user charges and risk allocation is clearly defined. Investment in large infrastructure projects would, therefore, need to be structured on sound commercial principles and legal structures combined with competition to ensure transparency of project choice and a credible regulatory structure.

## **1.2 REVIEW OF LITERATURE**

A literature review discusses published information in particular subject area and sometimes information in a particular subject is with in a certain time period. A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. A summary is not only a recap of the important information of the sources but also a synthesis in a re-organization of that information. It might give a new interpretation of old material or combine new with old interpretations or it might race the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advice the reader on the most pertinent and relevant.

A literature review has a number of purposes and it enables to:

- Define and limit the problem the researcher is working on
- Place the study in a historical perspective

- Evaluate promising research methods
- Relate the researcher findings to previous knowledge and suggest further studies.

## **Historical Insights in Bringing in Private Entrepreneurship into Infrastructure**

Jayanth Varma

Prof. Jayanth Varma discusses the history of infrastructure and the evolution of regulation therein to lead to insights in to the Indian problem. After a few years of struggling with somewhat half-hearted efforts to attract private finance into infrastructure, the time has now come to move forward more aggressively. The government must now prepare to relinquish its exclusive role in decision-making in the infrastructure and allow much of these decisions to be made by the free play of market forces. This would open the way for private entrepreneurship in infrastructure. The private sector would then bear the risks and reap the rewards of infrastructure projects. The design and location of these projects would follow economic logic rather than the dictates of political considerations. The private sector would come forward to build most of the infrastructure that India needs without the government having to bear the risks. It is only for these few projects that the state needs to step in either by undertaking the project with public funds or by providing subsidies or credit enhancement.

Varma, J. (2002). "From Private Finance to Private Entrepreneurship," Ch.6.1, IIR2002.

## **Rethinking foreign infrastructure investment in developing countries**

Ravi Ramamurti<sup>a</sup> and Jonathan P. Doh<sup>b</sup>

The 1990s witnessed a boom in foreign direct investment (FDI) in infrastructure sectors in developing countries, which was surprising for at least two reasons. First, infrastructure sectors, unlike manufacturing, suffer from the "market failure" problem, and the solution to that problem—government regulation—brings with it the "obsolescing bargain" risk. Second, such investments are even riskier when made in developing countries, which are characterized by weak institutions and political instability. Why, then, did the boom occur, and will it continue? Three industry-specific drivers and two country-specific drivers are considered for the boom. Foreign investors may have believed: (1) that infrastructure sectors were losing their "natural

monopoly” characteristics; (2) that first-movers would profit handsomely from the emerging globalization of these sectors; (3) that novel techniques like project financing would reduce their risks sharply; (4) that the climate for FDI in developing countries had changed fundamentally in the 1990s; and (5) that host developing countries would not expropriate foreign-owned infrastructure assets as they had in the past. Based on actual experience in the 1990s, we evaluate the strengths and limitations of each of these drivers. The overall assessment is that infrastructure FDI in developing countries will stabilize in the future at a lower, more sustainable level.

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**Albala-Bertrand, Jose and Mamatzakis, Emmanouel (2001)** said in their article that Infrastructure reduces the production cost of the economy, -thereby increasing productivity- only in the second period. The first period is of chronic surplus of core infrastructure; for the second period, there is a chronic infrastructure shortage. Infrastructure appears as a significant complement to non-infrastructure capital only after 1973, implying a crowding-in effect. Labor input and infrastructure formation appear to be either substitutive in the first period or weakly complementary in the second period.

**Bosca, J.E., Escriba, F. and Murgui (2002)** pointed out that the public sector has contributed to enhance productivity and reduce private costs in almost every region. While private capital and labor are complements, infrastructure and labor seem to be substitutes. The elasticity of public capital to output is higher in the long run than in the short run and their regional pattern confirms previous findings. There is still scope for additional public investment due to a gap between observed and optimal public capital.

**Haughwout, A (2000)** asserts that Evidence suggests the importance of infrastructure investment in affecting the relative attractiveness of places, redirecting growth from infrastructure poor areas to those which have invested more heavily. The spatial equilibrium approach emphasizes the role of infrastructure in altering the distribution of economic activity across regions. Land prices are positively associated with infrastructure provision. Infrastructure provided benefits to both the firm and household sectors. The importance of the relationship

between infrastructure provision and local relative prices emphasizes the role on public capital investment in affecting not only the level but also the spatial distribution of productive and residential activities.

### **1.3 OBJECTIVES OF THE STUDY**

1. To make a detailed study on the infrastructure projects in the states of Tamilnadu and Kerala
2. To study on the projected infrastructure investment in various sectors in the states.
3. To analyze and find out the requirement of construction equipments in various sectors.
4. To find out the amount of investment in construction equipment in the two states

### **1.4 STATEMENT OF THE PROBLEM**

The study is to examine the impact of the infrastructure projects on the construction equipment business in the states of Tamilnadu and Kerala. As sakthi finance is dealing in financing construction equipments, this study is made to find the market prospects of this business. Developing nations like India now understands the importance of development of infrastructure for its growth. Only when the infrastructure of the country is adequate, investments from other countries are expected to flow. So this study is done to find out the requirement of construction equipments in the two states in the next five years.

### **1.5 SCOPE OF THE STUDY**

The scope of the study is to determine the impact of the infrastructure projects in the states of Tamilnadu and Kerala on the construction equipment business. By collecting all relevant data about the infrastructure projects, we could know the volume of construction equipment business that would be in demand. Sakthi Finance Limited which deals with this construction equipment financing will be able to know the business prospects and thus accordingly disburse their funds for financing both new and used construction equipments for use in the states of Tamilnadu and Kerala.

## **1.6 RESEARCH METHODOLOGY**

### **1.6.1 TYPE OF STUDY**

The type of the study used for this project is descriptive research; researcher has to use all the facts and information available in the market.

### **1.6.2 RESEARCH DESIGN**

Research design constitutes the blueprint for the collection, measurements and analysis of the data. The present study is based on descriptive research design. The objective of a descriptive study is to learn who, what, when, where and how from the topic. The present study is about infrastructure projects and its impact on the construction equipment business.

### **1.6.3 DATA COLLECTION**

The data for the projects has been collected from both primary and secondary sources. The primary source of data was collected from the NBFC's, dealers of construction equipments, users of construction equipments and government departments through questionnaires and interview schedule. The secondary source of data for the project has been collected from the records and literature at SFL, government and the internet.

### **1.6.4 TOOLS FOR ANALYSIS**

Percentage Analysis has been used for the analysis of the obtained data to find out the requirement of various construction equipments in the two states. Regression analysis is also used (i.e, graphical analysis using scatter plot for groups with regression fit) to calculate the future trend of requirement.

## **1.7 LIMITATIONS OF THE STUDY**

The limitations of the study are:

1. Some of the data that has been collected are approximates as there was difficulty in collecting exact data in some cases.

2. The future infrastructure projects of the government departments may take time to be implemented due to reasons like political & economic environments, resources crunch, etc.,
3. The analysis for the study is done based on standard measurement values.

## **1.8 CHAPTER SCHEME**

### **Chapter 1: Introduction**

The first chapter deals with the background, objectives, scope of the study, methodology used in data collection, limitations of the study and the chapter scheme in the report.

### **Chapter 2: Organization Profile**

Organization profile includes details on the history of the organization, management, organization structure, product profile, market potential, competitive strength of the company and brief description on various functional areas of the organization.

### **Chapter 3: Macro – Micro Economic Analysis**

The third chapter is about the prevailing scenario of the industry and company. The analysis gives both the macro and micro level aspect of the construction equipment industry.

### **Chapter 4: Data Analysis and Interpretation**

The chapter gives the information regarding the various infrastructure projects in the states of Tamilnadu and Kerala and the requirement of construction equipments in various sectors based on the analysis made.

### **Chapter 5: Conclusion**

The fifth and the final chapter give the summary of the findings and gives recommendations.

# CHAPTER II

## *ORGANISATION PROFILE*

## CHAPTER – 2

### ORGANISATION PROFILE

Sakthi Finance Ltd., was incorporated in 1955, as a non-banking finance company. Initially, the Company catered exclusively to the hire purchase financial requirements of the Group's Telco Dealership units. This captive hire purchase business launched the Company firmly as a major player in this sector.

The Sakthi Group's long-standing association with the public through its agro-based industries, educational and charitable institutions has helped the company become an edifice of mutual trust and faith. Today, the company is one of the leading non-banking finance companies with over 21 branches in Tamilnadu, Kerala, Andhra Pradesh and Maharashtra states. To widen its reach and extend its services, a branch expansion program is being implemented. The company has an excellent brand image among the populace in this part of the country because of the excellent track record of the group. Despite the shakeout in the Industry, the Company has been able to hold its own in a highly competitive environment.

Sakthi Finance has positioned itself as a niche player and is now focusing on the Commercial Vehicle re-finance segment. The Company has planned to set up deployment in hire purchase financing and has envisaged a growth rate of 30 to 35 % over the next 3 years.

It is targeted to increase the deployment in hire purchase business manifold in the coming years. The consistent high economic growth and the Government emphasis on development of infrastructure such as construction of Golden Quadrilateral and linking of rivers have opened up tremendous opportunities for Sakthi Finance.

#### **HISTORY OF THE ORGANISATION:-**

Sakthi Finance Limited was incorporated on 30<sup>th</sup> March 1955 under the Company's Act in the name of "Pollachi Credit Society" Private Limited, as group's in house financing arm for TELCO dealership. The company made its first public issue in 1984. With successive rights

issue on premium the company paid up the capital raised from Rs.25lakhs to 17.5 crores as on March 2002.

The company's authorized capital comprises of 4, 00, 00,000 equity shares of Rs.10 each and 5,00,000 redeemable cumulative preference shares of Rs.100 each. The issued subscribed and paid up capital are 2,00,71,321 equity shares of Rs.10 each fully paid up.

The Company was promoted by Dr. N. Mahalingam during the year 1955 in the name of "The Pollachi Credit Society Private Limited". The Company was later converted into a Public Limited Company as "Sakthi Finance Limited" on 27 July 1967. SFL is engaged in the retail finance business. The Company came out with its first public issue of equity shares in 1984 and mobilized Rs.75 lakhs. In the year 1994 SFL obtained credit rating for Fixed Deposit Programme through ICRA and was rated 'MA'. Later in the Year 1995 the rating was upgraded from 'MA' to 'MA+'. The grading of the company for Fixed Deposits Programme is 'MA-'.

Company's business currently involves Acceptance of deposits, Non-Convertible Debentures, Hire Purchase Financing of commercial vehicles, Machinery etc., Mortgage Financing, and other finance related activities with its main focus on the Financing of commercial vehicles.

Presently the company operates through a networks of 21 branches located in Tamil Nadu, Kerala, Andhra Pradesh and Maharashtra with specific focus on Tamil Nadu and savings centers have been established at various deposit potential arrears at taluks of different districts in Tamil Nadu and Kerala for mobilizing public deposits. The company is also having safety locker facility to the deposit holders.

#### **MAIN OBJECTS OF THE COMPANY:**

The main objects of the company are as follows:

1. To lend and / or to advance money or grant loans on any terms that may be thought fit with or without security to persons, firms, individuals, companies, local bodies or

Government and particularly to customers and other persons having dealings with the Company.

2. To promote, assist in promoting, finance, aid, procure aids, manage, takeover or create any undertaking whether existing or new.
3. To act as Secretaries and financiers to enterprises.
4. To act as an issue house, Registrars and Share Transfer Agents, Financial Advisers, Technical Consultants, System Analysts and Data Processors.
5. To purchase, sell, exchange, deal in or invest in shares, debentures, bonds, Stocks of Joint Stock Companies, firms, local bodies or of Government.
6. To carry on the business of Underwriters, Sub-underwriters, Brokers, Managers, Advisors, Consultants to issue of shares, debentures, bonds, fixed deposits and other securities and of syndication of loans, project finance, working capital facilities and deferred payment facilities.

#### **DISTINCTIVE FEATURES OF SAKTHI FINANCE:**

- One of India's oldest NBFCs
- Founded in the year 1965.
- Part of the Rs 1200 crore Sakthi Conglomerate which was founded in the year 1935.
- The Sakthi Group has a leading presence in Finance Agro foods, Dairy, and Transport.
- A deep understanding of the transport industry has made Sakthi one of the most trusted names in financing for commercial vehicles.
- A wide variety of loans for cars, commercial vehicles, plant machinery and equipment are available.
- One of the first companies to introduce used vehicle financing.
- Sakthi Finance Ltd., has 20 branches spread all over India.
- Over 1, 00,000 happy customers and still growing.
- The Locker Operations are carried out by SAKTHI FINANCIAL SERVICES LIMITED, an associate Company.

## 2.2 MANAGEMENT

The **Board of Directors** of the Company consists of:

Name of the Director	Designation	Status
Sri M Manickam	Chairman	Non – Executive and Non – Independent
Sri M Balasubramaniam	Vice Chairman and Managing Director	Executive and Non – Independent
Sri M Srinivaasan	Director	Non – Executive and Non – Independent
Sri A Shanmugasundram	Director	Non – Executive and Non - Independent Non
Sri S A Murali Prasad	Director	– Executive and Independent
Dr A Selvakumar	Director	Non – Executive and Independent
Sri P S Gopalakrishnan	Director	Non – Executive and Independent

## HUMAN RESOURCES

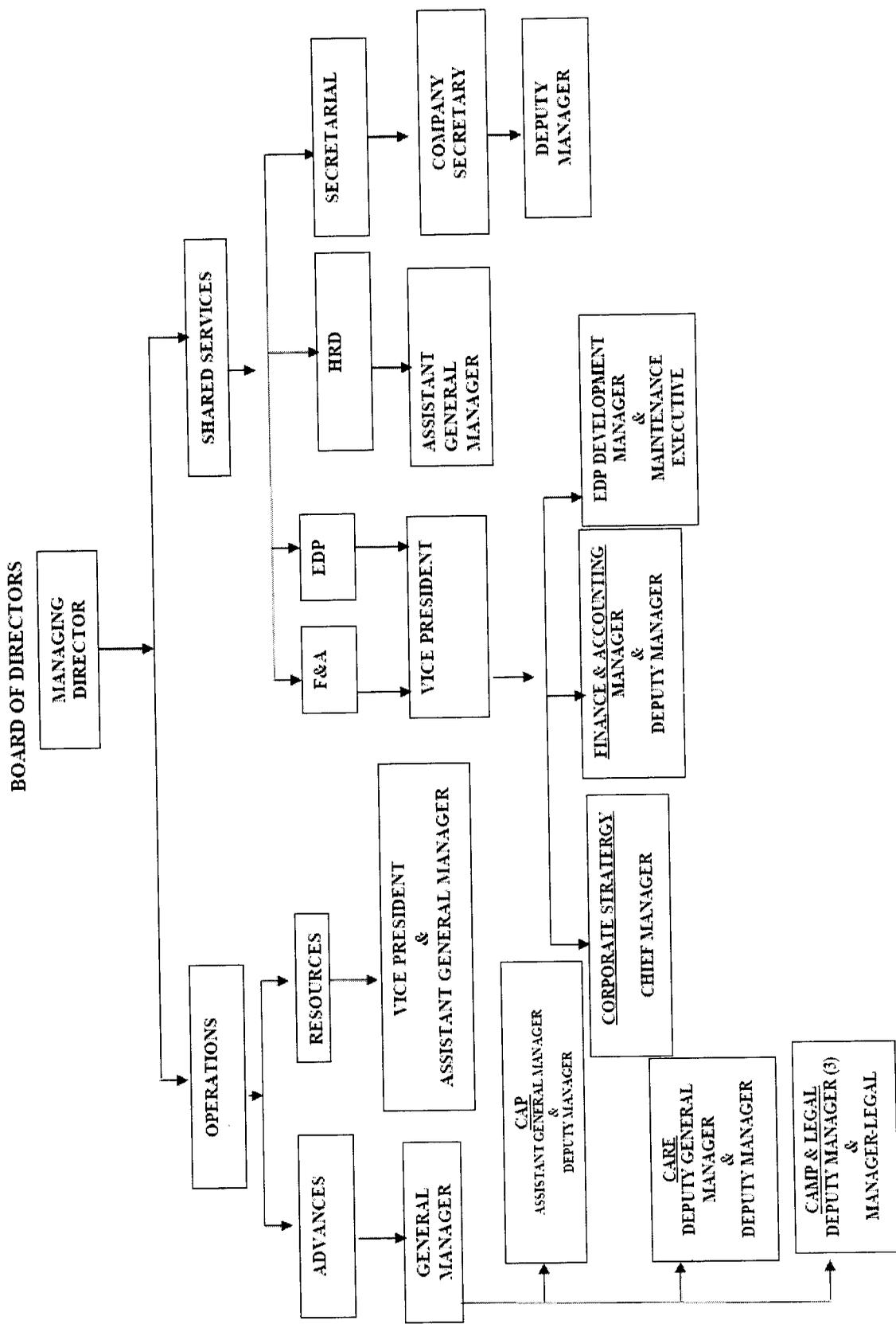
Break-up of the present manpower in the Company:

Category	No. of Employees
<b>Executives</b>	
Top Management	6
Senior Management	11
Middle Management	34
Executives	146
<b>Non – Executives</b>	
Skilled/ Staff	28
Non Skilled	17
<b>Total</b>	<b>242</b>

## BRANCH OFFICES

1. Tamilnadu: Chennai, Coimbatore, Madurai, Pollachi, Trichy, Salem, Erode, Namakkal, Tirunelveli, and Vellore.
2. Kerala: Calicut, Ernakulam, Kottayam, Kannur and Tricchur
3. Karnataka: Bangalore
4. Andhra Pradesh: Vishakhapatnam, Vijayawada.

## 2.3 ORGANIZATION STRUCTURE



## 2.4 PRODUCTS PROFILE AND MARKET POTENTIAL

SFL is engaged in providing finance for commercial vehicles and equipments

### **Commercial Vehicle Finance:**

Providing finance for the Commercial Vehicles forms the core business of SFL. SFL provides finance for new as well as used commercial vehicles. The strategy of the company is to engage in niche segment of commercial vehicle refinance business. Very few organized players have entered into commercial vehicle refinance business wherein the age of the truck is more than 5 to 6 years. The average loan size for commercial vehicles varies from Rs. 2.00 Lakhs to Rs. 4.00 Lakhs and the tenure is from 24 Months to 36 Months.

### **Infrastructure Equipment Finance:**

SFL has also entered in the financing of Infrastructure equipment and earth moving machines in order to diversify its portfolio. Government has proposed incentives for industries engaged in the infrastructure development. These incentives may give SFL an opportunity to improve in this line of business on account of the potential in equipment financing, as there is scope for growth in this business.

### **For Retail Resource Mobilization**

SFL has outsourced this process of retail resource mobilizations to its associate company called Sakthi Financial Services Limited. Sakthi Financial Services Limited has employed around 30 field staff in Tamil Nadu to market the Fixed Deposit and Non-Convertible Debentures scheme of Sakthi Finance Limited. Potential customers are contacted and explained about the schemes and deposit is mobilized.

### **For lending**

The marketing activity for lending is directly handled by Sakthi Finance Limited. The company has 25 branches in Tamil Nadu, Kerala, Andhra Pradesh, Karnataka, Pondicherry and Delhi. Each branch is under the charge of a Branch Manager. Depending upon the potential in the territory, 4 to 6 marketing officers are attached to each branch, at present there are 75

marketing officers in the rolls of the company. These officers are located in rural centres, wherein truck population is higher. Each of these officers typically covers 50 km area from his location. They are responsible for lending money in that area and also for collecting the installments. These officers are given required marketing support, by holding Special Customer Meets, Campaigns etc.

## **2.5 COMPETITIVE STRENGTHS OF SAKTHI FINANCE:**

- Part of the sakthi group \_ one of the reputed groups of the southern India is headed by Dr. N. Mahalingam
- Customer base of more than 5 million
- Experience in hire purchase financing of more than 45 years
- Business focused executives at all levels.
- The company is rated by ICRA as MA that means adequate safety.
- First in the industry to issue post dated interest warrants in advance every year.

## **2.6 FUTURE PLANS OF SAKTHI FINANCE:**

### **VISION OF SAKTHI FINANCE LIMITED**

1. Be amongst the top three re-financiers of commercial vehicles in the country.
2. Become total solution provided through channel seven – value chain management.
3. Become the most preferred supplier of the customer choice.

### **MISSION OF SAKTHI FINANCE LIMITED**

1. To partner the progress of “the small and medium transport” (SRTO & MRTO)
2. To provide “End to End service” leading to “Total Customer Solution” with speed, flexibility and integrity.

# CHAPTER III

## *MACRO-MICRO ANALYSIS*

## CHAPTER 3

### MACRO AND MICRO ANALYSIS

#### FOREIGN COMPANIES – EYEING THE INDIAN MARKET

Given the growth prospects of this industry, it is not surprising that MNCs have marked their presence in this segment. While some have set up Indian subsidiaries, others have formed strategic alliances with domestic players. The UK-based JCB and Germany-based Schwing Stetter have established proprietary businesses in the country. Notably, the Indian subsidiaries of both these firms have raked in significant business over the recent years — JCB India, for example, has evolved to become the group's largest market, having recorded four times' increase in sales over the last five years. Alternately, companies such as Terex Vectra, a 50:50 joint venture between Terex Corporation of the US and Vectra Ltd of the UK, have also etched their presence. Joint ventures and strategic tie-ups between global and domestic players has also been a popular model. While global equipment leader Caterpillar has an alliance with GMMCO, Komatsu has tied up with L&T. Hitachi Construction holds a 40 per cent stake in Telco Construction Equipment Company. This space could see more action with more foreign companies announcing plans to enter the Indian market. For instance, Scania of Sweden has announced its India entry with a tie-up with L&T. Yanmar Construction Equipment Company of Japan has also announced its India foray.

Finance companies offer a broad range of services to meet the needs of corporate and individuals. Some of them have, through subsidiaries, taken up stock broking and mutual fund business. The government has permitted external commercial borrowing and foreign investments in activities of NBFCs not only to explore opportunities but even to survive. While bank credit to NBFCs has been rising, the pace of increase in the banks total exposure to this sector has been slow as compared to credit expansion to other sectors of economy. This can be attributed to certain adverse developments in the industry in the recent past. This can be attributed to certain adverse developments in the industry in the recent past. This has also had effect of increasing the share of unsecured deposits in the portfolio of NBFCs.

## GROWTH FACTORS

Several factors have contributed to the rapid growth of NBFCs in India. Comprehensive regulation of the banking system and the absence or relatively lower degree of regulation of NBFCs on the other hand has a significant contribution to this development.

Recognizing the importance of the NBFCs sector and the need to integrate it with the main stream financial system, the RBI has taken steps from time to time for the regulation of NBFCs. Experience over the last three decades has shown that earlier regulations covered only the deposit taking activities of NBFCs without adequately covering aspects of functional diversity of these companies and expanding intermediation by them. Various committees which went in to these aspects, strongly recommended that there should be an appropriate regulatory frame work for NBFCs and that more powers should be vested with RBI to regulate them in an effective manner.

Further a high level of customer orientation, fewer pre-sanction and post-sanction requirements, faster sanctions and simple and speedy tailor made services assures them a loyal clientele not withstanding higher costs. Besides the higher returns offered by NBFCs drew a large number of small depositors to them. They work like quasi banks and provide funds to sectors where a credit gap exists. NBFCs have become an accepted and integral part of the Indian Financial System which did experiment with direct finance to the transport to this sector, withdrew and settled for indirect finance to this sector through NBFCs which had a better recovery machinery or experience.

The availability of easy credit options to purchase infrastructure and construction equipment is also a positive. While in the past larger companies (equipment users) enjoyed easier access to credit from the big banks and other financial institutions, their smaller counterparts were not as lucky in tapping capital, and often forced to postpone their purchases. This scenario has changed with the emergence of equipment financing companies with focus on small and medium-sized contractors. Such financing options will not only help these companies get easier access to financing solutions but will also help expedite their purchase decisions.

## INVESTMENTS IN INDIA

India is keenly looking for cooperation with and investments from the EU to beef up its infrastructure and energy sectors as it considers creation of essential infrastructure such as roads, ports, railways and airports and meeting its energy needs as critical not only to boost economic growth but also for enhancing competitiveness in the global market.

In the energy sector, EU could help India in clean coal technologies, augmentation of oil and gas reserves, gas pipelines, power transmission and distribution, R&D, training and capacity building for energy companies, energy conservation, new and renewable energy sources and nuclear power.

According to FICCI, India's spending on infrastructure is expected to go up from US \$ 24 billion in 2005 to US \$ 47 billion in 2009. The government of India has indicated that India has the potential to absorb US \$ 150 billion of FDI in infrastructure sector over the next five years. For bringing in greater efficiency in the process and mobilizing this huge resource requirement, the government has provided a large number of incentives to attract private sector investment. This includes creation of Special Purpose Vehicles and a Viability Gap Funding scheme for financing infrastructure projects. Barring aviation, all infrastructure sectors have also been opened up for 100 per cent FDI. There is a growing trend of Public-Private Partnership (PPP) in implementation of infrastructure projects in India.

Huge investment opportunities are seen with respect to the roads and highways sector are primarily in terms of: investment in major highway projects on toll based BOT and Annuity collection agreements including: NHDP Phase IV: Upgradation of about 20,000 km of single/intermediate lane National Highways to 2- lanes to be implemented on annuity basis with estimated cost of about US \$ 5.702 billion. NHDP Phase V: Widening of about 5,000 km of National Highways to 6-lanes on BOT basis with an estimated cost of US \$ 3.991 billion. NHDP Phase VI: Development of 1,000 km Expressways with an estimated cost of US \$ 3.422 billion, and NHDP Phase VII: Construction of Ring Roads, bypasses, and flyovers in several important cities, on BOT basis with an estimated cost of US \$ 3.422 billion; manufacture and supply of construction equipment and participation in construction of bridges, bypasses and expressways;

technical consultancy in the field of design, supervision and carrying out traffic studies; intelligent Transport System Companies; and under Operation, Maintenance and Transfer (OM & T) contracts, stretches of about 500 to 1000 km would be given out to the private sector for operations and maintenance for 5-10 years.

In airport infrastructure, EU companies would be interested in construction, upgradation and operation of new and existing airports including cargo related infrastructure; outsourcing of some of the operation and maintenance functions such as cargo handling services and commercial development; consulting opportunities for airport management, airport design and architecture, traffic studies and project supervision; setting up of non-aeronautical activities like shopping complex, golf course, entertainment park and aero-sports near airports; upgradation of smaller airports through private sector participation and opportunities for airport and avionics equipment manufacturers and service providers.

Under the National Maritime Development Programme (NMDP) of the government, 219 projects have been identified involving an estimated investment of US \$ 13.5 billion in ports and related infrastructure. These projects would be executed with private sector participation in two phases over a period of 10 years. The various investment opportunities under the NMDP are in terms of –construction of jetties and berths, Procurement, replacement and upgradation of equipment at ports; deepening of channels and Improvement of port connectivity; leasing out assets of existing ports, construction and operation of terminals, berths and storage facilities along with captive facilities for port-based industries; construction and operation of Greenfield ports; construction and operation of ; container terminals, multipurpose and specialized cargo berths, warehousing, container freight stations, storage facilities, and Handling equipment, setting up captive power plants, dry-docking and ship repair facilities; leasing of equipment and floating craft from the private sector; and port-based Special Economic Zones will lead to significant investment opportunities for heavy engineering industries, steel units and fertilizer and cement companies

FICCI has noted that the response of the private players in setting up of SEZs in India has been tremendous. A large number of Indian as well as foreign companies are in the process of setting up SEZs. The growing interest of private players in developing SEZs has been primarily

on account of the new legislation, which provides a uniform policy in terms of operation, establishment and fiscal regime. The most critical changes have been with respect to the tax incentives.

## **CONSTRUCTION EQUIPMENT BUSINESS IN INDIA**

Companies in the engineering and construction sectors have never had it better. With increasing allocation of funds towards infrastructure development, the fortunes of these companies have changed dramatically. The spill-over effect from these investments has also pepped up the outlook for the equipment industry. Offering a proxy play on the infrastructure growth story of India, the equipment industry appears set to grow at a blistering pace.

While the stocks in this segment enjoy premium valuations, the burgeoning order books stand testimony to strong prospects. What are the demand accelerators for this industry? How are the companies planning to take advantage of the demand? What are the key factors that will determine their success? Here are a few takes on the underlying trends.

## **GROWTH DRIVERS IN PLACE**

Demand for infrastructure and construction equipment (ICE) is set to increase, given the growing thrust on infrastructure development. The Eleventh Five Year Plan, entailing an investment of about \$492 billion on infrastructure projects alone, is likely to be the main growth driver (incremental investment of about \$40 billion annually).

While this will directly benefit engineering and construction companies, it will also buoy the demand outlook for the equipment industry. In addition to this, the fact that equipment costs typically constitute about 4-24 per cent of the total project cost also brings to fore the growth that this industry could witness. Notably, the equipment industry has grown by about 25-30 per cent annually over the past couple of years.

For instance, the presence of companies such as SREI Infrastructure and Finance, Birla Global Finance and Cholamandalam DBS Finance, which cater to small and medium-sized contractors, has widened the financing options for the user companies. Interestingly, SREI also

provides assistance to its customers throughout the lifecycle of the equipment. However, given the strong demand scenario, financing options in the market leave sufficient scope for expansion.

Going forward, exports can emerge as a strong growth driver, given the current domestic market bias of these companies. In this context, evolution of R&D capabilities and an established low-cost manufacturing base are likely to act as enablers. However, given the blistering growth in domestic demand, it could well take a few years before these companies decide to increase focus on exports.

### **EQUIPMENT RENTALS – THE NEXT TREND**

The purchase decisions of ICE also depend on the criticality of their function to the user's business operation. In contrast to equipment acquisition, which burdens the purchaser's balance sheet, hiring or leasing options by equipment rental companies for not-so-critical equipment offers an easier option for the user. Predominantly unorganised, the rental businesses could witness more action given the flexibility they provide the users.

In the organised market, players such as Quipo Equipment Rental and Sanghvi Movers have established their presence. Sanghvi, which rents out cranes, has a fleet size of about 260 cranes and enjoys a 50 per cent market share in the segment. Quipo has set up equipment banks across the country and provides equipment on rent. Additionally, it takes deposits of idle equipment and provides returns thereon to owners on their idle assets. The business model of Quipo, promoted by SREI Infrastructure and Finance with Ingersoll Rand, Swedfund and L&T as key stakeholders, has gained popularity. Its association with Ingersoll and L&T has also benefited the company by way of discounts on equipment purchases, after-sales support services and joint market development for rental services. Gremach Infrastructure Equipments and Projects is another player that rents out construction and earth-moving equipment.

### **FUNDING CAPACITY EXPANSION**

Most of the ICE companies, in order to meet the rising demand, have embarked on capacity expansion. While the expansion in capacity has predominantly been focused on existing

offerings, a few companies have also sought to expand their product portfolios. The funding of these capex plans has seen a differing trend across companies.

While companies such as Action Construction Equipment and Gremach Infrastructure tapped the primary market via an initial public offering, Bharat Earth Movers raised funds through a follow-on public offer. Given the overwhelming response to the public offers of these companies, more such companies could tap the primary market. Material-handling company Tecpro Systems, for instance, is slated to go the IPO way soon. Some companies, however, went the private equity way. Escorts Construction Equipment raised about \$17 million from US-based Darby Overseas Investments. Quipo was another company that chose the private equity route; it attracted funding of about \$50 million from GIC of Singapore and IDFC. Sanghvi Movers has also used debt to fund its expansion. Notably, Indian subsidiaries of MNC players have attracted increased investments from their parent company.

## **CRITICAL SUCCESS FACTORS**

The entry of several players in this space, while good for market expansion, has also increased the competition for existing domestic players. Further, increasing imports from low-cost countries such as China could also add to the pressure. In the light of increase in competition, factors such as distribution network, technology tie-ups, pricing strategies and after-sales service can emerge as key differentiators. While multinational companies have an edge over domestic ones when it comes to technology, the latter score in terms of the reach of their distribution network. Raw material cost, going forward, could also emerge as a significant challenge. In this context, global players with presence across various countries could be at an advantage if the cost dynamics were to shift in favour of some other country.

## **INDIAN INFRASTRUCTURE**

In the last decade or so, development of **India Infrastructure Projects** have been propelled specially in transport sector with adequate intervention of **Central and State Governments** aided by a host of **private investments** from within and outside the country.

Since independence, **India Infrastructure Projects** bear testimony of the inability of policymakers to transform ambitious plans into action. The issues responsible for this were:

- Counter guarantees
- State level issues
- Delay in financial closure
- Ability and willingness of the end customers to pay
- Need to develop independent regulators who can monitor and guide development of the sector

There has been substantial improvement in the road sector. **India Infrastructure Projects** in the light of the fairly successful road development, port development, and contrast it with the formidable challenges faced by the other infrastructure sectors.

1. The road sector as is common with other parts of India's infrastructure has been in a dilapidated state. In 1997, 98% of the national highways (a stretch of 54,000 km) comprised 64 % single lane and 34 % two lane roads. In 1998, the government articulated the **National Highway Development Plan (NHDP)** and created the **National Highways Authority of India** to implement the plan.

Essentially the **National Highway Development Plan** was to be implemented in two phases:

- o In **Phase-1**, the Golden Quadrilateral will convert the national highway connecting the four major metros to four lanes, a stretch of 5,846 km. The target date for completion was set at June 2004.
- o In **Phase-2** the North-South and East West corridor plans to link Srinagar to Kanyakumari and Silchar to Porbander, a stretch of 7,300 km. The target date for completion was set at 2009.

The total estimated cost of above projects was pegged at INR 540 billion (Rs. 54,000 billion).

2. The **Port Sector** has also witnessed significant progress in recent years. In 1990-91 the average ship turnaround time was 8.1 days which worsened to 8.5 days by 1995-96. As of March 2002, it has declined to 3.7 days still falling short of international standards where the turnaround time is in hours. In some ports such as **Jawaharlal Nehru Port Trust**, the turnaround time is 1.04 days. In 1996, against an installed capacity of 177 million tonnes, Indian ports handled 215.3 million tonnes. Apart from the inefficiencies from outdated equipment and low labor productivity, the congestion at ports led to pre-berthing delays and longer ship turnaround time. Given that the bulk of India's trade (95% by some estimates) is carried by sea routes, inefficiency adds to transaction costs. In 1996-97, the government opened up the sector for private sector participation. A tariff authority was constituted by amending the **Major Ports Act of 1963**, increasing authority for financial and administrative decisions in major port trusts and a policy for corporatization. More importantly no guarantees were given for financial return or for the traffic. Approximately 161 million tonnes per annum of capacity enhancement is expected with an investment of INR 108 million mainly by the private sector.
3. The **Power Sector** has been struggling to reform without success for several years. In the initial stages the focus was only on power generation, totally neglecting the transmission and distribution loss. India's transmission and distribution loss is as high as 30.9 % due to theft, inadequate load distribution and indiscriminate grid extension. In 1990-91 the revenue recovery per unit was 82.2% of cost and by 2001-02 it dropped to 68.6 %. The core issue of augmenting **State Electricity Board** finances is now being addressed and hopefully can spur investment in the sector.
4. In the **Telecom Sector** the mobile phones have led to rapid increase in density of telecommunication and it is increasingly done by the private sector. In short, **Infrastructure Development in India** has a bi-directional causality with **economic growth**. The recent success with the road sector, port sector must be extrapolated to other infrastructure sectors in order to materialize its objective of attaining **self-sustained growth**.

## **Some Physical Targets for Infrastructure in the Eleventh Plan**

### **Electricity**

- o Additional power generation capacity of about 70,000 MW
- o Reaching electricity to all un-electrified hamlets and providing access to all rural households through Rajiv Gandhi Grameen Vidyutikaran Yojna (RGGVY)

### **National Highways**

- o Six-laning 6,500 km of Golden Quadrilateral and selected National Highways
- o Four-laning 6,736 km on North-South and East-West Corridors
- o Four-laning 12,109 km of National Highways
- o Widening 20,000 km of National Highways to two lanes
- o Developing 1000 km of Expressways
- o Constructing 8,737 km of roads, including 3,846 km of National Highways, in the North East

### **Rural Roads**

- o Constructing 1,65,244 km of new rural roads, and renewing and upgrading existing 1,92,464 km covering 78,304 rural habitations

### **Railways**

- o Constructing Dedicated Freight Corridors between Mumbai-Delhi and Ludhiana-Kolkatta
- o 10,300 km of new railway lines; gauge conversion of over 10,000 km
- o Modernisation and redevelopment of 21 railway stations
- o Introduction of private entities in container trains for rapid addition of rolling stock and capacity

### **Ports**

- o Capacity addition of 485 million MT in Major Ports, 345 million MT in Minor Ports

**Airports**

- o Modernisation and redevelopment of 4 metro and 35 non-metro airports
- o Constructing 7 greenfield airports
- o Constructing 3 airports in North East
- o Upgrading CNS/ATM facilities

**Telecom and IT**

- o Achieving a telecom subscriber base of 600 million, with 200 million rural telephone connections
- o Achieving a broadband coverage of 20 million and 40 million internet connections

**Irrigation**

- o Developing 16 million hectares through major, medium and minor irrigation works

# CHAPTER IV

*DATA ANALYSIS*

*&*

*INTERPRETATION*

## CHAPTER – 4

### DATA ANALYSIS AND INTERPRETATION

#### INFRASTRUCTURE PROJECTS IN KERALA AND TAMILNADU

1. Trivandrum City road improvement project
  - Total Cost – Rs.145 crores
  - Implemented under build-operate-transfer(BOT) scheme on an annuity basis
  - Includes ten city road corridors, three National Highway bypass, one underpass and two flyovers
  
2. Vizhinjam International Container Transshipment project
 

Could handle 4.1 million containers of twenty-foot equivalent units (TEUs) and vessels of the order of 12,000 TEU size with a total berth length of 2860 meters
  
3. NHDP PHASE II
  - a. Walayar – Vadakkancherry (NH 47)
 

Length – 55 km

Project Cost – Rs. 600 crores
  - b. Vadakkancherry – Thrissur (NH 47)
 

Length – 29 km

Project Cost – 515 crores
  
4. NHDP Phase III-A
  - a. Charthalai - Paliakad (NH 47)
 

Length – 50.5 km

Project Cost – Rs. 329.26 crores
  - b. Pallakad- Thiruvananthapuram (NH 47)
 

Length – 123.5 km

Project Cost – Rs. 805.22 crores

## c. Trivendrum -Kerala/Tamil Nadu Border (NH 47)

Length – 43 km

Project Cost – Rs. 280.36 crores

## d. Kerala/Tamil Nadu Border -Kanyakumari (NH 47)

Length – 70 km

Project Cost – Rs. 456.4 crores

## 5. NHDP Phase PHASE III B

## a. KNT/Kerala border-Khozikode-Eddapally (NH 17 t)

Length – 451 km

Project Cost – Rs. 2940.52crores

## 6. Port Connectivity &amp; Others - Projects Under Implementation

S.NO Stretch State Funded By	NH	Length (Km)	Date of		Contractor & Nationality  Supervision Consultant & Nationality
			Start MM/YYYY	Completion Original MM/YYYY	
				Completion Estimated MM/YYYY	
a.  Cochin Port km 348/382 - km 358 750 Including 5 Major Bridges Kerala SPV	47	10	Dec 2007	Jun 2009	Mecon-GEA Energy System (I) Ltd. (JV)- Indian-
					Dalal - Mott Mc Donald in association with Arch Consultancy- Indian -
b.  NH Connectivity to ICTT Vallarpadam Kerala NHAI	47C	17.2	Aug 2007	Feb 2010	Suncon - Soma (JV)- Malaysian - Indian-
				Feb 2010	Lea Associate South Asia (P) Ltd.- Indian -

## PROJECTS IN TAMIL NADU

### 7. NATIONAL HIGHWAYS

- a. Widening of Salem-Coimbatore stretch of NH-47
  - i. Widening will be done from km 39.800 to km 43.000, km 45.800 to km 49.900 and km 50.800 to km 56.500 (Salem-Coimbatore section) in Namakkal district.
- b. Athipalli - Krishnagiri on NH-7
  - i. It includes building (widening/four-laning etc.), maintenance, management and operation of NH-7 on the stretch of land from km 33/400 to km 34/400 in Krishnagiri district
- c. NHDP PHASE II
  - i. Salem-Coimbatore Kerala Border Section (NH 47)  
Length – 82 km  
Project Cost – Rs. 540 crores
- d. NHDP Phase III-A
  - i. Nagapatnam -Thanjavur (NH 67)  
Length – 74 km  
Project Cost – Rs. 482.48 crores
  - ii. Krishnagiri -Tindivaram (NH 66)  
Length – 170 km  
Project Cost – Rs. 1108.4 crores
  - iii. Trichy -Puddukotai -Ramanathapuram (NH 210)  
Length – 200 km  
Project Cost – Rs. 1304 crores
- e. NHDP Phase PHASE III B
  - i. Dindigul-Perigulam-Theni (NH 45ext)  
Length – 73 km  
Project Cost – Rs. 475.96 crores

ii. Madurai-Ramnathpuram-Rameshwaram -Dhanuskodi (NH 49)

Length – 186 km

Project Cost – Rs. 1212.72 crores

iii. Coimbatore-Mettupalayam (NH 67 (Ext.))

Length – 45 km

Project Cost – Rs. 293.4 crores

iv. Theni-Kumili (NH 220)

Length – 57 km

Project Cost – Rs. 371.64 crores

f. NHDP PHASE V

i. Chennai-Tada (NH 5)

Length – 50 km

Project Cost – Rs. 317 crores-

ii. Krishnagiri-Poonamalee (NH 7 & 4)

Length – 240 km

Project Cost – Rs. 1522 crores

iii. Bangalore -Krishnagiri (NH 7)

Length – 40 km

Project Cost – Rs. 254 crores

8. North South & East West Corridor

a. Project Implementation Phase – I

i. Thumpipadi to Salem (NH 7)

Length – 19.2 km

Contractor - Bhageeratha Engg. Ltd.

## b. Project Implementation Phase - II

<b>Stretch State Funded By</b>	<b>NH</b>	<b>Length (Km)</b>	<b>Present Status</b>	<b>Contractor &amp; Nationality</b>
Krishnagiri to Thopurghat (NS-2/TN1) Km. 94.000 to 156 Tamil Nadu BOT	7	62.5	Under Implementation	Larsen & Toubro Ltd. (M/S L & T Krishnagiri Thopurghat Toll Road Pvt. Ltd.) Indian
Salem to Karur (NS-2/TN-2) Km. 207.050 to Km 248.625 Tamil Nadu BOT	7	41.55	Under Implementation	Ms/ MVR - MRK - JTEC (JV) [MVR infrastructure & Tollway Pvt Ltd.] Indian - China JV
Salem to Karur (NS-2/TN-3) Km 258.645 to Km 292.6 Tamil Nadu BOT	7	33.48	Under Implementation	Reliance Energy Ltd. [NK Toll Road Ltd.] Indian
Karur to Madurai (TN-4) Km 305.6 to Km 373.275 Tamil Nadu BOT	7	68.125	Under Implementation	Madhucon Projects Ltd. - SREI [TN(DK) Expressways Ltd.] Indian
Karur to Madurai (TN-5) Km 373.275 to km 426.6 Tamil Nadu BOT	7	53.025	Under Implementation	M/s Reliance Energy Ltd. [DS Toll Road Ltd.] Indian
Madurai to km 120 of Madurai - Tirunelveli Section including Madurai Bypass (NS-39) Km. 0.000 to Km. 42.000 Tamil Nadu NHAI	7	42	Under Implementation	Patel - KNR (JV) Indian

Madurai-Kanniyakumari Section (NS-40/TN) Km. 42.000 to Km. 80.000 Tamil Nadu NHAI	7	38.86	Under Implementation	IVRCL Infrastructure Projects Ltd. Indian
Madurai-Kanniyakumari Section(NS-41/TN) Km. 80.00 to Km. 120.00 Tamil Nadu NHAI	7	39.51	Under Implementation	IVRCL Infrastructure Projects Ltd. Indian
Salem to Kerala Border Section (TN-6) Km 203.96 on NH-7 to km 53.00 on NH-47 Tamil Nadu BOT	47	53.525	Under Implementation	IVRCL Infrastructure Projects Ltd. ( Salem Tollways Ltd.) Indian
Madurai-Kanniyakumari Section (NS-42/TN) Km. 120 to Km. 160 Tamil Nadu NHAI	7	42.7	Under Implementation	Shakti Kumar M. Sancheti Ltd. Indian
km 120 of Madurai - Tirunelveli Section to Panagudi (km 203) Km. 160 to Km. 203 Tamil Nadu NHAI	7	43	Under Implementation	Patel - KNR (JV) Indian
Kanniyakumari-Panagudi(NS-32) km 203 to km 233.6 Tamil Nadu NHAI	7	30.6	Under Implementation	Patel - KNR (JV) Indian
Salem to Kerala Border Section (TN-7) Km 53.000 to Km 100 Tamil Nadu BOT	47	48.51	Under Implementation	IVRCL Infrastructure Projects Ltd. (Kumar Palayam Tollway Ltd.) Indian

## Port Connectivity &amp; Others - Projects Under Implementation

S.NO Stretch State Funded By	NH	Length (Km)	Date of		Contractor & Nationality
			Start MM/YYYY	Completion Original MM/YYYY	Supervision Consultant & Nationality
1 Tuticorin Port NH-7A (Tuticorin - Tirunelveli section) Tamil Nadu SPV	7A	47.2	Feb 2004	Aug 2006	
				Dec 2009	M/S BCEOM French Engg. Consultant & Nag Infrastructure Ltd.- French - Indian -
2 Chennai - Ennore Express Way TPP Road, Tamil Nadu SPV	SR	9	May 2006	Dec 2007	East Coast Construction & Industries Ltd.- Indian-
				Jul 2008	Tamilnadu Road Development company Ltd. (TNRDC)- Indian -
3 Chennai - Ennore Express Way Inner Ring Road & Manali Oil Refinery Rd. Tamil Nadu SPV	SR	15	Aug 2007	Aug 2008	Engineering Projects (I) Ltd.- Indian-
				Aug 2008	Tamilnadu Road Development company Ltd. (TNRDC)- Indian -

**Others Projects**

1 Tindivanam - Ulundurpet (Pkg -VI-A) km 121 - km 192.25 Tamil Nadu BOT	45	71.25	Oct 2006	Mar 2009	GMR Infrac. Ltd. - GMR Energy Ltd.(GMR Ulundurpet Expr. Pvt. Ltd.)- Indian-
				Dec 2008	ICT Ltd.-Indian -
2 Ulundurpet - Padalur (Pkg- VI-B) km 192.25 - km 285.00 Tamil Nadu BOT	45	92.75	Dec 2006	Jun 2009	IJM - Saporji Pallonji (JV) (Trichy tollway Pvt. Ltd.)- Malaysian - Indian JV-
				Dec 2008	-

3 Padalur - Trichy (Pkg - VI-C) km 285.00 - km 325.00 Tamil Nadu BOT	45	40	Nov 2006	May 2009	Navayuga - Indu - Abhisek Consortium (Indu Navayuga Infrac. Pvt. Ltd.)- Indian-
				Dec 2008	- -
4 Tovaramkurchi to Madurai (Package -VII B) Km 60.95 to Km 124.84 Tamil Nadu NHAI	45B	63.89	Feb 2006	Aug 2008	Aggarwal - JMC (JV)- Indian-
				Dec 2008	Dalal Matt Macdonald- UK -
5 Trichy Bypass end to Tovaramkurchi (Package -VII A) Km 0 to Km 60.95 Tamil Nadu NHAI	45B	60.95	Feb 2006	Aug 2008	Aggarwal - JMC (JV)- Indian-
				Mar 2009	Dalal Matt Macdonald- UK -
6 Chennai Bypass Phase II Tamil Nadu NHAI	45, 4 & 5	32	May 2005	Nov 2007	Hindustan Construction Company Ltd.- Indian-
				Oct 2008	M/s Span Consultant Pvt. Ltd.- Indian -
7 Improvement of Access of GQ within Chennai City including Construction of 4 grade Seperators Tamil Nadu MORTH	205 , 4 & 45	4	Apr 2005	Apr 2007	Somdutt Builders-Simplex (JV)- Indian-
				Mar 2008	TNRDC (Engg.)- Indian -
8 Karur to Kangayam (KC-1) km 218.200 to km 277.400 Tamil Nadu	67, KC1	59.2	Aug 2006	Aug 2008	SRC Projects (P) Ltd.- Indian-
				Aug 2008	Feedback Turnkey Engg. Pvt. Ltd.- Indian -

9 Kangayam to Coimbatore (KC-2) km 277.400 to km 332.600 Tamil Nadu MORTH	67, KC2	55.2	Aug 2006	Aug 2008	SRC Projects (P) Ltd.- Indian-
				Aug 2008	Feedback Turnkey Engg. Pvt. Ltd.- Indian -
10 Lalapet ROB km 183.400 Tamil Nadu MORTH	67	0	Mar 2006	Sep 2007	Nagarjuna Construction Co. Ltd.- Indian-
				Mar 2008	Tamilnadu Road development Co ltd.-

#### 10. Proposals Granted Approval

S. No.	Name of the project	Sector (Sponsoring Authority)	State	Project cost in Rs. Crore (in US\$, Million*)	Remarks
1	Development of eighth berth Tuticorin Port Trust as a second container Terminal on BOT basis	Port (Department of Shipping)	Tamil Nadu	150 (37.50)	Proposal approved on 8.11.06.
2	Four Laning from Junction of NH-68 with NH-7 near Salem to Junction of NH-68 with NH-45 near Ulundurpet in the state of Tamil Nadu under NHDP Phase III	National Highways (Department of Road, Transport and Highways)	Tamil Nadu	941 (235.25)	Proposal approved on 1.11.06.
3	Four Laning from Trichy city of NH-45 to Dindigul on NH-45 in the state of Tamil Nadu under NHDP Phase III A on BOT basis	National Highways (Department of Road, Transport and Highways)	Tamil Nadu	576 (144.00)	Proposal approved on 1.11.06.
4	Four Laning of Trichy city Junction with NH-45 B on NH-67 to Karur on NH-67 in the state of Tamil Nadu under NHDP Phase III A on BOT basis	National Highways (Department of Road, Transport and Highways)	Tamil Nadu	516 (129.00)	Proposal approved on 1.11.06.
5	Four Laning of Pondicherry to Tindivanam on NH-66 in the state of Tamil Nadu under NHDP Phase III A on BOT	National Highways (Department of Road, Transport and Highways)	Tamil Nadu	285 (71.25)	Proposal approved on 1.11.06.

	basis				
6	Six Laning of Chennai-Tada Section of NH-5 (43 Km) in Tamil Nadu	National Highways (Department of Road, Transport and Highways)	Tamil Nadu	353.37 (88.34)	Proposal approved on 11.5.2007.
7	Construction of Container Terminal at Ennore Port on BOT basis	Port (Department of Shipping)	Tamil Nadu	1300 (325.00)	Proposal granted in principle approval on 19.09.2007.
	Sub-Total			4121.37 (1,030.34)	
* Currency Exchange Rs. 40 = 1\$.					

### Chennai Suburban services

In Chennai Metro Services, the section from Thirumalai to Vellachari has been extended and opened in the month of November 2007 and the extension work of Vellachari- Saint Thomas Mount section has been started. This work is expected to be completed by December 2010 at the cost of Rs. 496 cr.

## PROJECTED INFRASTRUCTURE INVESTMENTS DURING THE 11<sup>TH</sup> PLAN

Projected Investment by the Centre and the States during the Eleventh Plan  
(Bottom up Estimates)

Core at 2006 – 07 prices)						
Sector	2007-08	2008-09	2009-10	2010-11	2011-12	Total 11th plan
<b>Total</b>	<b>267,355</b>	<b>317,646</b>	<b>384,217</b>	<b>472,630</b>	<b>585,321</b>	<b>2,027,169</b>
Centre	115,579	132,562	155,075	182,443	218,770	804,429
States	75,617	93,444	116,675	147,666	187,378	620,780
Private	76,159	91,640	112,468	142,520	179,173	601,959

**Table 1: Projected Investments in Ports during the Eleventh Plan**

(Rs. Crore at 2006-07 prices)

Years	All Ports	Major Ports	Minor Ports
2007-08	11,402	6,615	4,787
2008-09	13,812	8,343	5,469
2009-10	16,789	10,538	6,251
2010-11	20,467	13,330	7,137
2011-12	24,519	16,419	8,100
Total XI Plan	86,989	55,245	31,744

**Table 2: Projected Investments in Airports during the Eleventh Plan**

(Rs. Crore at 2006-07 prices)

Years	Total	Public	Private
2007-08	7021	2401	4620
2008-09	7379	2596	4783
2009-10	7837	3219	4618
2010-11	8717	3592	5125
2011-12	9926	4181	5745
Total XI Plan	40880	15989	24891

**Interpretation:**

The projected infrastructure investments in the sectors like railways, airports, ports, roadways show that the country is investing more in the infrastructure sector. These major areas are important in the infrastructure investment.

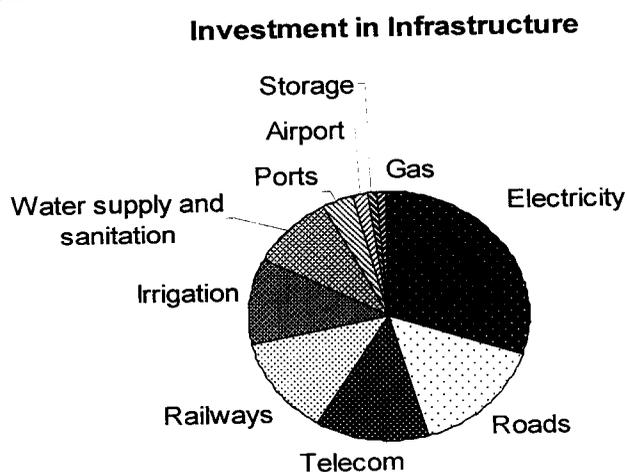
The following are the projected investments in different sectors of infrastructure for the next 5 years all over India:

**Table 3: Projected investments in different sectors of infrastructure**

(Rs. In Crores)

Sector	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Electricity	74205	92829	116541	146914	186038	616526
Roads	51352	54318	58729	67901	79516	311816
Telecom	33075	39834	50293	63408	80390	267001
Railways	33207	39964	48626	59738	76466	258001
Irrigation	27002	33839	42625	53946	65718	223131
Water supply and sanitation	25840	31110	37868	46555	57754	199127
Ports	9691	11740	14271	17397	20841	73941
Airports	6223	6459	6814	7296	7956	34748
Storage	3777	4098	4446	4824	5234	22378
Gas	2984	3454	4005	4651	5407	20500
Total investment	267355	317646	384217	472630	585321	2027169

**Chart 1: Projected investments in different sectors of infrastructure**



## CALCULATION OF REQUIREMENTS OF CONSTRUCTION EQUIPMENTS

**Table 4: Calculation of projected rates of Construction Equipments**

The following are the projected rates of different construction equipments

(Rent in Rs.)

Period	Excavator	Backhoe Loaders	Tipper	Cranes	Road Rollers	Concrete Mixers	Paving Machine
1 hour	600	600	1000	1000	1200	1000	1000
1 day	4800	4800	8000	8000	9600	8000	8000
1 month	96000	96000	160000	160000	192000	160000	160000
1 year	1152000	1152000	1920000	1920000	2304000	1920000	1920000
5 years	5760000	5760000	9600000	9600000	11520000	9600000	9600000

Now the total investment required is 6.144 crores for one equipment in each category. Only 30% of the total investments is taken into account for spending on construction equipments since the remaining is used for raw materials, labour, contractors, etc. By dividing the investments of a particular sector on construction equipments by 6.144 crores, we get the total number of construction equipments in a particular sector. Then, that figure is divided in proportion to the ratio of the total investments required for each equipment.

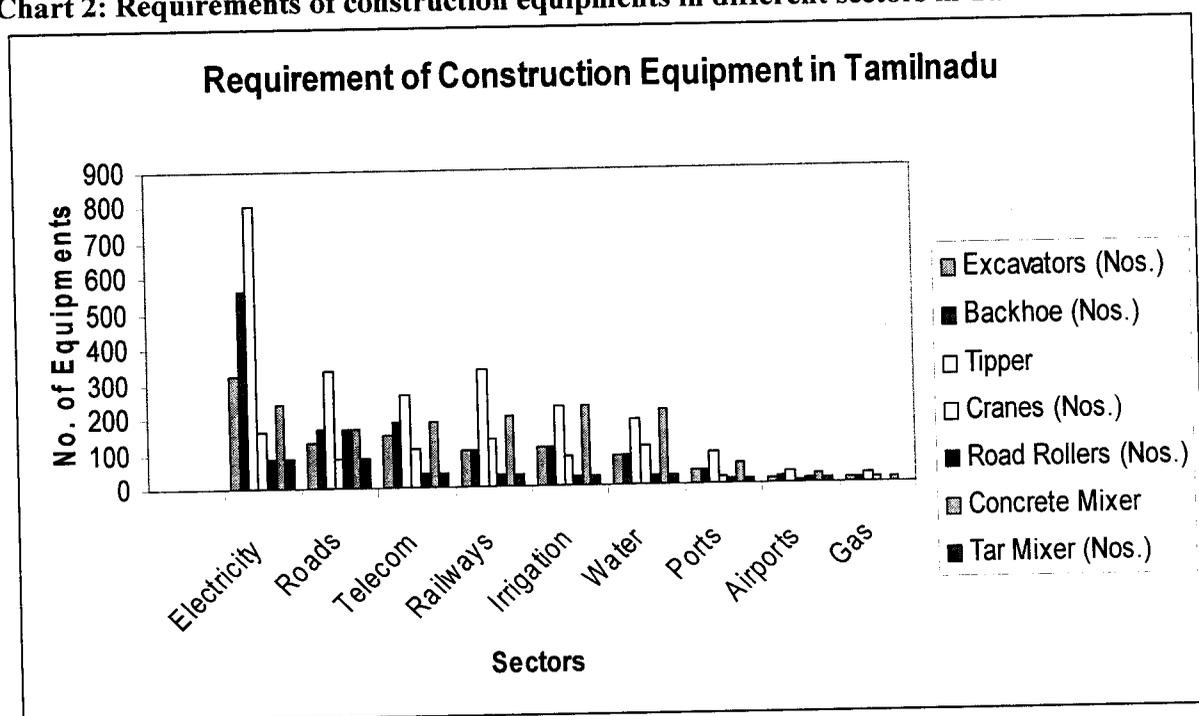
**Table 5: Calculation of volume of earth**

(in cubic metres)

	Excavators	Backhoe Loaders
Bucket size	1	0.3
1 hour earth moving capacity	30	9
1 day earth moving capacity	240	72
1 month earth moving capacity	4800	1440
1 year earth moving capacity	57600	17280
5 years earth moving capacity	288000	86400

**Table 6: Requirements of construction equipments in different sectors in Tamil Nadu**

Sector	Investment (in Rs. crores)	Volume of earth (in crore cu.m)	Excavators (Nos.)	Backhoe (Nos)	Tipper (Nos.)	Crane (Nos.)	Road Roller (Nos.)	Concrete Mixer (Nos.)	Tar Mixer (Nos.)
Electricity	46239.6	14.2	323	564	806	161	81	242	81
Roads	23386.2	5.1	127	169	338	85	169	169	85
Telecom	20025	5.9	150	188	263	113	38	188	38
Railways	19350	3.8	101	101	337	135	34	202	34
Irrigation	16734.6	4.2	113	113	225	85	28	225	28
Water Supply & Sanitation	14934.6	3.0	81	81	189	108	27	216	27
Ports	5545.5	1.5	40	40	90	20	10	60	10
Airports	2606.1	0.5	10	20	34	5	15	29	15
Gas	1537.5	0.4	10	10	23	13	3	13	3
Total	150359.1	38.6	955	1287	2308	724	404	1346	319

**Chart 2: Requirements of construction equipments in different sectors in Tamil Nadu**

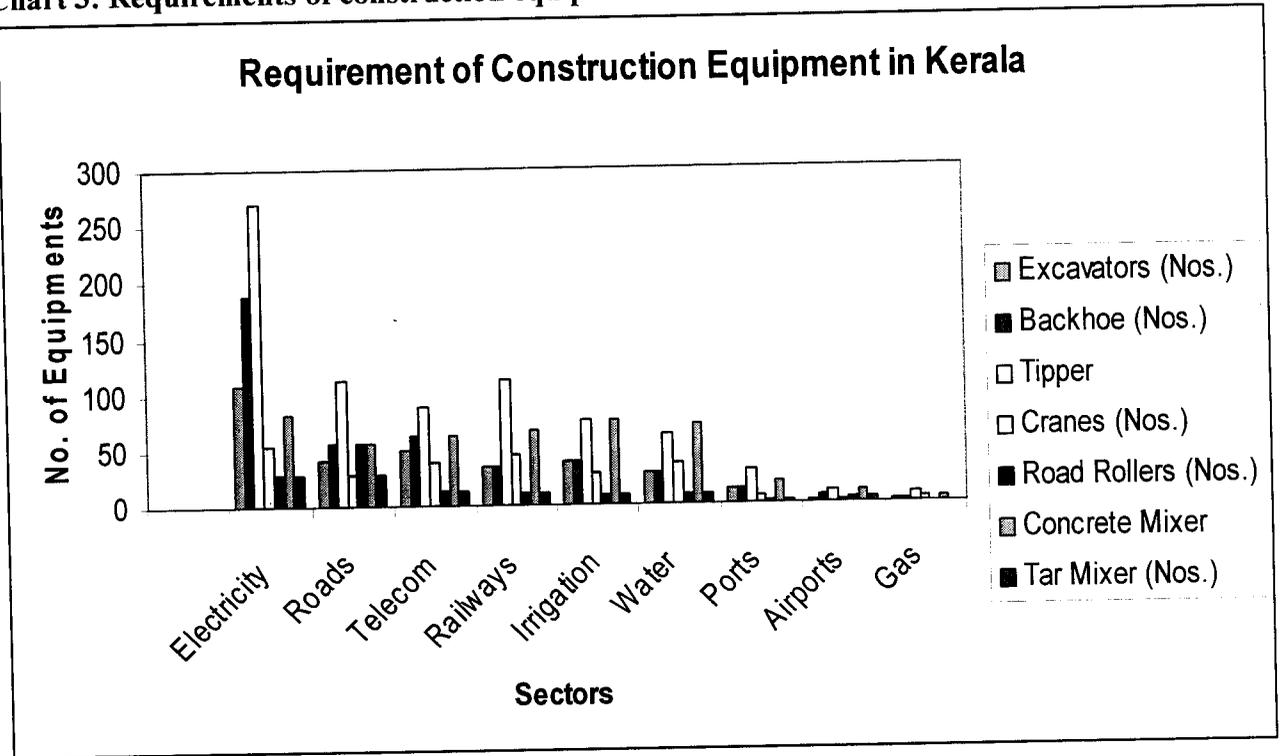
**Interpretation:**

The percentage analysis has been done and the no. of equipments required of each sector is calculated based on the standard measurements. The volume of earth that would be removed is also calculated. The no. of equipment required in each sector in Tamil Nadu is found out based on the total investment that would be made in the sector.

**Table 7: Requirements of construction equipments in different sectors in Kerala**

Sector	Investment (in Rs. crores)	Volume of earth (in crores cu.m)	Excavators (Nos.)	Backhoes (Nos.)	Tipper (Nos.)	Cranes (Nos.)	Road Rollers (Nos.)	Concrete Mixer (Nos.)	Tar Mixer (Nos.)
Electricity	15413.2	4.7	108	188	269	54	27	81	27
Roads	7795.4	1.7	42	56	113	28	56	56	28
Telecom	6675	2.0	50	63	88	38	13	63	13
Railways	6450	1.3	34	34	112	45	11	67	11
Irrigation	5578.2	1.4	38	38	75	28	9	75	9
Water supply and Sanitation	4978.2	1.0	27	27	63	36	9	72	9
Ports	1848.5	0.5	13	13	30	7	3	20	3
Airports	868.7	0.1	3	7	11	2	5	10	5
Gas	512.5	0.1	3	3	8	4	1	4	1
Total	50119.7	12.9	318	429	769	241	135	449	106

**Chart 3: Requirements of construction equipments in different sectors in Kerala**

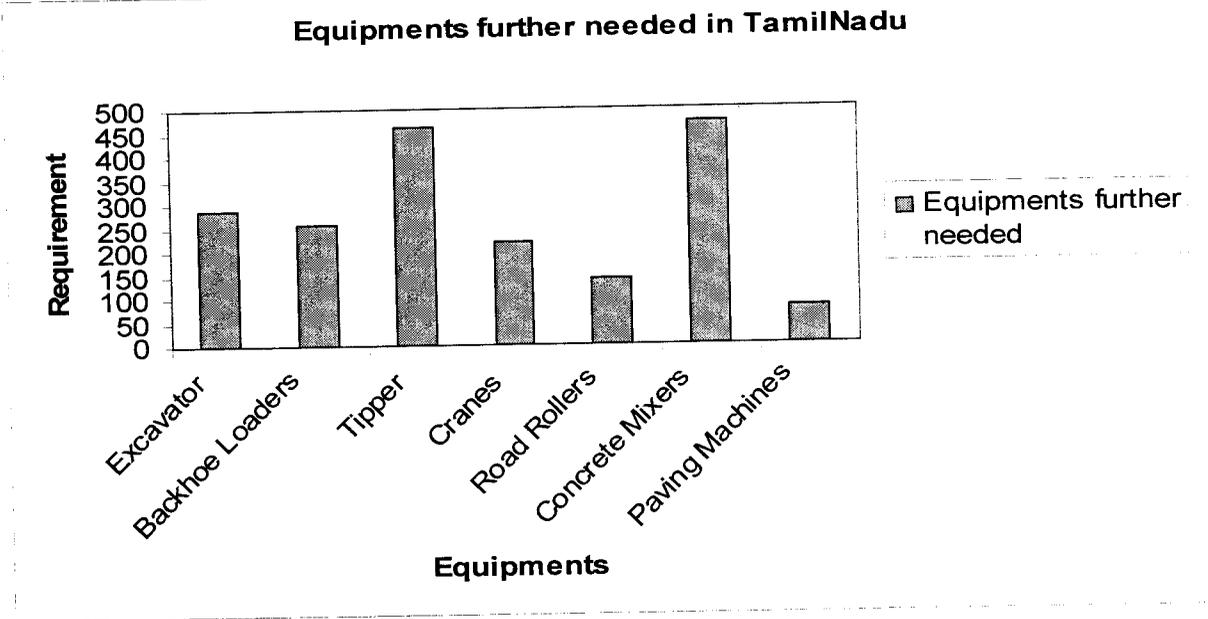


**Interpretation:**

The percentage analysis has been done and the no. of equipments required of each sector is calculated based on the standard measurements. The volume of earth that would be removed is also calculated. The no. of equipment required in each sector in Kerala is found out based on the total investment that would be made in the sector.

**Table 8: Calculation of construction equipments further needed in Tamil Nadu**

Equipments	Excavator	Backhoe Loaders	Tipper	Cranes	Road Rollers	Concrete Mixers	Paving Machines
Total requirements	955	1287	2308	724	404	1346	319
Equipments available	669	1030	1846	507	263	875	240
Equipments further needed	286	257	462	217	141	471	79

**Chart 4: Construction equipments further needed in Tamil Nadu****Interpretation:**

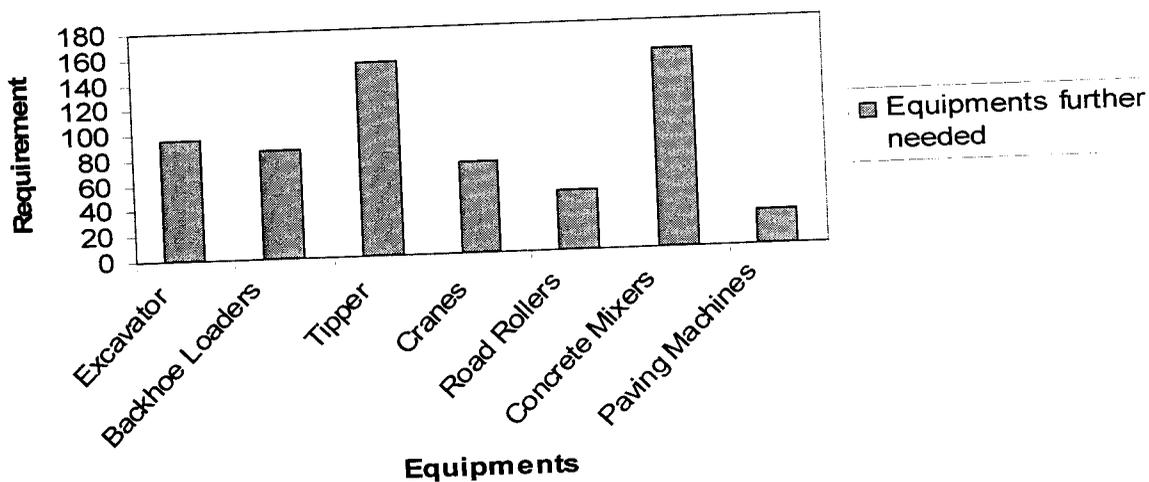
The total requirement of equipments is taken from the previous calculated value and equipments available are calculated based on the available data and the equipments further required are calculated.

**Table 9: Calculation of construction equipments further needed in Kerala**

Equipments	Excavator	Backhoe Loaders	Tipper	Cranes	Road Rollers	Concrete Mixers	Paving Machines
Total requirements	318	429	769	241	135	449	106
Equipments available	223	343	615	169	88	292	80
Equipments further needed	95	86	154	72	47	157	27

### Part 5: Construction equipments further needed in Kerala

**Equipments further needed in Kerala**



### Interpretation:

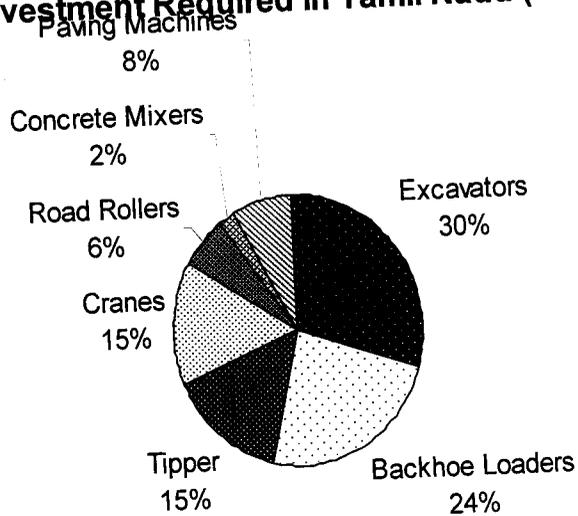
The total requirement of equipments is taken from the previous calculated value and equipments available are calculated based on the available data and the equipments further required are calculated.

**Table 10: Calculation of total investment required in Tamil Nadu**

Equipments	Excavators	Backhoe Loaders	Tipper	Cranes	Road Rollers	Concrete Mixers	Paving Machines
Equipments further needed	286	257	462	217	141	471	79
Cost of an equipment (in lakhs)	45	40	14	30	18	2	43
Total investment required (in crores)	128.7	102.8	64.68	65.1	25.38	9.42	33.97

### Part 6: Total investment required in Tamil Nadu

#### Total Investment Required in Tamil Nadu (in crores)



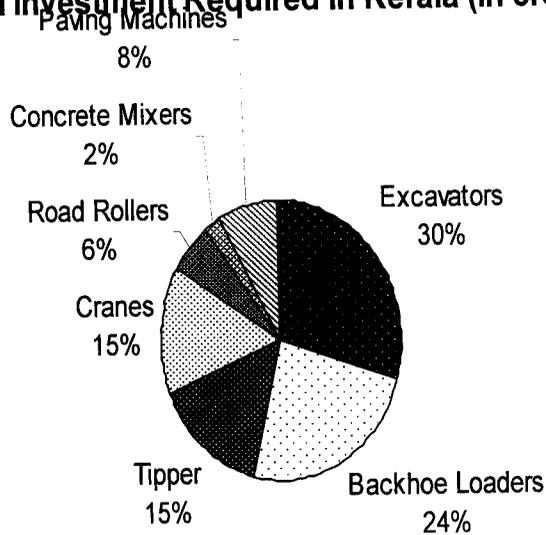
#### Interpretation:

The total investment required for the next year in Tamil Nadu is calculated using the equipments needed and cost of an equipment. The total investment required is of the volume Rs.

430 crores

Table 11: Calculation of total investment required in Kerala

Equipments	Excavators	Backhoe Loaders	Tipper	Cranes	Road Rollers	Concrete Mixers	Paving Machines
Equipments further needed	95	86	154	72	47	157	27
Cost of an equipment (in lakhs)	45	40	14	30	18	2	43
Total investment required (in crores)	42.75	34.4	21.56	21.6	8.46	3.14	11.61

**Chart 7: Total investment required in Kerala****Total Investment Required in Kerala (in crores)****Interpretation:**

The total investment required for the next year in Kerala is calculated using the equipments needed and cost of an equipment. The total investment required is of the volume Rs. 240 crores

**SCATTER PLOT WITH REGRESSION FIT (Chart 8 & 9)**

The scatter plot diagram showing the relationship between the total investment in infrastructure in Tamil Nadu and Kerala and the construction equipments that are required and volume of earth that had to be removed.

Chart 8: Scatterplot with regression fit for Tamilnadu

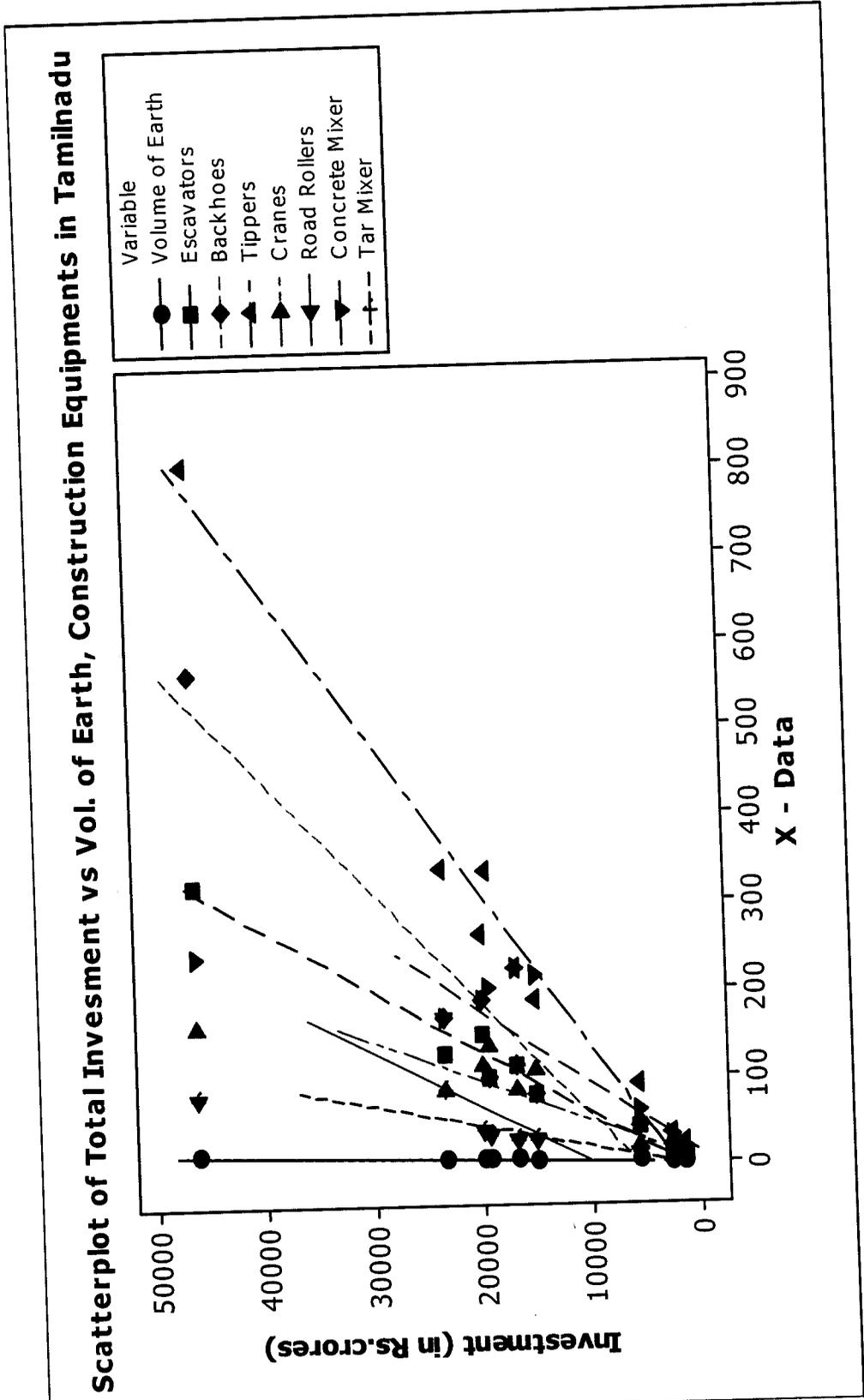
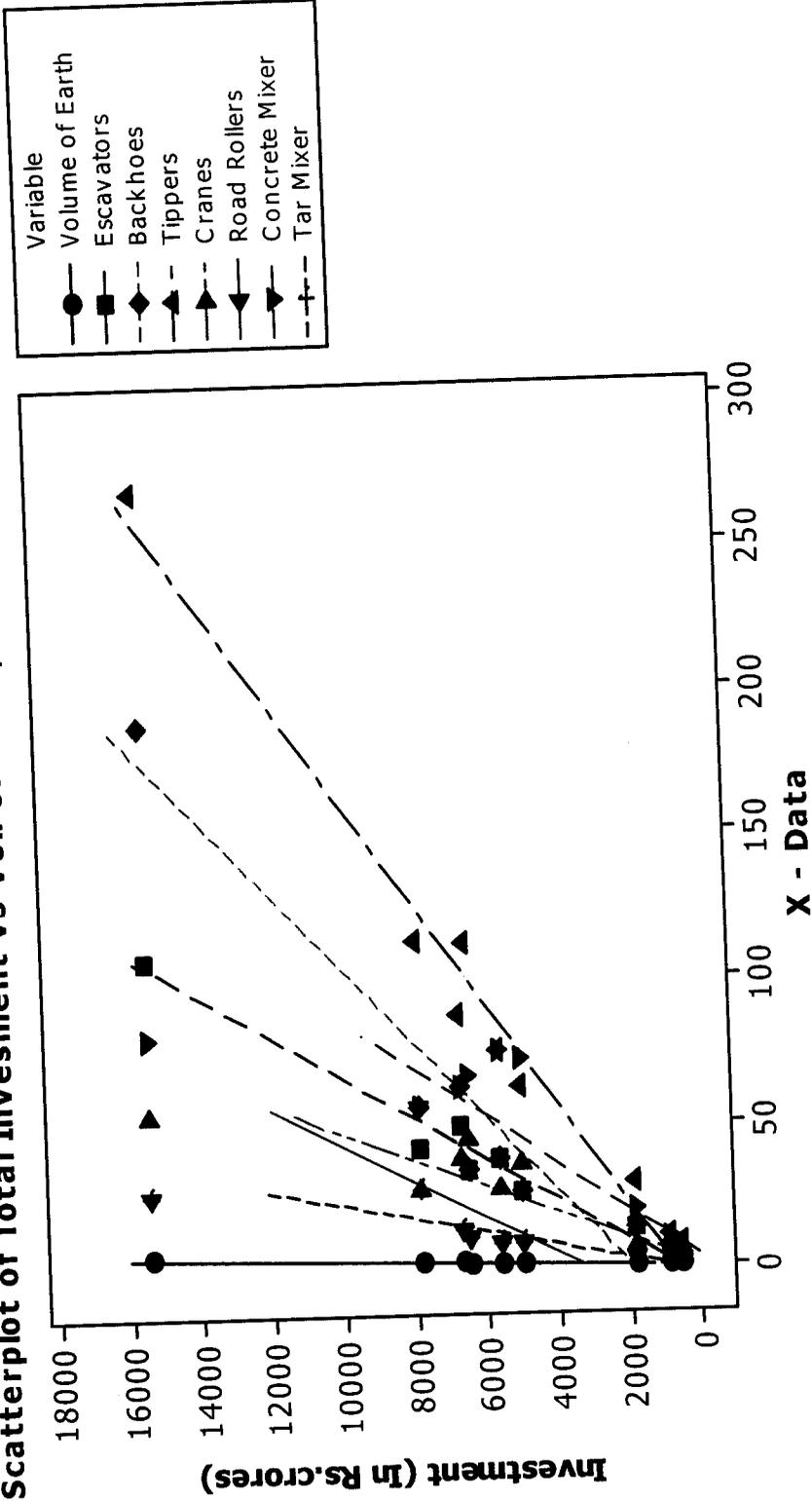


Chart 9: Scatterplot with regression fit for Kerala

### Scatterplot of Total Investment vs Vol. of Earth, Construction Equipments in Kerala



**Interpretation:**

According to the investments, the cr cu metre volume of earth to be removed and the earth excavating equipments (ie., excavator, backhoe) and earth loading equipments (ie, tipper, crane) and road laying equipments (road rollers, tar mixer, concrete mixer) also proportionately increase. Since 20% of equipments are wasted out per year and 20% of equipments are working out at 80% efficiency after 1 year and at 50 % efficiency after 3 years and at 25 % efficiency after 5 years, the requirement for new equipments will increase every year in future. Approximately the replacement purchase of equipment is between 10 to 15%.

CHAPTER V

*CONCLUSION*

## CHAPTER 5

### CONCLUSIONS

#### 5.1 Results and Discussions

There are many infrastructure projects coming up in both the states of Tamilnadu and Kerala.

1. The highways department both the national highways and state highways have projects like the Golden Quadrilateral, North South & East West Corridor and others.
2. There are port connectivity projects like the Chennai – Ennore Express way, Cochin port – Valarpadam projects and others that connect between the important ports.
3. There are container storage projects like Valarpadam container terminal project, Vizhinjam International Container Transshipment project.
4. The IT parks by the government are developed in cities like Coimbatore, Madurai, Chennai, Thirunelveli, Tiruchi and Salem.
5. The airport modernization and expansion projects are being done and the airports in Tamilnadu at Chennai, Coimbatore, Madurai and major airports at Kerala are under it.
6. Many flyovers and bridges are built under the state highways for easing the traffic.
7. Other than the government undertaken projects there are many private construction projects that are being done in both states.
8. There are periodic road laying projects in both the states that are done by the local municipals.
9. The projected investments in the infrastructure during the eleventh plan shows good prospect for the construction equipment business.
10. The construction equipments that are required in states are Excavators – 955, Backhoe loaders – 1287, Tipper – 2308, Cranes – 724, Road Rollers – 404, Concrete Mixer – 1349, Tar Mixer – 319.
11. The total funding of construction equipment that could be expected in the states of Tamil Nadu and Kerala are Rs.430 crores and Rs.200 crores respectively.
12. According to the investments, the volume of earth to be removed and the earth excavating equipments (ie., excavator, backhoe) and earth loading equipments (ie, tipper, crane) and

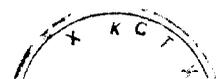
road laying equipments (road roller, tar mixer, concrete mixer) also proportionately increase. Since 20% of equipments are wasted out per year and 20% of equipments are working out at 80% efficiency after 1 year and at 50 % efficiency after 3 years and at 25 % efficiency after 5 years, the requirement for new equipments will increase every year in future.

## 5.2 Recommendations

1. There is a great potential for the earth moving equipments market so sakthi finance can increase their funding in new equipment finance.
2. The value calculated is based on standard measurements taken so the requirement could increase so there is good market.
3. The infrastructure projections show that there is a good investment in infrastructure sectors in the next five years and it is likely to increase so there need for construction equipment could increase and the funding market potential would increase. So the fund disbursement for these loans could be increased.
4. Real Estate projects are coming in large so the need for the construction equipments like ready mixer, crushers and concrete mixers are likely to increase than now so the extra attention could be given to fund these equipments.
5. The infrastructure investments in both the states are high and especially in Tamilnadu so there is more market potential in Tamilnadu.

## 5.3 Conclusion

The study revealed that there are many infrastructure projects that are being under implementation and that are going to come in the coming years. India, which was recently announced to be the 4<sup>th</sup> largest economy by World Bank, is trying to better itself in many fields and infrastructure is important for it. Only a country with good infrastructure gets foreign investments, so infrastructure investment is more in India. So the construction equipment business which depends on the infrastructure projects has a bright future. The organizations like Sakthi Finance, those who involve in financing for the purchase of these equipments both used and new equipments have a good market potential.



## APPENDIX 1

### INTERVIEW SCHEDULE

1. Type of project?

Road

Bridges

Canal

Dam

Airport

Mining

Port

Railway

IT Projects

Quarry

Rivers

Others

2.

Title of the project	Date of commencement	Date of completion	Estimated Cost (in Rs.)	Duration of the Project (Months)	Location of the project	Percentage to be completed

3. Nature of the Project:

Central Government

State Government

Private

Public Private Partnership

BOT

World Bank Aided

Multi National Partnership

4. Details of the project

Projects	Type	Length (in m)	Width (in m)	Height (in m)	Area (in sq.m)	Depth (in m)	Storage Capacity (in cubic meters)	Others
Road/Bridges/Canal/Dam/Airport/Mining/Railway/Port/IT/Others								

5. Equipments likely to be used for maintenance of the project

## Details of equipments used:

Equipments	Tipplers	Backhoe	Excavator	Cranes	Road Roller	Concrete Mixer	Tar Mixer
Quantity of equipments							
Rate / hour (Rs.)							
Cost of an equipment (Rs.)							
Capacity							
Usage estimate / year							

## 7. Forthcoming projects:

Governing Body	Type	Name	Location	Dimensions	Cost	Expected Date of Commencement	Duration
Government of India							
State Government							

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