



# Exploratory Analysis of PPP Projects in Infrastructure Sector in Southern States of India

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**Abstract**— without infrastructure, country formation is said to be incomplete. In other words, infrastructure is one of the basic tools which measures and indicates development of country. Now-a-days PPP projects are taking lion share in infrastructure development. This Research paper aims at analysis of development and growth of PPP Projects in infrastructure sector. Auxiliary objective is to throws light on resources for development of infrastructure sector in southern states. Development analysis of southern states till date – financially, geographically, economically, socially, technologically and demographically. Study also identifies factors that help in solving infrastructural problems and initiates development in Southern States of India and analysing growth of PPP Projects by using data set consisting of 1733 PPP Projects. Interestingly results identified that development is highly essential in Communication sector. In all southern states, Transportation sector is top in development.

**Keywords**— Public Private Partnership (PPP) Projects in South India, Infrastructure Development in South India, Sector wise Growth of PPP Projects in South India.

## I. INTRODUCTION

### 1.0 Background Study

The term 'Infrastructure' basically means a frame of reference which physically supports an organisation or economy by system or services for smooth and effective working order. Infrastructure facilities are broadly categorized into two; they are Economic and Social Infrastructure. Some of the Infrastructure facilities are Health, Sanitation, Water, Housing (urban and Rural), Irrigation, Power – Energy, Education, Transportation – Airport, Railways, Roads, Communication – Telecom, Tourism, etc.

Private Public Partnership (PPP) is an 'Long Term Investment and Return Agreement' between Government and one or more private parties for development of specific zones by funding, designing, building plan for operation, maintenance and divestiture. In India, there is tremendous scope for infrastructure development. In 2018, India has gone

down 13 places in World Bank – Logistic Performance Index (LPI), to rank 48 amongst 160 countries Infrastructure output in India increased 4.2 per cent year-on-year. Till August of 2018 there was upwardly revise and 7.3 per cent rise in July. It is recorded as the lowest growth in infrastructure output in three months. It also found slowdown in electricity (5.4 per cent compared to 6.7 per cent); steel (3.9 per cent compared to 6.9 per cent); and coal (2.4 per cent compared to 9.8 per cent). Also, production of crude oil continued to fall (-3.7 per cent compared to -5.4 per cent). On the other hand, the output returned for natural gas (1.1 per cent compared to -5.2 per cent) and rose faster for cement (14.3 per cent compared to 11.1 per cent). Construction output in India averaged 4.80 per cent from 2005 until 2018, reaching an all-time high of 11.66 per cent in January of 2010 and a record low of -1 per cent in October of 2013.

### 1.1 Definitions:

Blanc – Brude and Strande (2007) define PPP as “An increasingly popular method of procurement of Public Authority Commissions the design, construction, operation, maintain & finance of a public Infrastructure Project from a Private Consortium with in a single contractual framework”.

### 1.2 Overview of Indian Infrastructure Sector:

Government of India is highly concentrating on development of infrastructure sector, mainly highways, urban transportation and renewable energy like solar, etc. As a part of it in Union Budget, Government has initiated US \$799.66 Billion for various projects. After data analysis, found that transport sector occupies key position with more than 932 projects since 1991 followed by energy sector with around 341 projects till date. There are more chances of increasing priority to other sectors where Mizoram, Bihar, Meghalaya, and few states are least bothered. Though Goa is small state geographically, it is allotted with minimum no. of projects which is an interesting fact.

**Overview of Public Private Partnership (PPP):** Public Private Partnership (PPP) is one of the hybrid structures that have become a most commonly used technique. PPP Projects

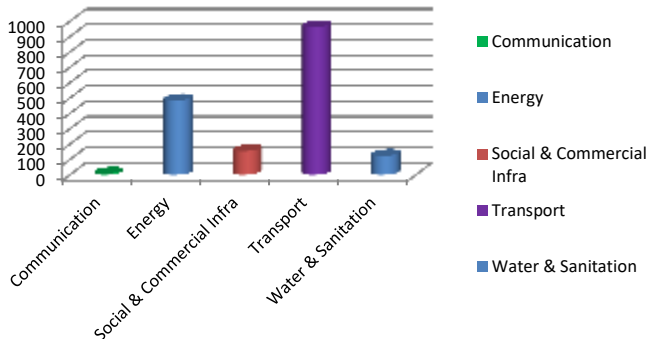


Figure 2.1 Weightage of PPP Projects - Sector Wise

are the projects which effectively private sector entity provides a public asset or a public service in order to get mutual benefit. There are many models in PPP Projects like BOO, BOT, BOOT, etc. PPP Projects is also one of the contributors for country’s GDP as far as Infrastructure Sector is concerned.

Here, in this Paper, 5 sectors are taken namely Communication, Energy, Social & Commercial Infrastructure, Transportation and Water & Sanitation. Out of many, these 5 sectors are selected and analysed as they are acting as scale for growth and development in state. From the data taken we have analysed and found that there are huge investments and no. of projects is allotted only in Transportation sector. The least investments are made in Communication sector

II. PURPOSE OF THE STUDY

2.0 Need of the Study

Infrastructure is basic structure to lead quality life on earth. Human cannot survive without existence of Infrastructure like Water, Roads, Bridges, Buildings, Transportation (Railways, Airways, Seaways), sanitation, Postal Services, Telecommunication, etc. In highly populated country like India, there is greater importance to infrastructure and its development. Everyone hardly knew about Infrastructure sector, functioning, scope and its development in India. Infrastructure sector development is highly beneficial to the country in generation of revenue and increase in standard of living. In this sector there is slow development due to lack of awareness, lack of effective implementation of plans, not completing projects in time and lack of innovative strategies. This Paper concentrates on exploratory analysis which identifies the resources that each state has and how a state can develop by solving current Problems.

2.1 Problem Statement

1. Rarely, we find state wise and sector wise study which is time taking and critical to examine.

2. According to findings till date very few have used popular tools, which can be used effectively for data analysis like MS – Excel and R – Programming.
3. We hardly find articles and typical to work on “Predicting of projects allocation to states, revenue allocation and future investment to state, sectors & sub-sectors”.

2.2 Objective of the Study

- To analyse development of Indian Infrastructure Sector - PPP Projects in various dimensions.
- To analyse Projects Allocation and Percentage of PPP Projects – State wise in India
- Analysis of Sector wise Allotment of PPP Projects to States – Beneficial or not.
- Analysis of “Which state is high in Which Sector of PPP – Infrastructure”

2.3 Scope of the Study

The study mainly concentrates on PPP Projects and their allocation in Southern States of India. Although there has been increasing demand for infrastructure sector very few studies have been conducted in the last years to analyse growth and problems in infrastructure sector.

And the study has taken into consideration State wise project allocation, Year Wise project allocation, sector, subsector, Number of projects, Project Cost from publicly available database of PPP Projects in Infrastructure Sector. And the study has used 1733 PPP Projects, from 1991 to 2018 in Indian Infrastructure Sector by obtaining data from pppindia.gov.in website.

The findings of this study will be useful to various stakeholders such as potential investors, government, public, new entrants, real estate companies and employees of infrastructure sector.

2.4 Limitations of the Study

Data cannot be found easily and at times while we are on research, new updated data also affects the present research. As the study is on the states of India, there is always change in the numbers day to day, monthly or quarterly. The analysis will have scope and validity for few years and the results may vary due to various effects like Political Parties, Government Decisions, Policies, Subsidies, etc. The study is limited to southern states of India due to time constraints, rest of the state’s analysis will be done soon.

2.5 Future Scope of the Study

For the future lines of research i would suggest that this research can be extended to

- In depth analysis on rest of all states across India will be taken soon.
- Predictive analysis on future project allocation, revenue distribution and Predicting investment scope by mitigate infrastructure problem, risk Assessments and forecasting freaking out Success rate in infrastructure is possible in further study by using Analytics



III. ARTICLES REVIEW

There are different authors wrote different articles in which various aspects as mentioned below have dealt.

1. Effectiveness of Project Preparation process
2. Remedial measures for some issues like insufficient funds, lack of transparency in policies and procedures, rolled out time, Exceeded budget than estimated, restrictions of Government and Legal framework and improper risk assessment acting as barriers, etc.
3. Risk factors and risk assessment models are dealt which may increase in the profitability.
4. It is observed that there are PPP projects in India since 1991, and have undergone the increasing demand for infrastructure facilities & PPP Model but end up with higher losses

But, today new output is, taking the illustration or case of each state and make clear about the resources availability and issues facing by the state.

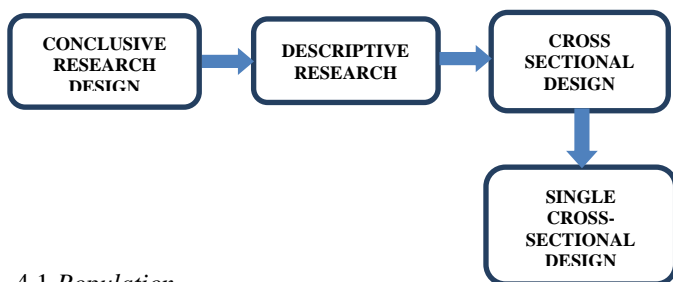
IV. RESEARCH DESIGN

4.0 Research Design

Research design is defined as a framework of methods and techniques chosen by a researcher to combine various components of research in a reasonably logical manner so that the research problem is efficiently handled. It provides insights about “how” to conduct research using a methodology. Every researcher has a list of research questions which need to be assessed – this can be done with research design.

The sketch of how research can be conducted can be prepared using research design. Hence, research study will be carried out based on research design.

Figure 2.2 Research Design



4.1 Population

The target population for this study is List of PPP Projects in infrastructure sector across South India.

Population Size: 1733 PPP Projects and 29 states and Union Territories across India

4.2 Sample Design

Sample Frame: List of PPP Projects from 1991 to 2017

Sample Size: 358 PPP Projects across Southern States of India such as Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana

Sampling Method: Convenient Sampling Method

4.3 Data Collection

Data Type : Secondary Data  
 Source : PPP India Website  
 Variables : Name of State, Total No. of Projects  
 Sector wise allocation, Year wise allocation, Project cost.  
 States : Southern states – Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana  
 Analysis : Exploratory analysis to identify trends and patterns over a Period of time using customized tables, charts and through Graphical representation of data.

4.4 Data Analysis

In the table 1.1 we have mentioned sectors; those sectors are taken for the study by following convenience sampling method. However, there are many sectors, but quality data is available on these sectors and PPP Projects are good in numbers. These sectors are also taken in investment point of view. Any stake holder or any company can take the PPP Projects in these above sectors to make profits.

From the above chat 2.3 we can derive few conclusions that, there is high allotment of funds from government to Transportation sector. On total 1,65,371.57 crores have been allotted to southern states. Under transportation Karnataka has allotted with huge funds and Karnataka got 101 projects in all categories like Road, seaways, air-transportation, etc

Table 1.1

Sector	Sub – Sector
Energy	<ul style="list-style-type: none"> <li>• Electricity Distribution</li> <li>• Electricity Generation (grid)</li> <li>• Electricity Transmission</li> <li>• Oil/Gas/LNG Storage</li> <li>• Renewable Energy (grid)</li> </ul>
Transport	<ul style="list-style-type: none"> <li>• Airports</li> <li>• Ports (excluding captive)</li> <li>• Railway track, tunnel, viaducts, bridges</li> <li>• Roads and bridges</li> <li>• Urban public transport</li> </ul>
Communication	<ul style="list-style-type: none"> <li>• Telecommunication Network and Services</li> </ul>
Water Sanitation	<ul style="list-style-type: none"> <li>• Irrigation (dams, channels, embankments, etc.)</li> <li>• Sewage collection, treatment and disposal system</li> <li>• Solid waste management</li> <li>• Water supply pipeline</li> <li>• Water treatment plants</li> </ul>
Social and Commercial Infrastructure	<ul style="list-style-type: none"> <li>• Cold Chain</li> <li>• Common Infrastructure for industrial parks, SEZ</li> <li>• Education</li> <li>• Healthcare</li> <li>• Post – Harvest storage infrastructure</li> <li>• Tourism</li> </ul>

We can say from the above chat that Very few investments are made in Water & Sanitation sector and Social & Commercial Infrastructure Sector. Though there is good demand for Water & Sanitation in Urban areas we can see very low allotment of investments and very few PPP Projects done.

There are different PPP models as mentioned in PPP Fiscal affairs of Infrastructure like NTO, BOT, BTO, BOO, BOOT, BDO, BBO, BROT, DCMF, LDO, WAA etc. These models are actively using in 2 major sectors i.e., Energy and Transportation. But by using the same models to other sectors we can see best growth in states and automatically in nation.

We took Southern state as showed in above Picture 1.4 Indian Map, namely Telangana, Andhra Pradesh, Kerala, Karnataka, Tamil Nadu. These 5 States falls under region of Southern States. Now for our study we took these 5 states

STATE WISE ANALYSIS

1. Andhra Pradesh
2. Karnataka
3. Kerala
4. Tamil Nadu
5. Telangana

Figure 2.3

Table Showing Sectors and Sub – Sectors in PPP Projects

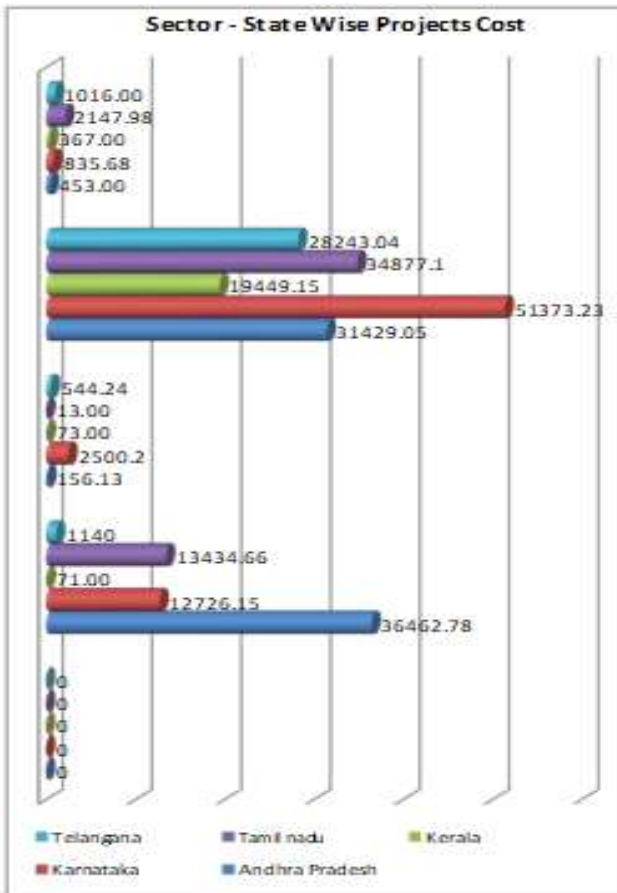
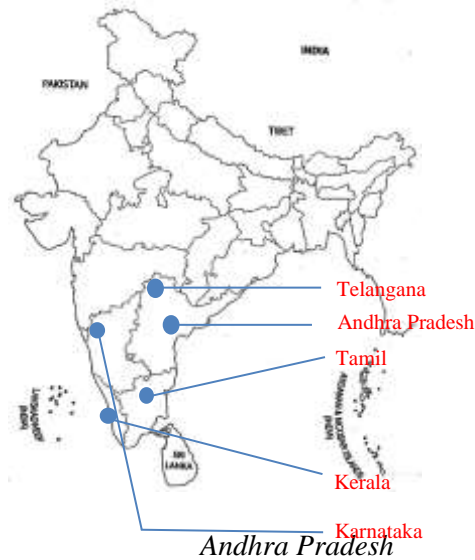


Table.2.4

Indian States out line Map showing Selected States



Andhra Pradesh is in South India and positioned in the coastal area towards Eastern part of the country. In olden days, AP is known as “Rice Bowl of India”. AP is spread over 275,045 Sq.km and has got a coastal line of around 972 kms which is 2<sup>nd</sup> longest Coastal line in the Nation.

Andhra Pradesh has received considerable number of PPP Projects compared to many other states in India. Sectorial Statistics shows AP has 66 PPP projects since 1991. AP was allotted with Rs.31714.8 Crores which is % of Total Projects Cost in India.

As Andhra Pradesh is good geographically, it has larger scope to do development in Energy and Water Sanitation Sectors where problem facing by AP can also be solved. Andhra Pradesh is supported by large area. Amaravathi, the Capital of AP construction has been started in 33,000 acres of land by pooling lands from Farmers and other land owners. As Master Developer, Swiss Challenge Method to be chosen, then AP will get investments in Public Private Partnership (PPP) mode.

Andhra Pradesh’s Gross State Domestic Product (GSDP) was estimated at US\$124.73 billion in 2017-18AE which is 13.33% in between 2011 - 18. Andhra Pradesh is the largest producer of Uranium in India. By Starting of 2018, Andhra Pradesh has a total Power Generation capacity of 23,411.21 MW.

As far as Transportation concern, New Greenfield Non-Major Port at Bhavanapadu, Srikakulam district with Rs.3500 Crores. And Andhra has higher chances to increase development in Water Transportation and Social & communication sector. We can see huge number of PPP Projects allotted to Transportation sector with count of 57.





Table.1.2

Sector	No. of Projects	Cost of Project (In Cores)
Energy	19	36462.78
Social & Commercial	6	156.13
Transportation	57	31429.05
Water & Sanitation	1	453

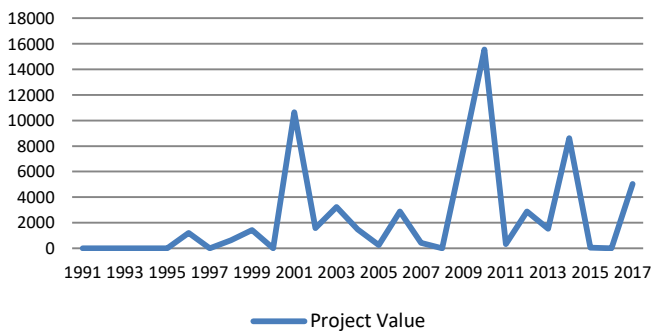
The Least Priority is given to Water and Sanitation Sector with only 1 Project which cost 453 crores. Next least prioritised sector is Social & Commercial infrastructure sector with only 6 PPP Projects and with projects cost of Rs.156.13 Crores.

Here below we can see Year Wise - Project values from 1991 to 2017 which are allotted to Andhra Pradesh. The Funds released in crores every year can be seen clearly. From 1991 to 1995 No PPP Projects has been given and from 2005 we can see allocation of funds to Andhra Pradesh is raised gradually.

From the above we can take an interpretation that Andhra Pradesh is allotted with very high number of PPP Projects in Transportation. When Andhra Pradesh is not divided into which is before 2012, there was Transportation problems hence Government of Andhra Pradesh concentrated on Transportation sector. Also, there was Water and Sanitation Problems which are still not solved

Chat.2.5

Year wise - Project Value (in crores)



From Line Chart below we can prove the same Projects are allotted from the period 2008 till 2011 are high which is undivided Andhra Pradesh. However, AP is getting enough no. of PPP Projects yet it the count must be increased

**Karnataka**

Capital of Karnataka is Bengaluru, and Karnataka is popularly called as "Silicon Valley of India". Karnataka is also called IT Hub of India; it is home town to the World's the largest

technology cluster. It has 5 software technology parks and a region concentrated with IT Investments. It has 28 operational IT/ITeS SEZ's in State. Karnataka is rich in automobile, aerospace, textile & garment, agro, biotech & heavy engineering industries.

The state has 401 R&D Centres which is one of the good sign for state development. Karnataka has wide scope for Tourism development as it has coastal line of 320kms. Tourists visit have already increased 36.7million in 2006 to 102.3 million in 2017. If Tourism sector is concentrated and developed, this can generate high revenue

Highest no. of projects has given to Transportation sector with count of 101 PPP Projects.

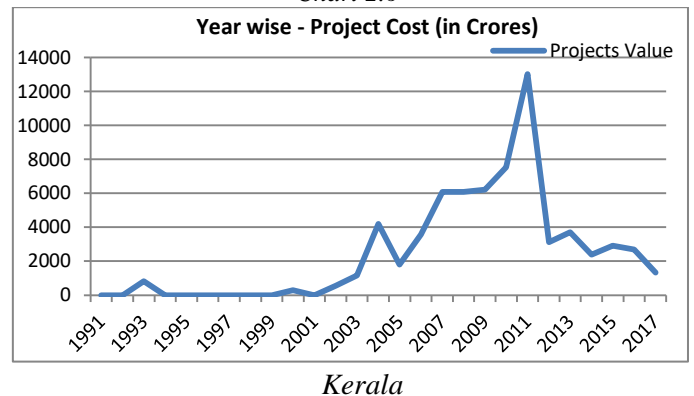
From the below table we can take interpretation that PPP Projects in Transportation is very high stood 1<sup>st</sup> place with 101 Transportation PPP projects in South Indian states in getting such a highest No of Projects.

Table.1.3

Sector	No. of Projects	Cost of Project (in crores)
Energy	10	12726.2
Social & Commercial	11	2500.2
Transportation	101	51373.2
Water & Sanitation	13	835.68

However, Karnataka is not allocated with PPP Projects few years initially till 1999, Later there is very high growth and allocation of funds to Karnataka from 2001 to 2011. The highest value of project allocated to Karnataka is Rs.13006 Crores in the year 2011. Karnataka stood in top place in PPP Projects and development, as it is finally allocated with 135 Projects.

Chart 2.6



Capital of Kerala is Thiruvananthapuram; it is known to be "God's Own Country". Kerala contributes GSDP of 11.13 per cent on an average per annum. We can say Kerala is Ruler in Tourism, as tourism sector dependents are very high, as Kerala is one of the Natural Tourist places. Culture diversity



and the state’s unique heritage have helped attract tourists. Total Literacy rate of the state is 93.91 per cent. As per IBEF survey they state that Kerala holds Second Ranks in the Investment Climate Index.

There is sea transportation facility to Kerala. Cochin port plays key role in waterways, Kerala has a long coastal line of 580 kms which is throughout the state of Kerala. The state having a design capacity of 4 million TUE’s and has the 1<sup>st</sup> International Transshipment in India. There are industries such as IT/ITeS, Biotechnology and Computer hardware which are promoted as Knowledge based Industries.

Geographical area of Kerala is 38,863 Square kms with total population of 33.41 million. As we already seen coastal line of Kerala, we can also say a major advantage that Kerala has 44 rivers flowing through Kerala where there will not have any water problem. In this type of areas Agriculture sector should be more concentrated

Table No.1.4

Sector	No. of Projects	Cost of Project (in crores)
Energy	5	71
Social & Commercial	2	73
Transportation	26	19449.15
Water & Sanitation	2	367

From the above table we can say that there are very less projects given to the state of Kerala. The size of the State in area is small but it is popular for its natural Tourism. There are 44 rivers flowing from Kerala If once the water is diverted it can be used for agriculture purpose. Tourism sector has high demand as it generates good revenue for the government.

V. FINDINGS & RESULTS

5.1 Findings

Almost 4 out of 5 states have Coastal Line which is one of the common and beneficial points to the states.

Andhra Pradesh:

There are 2 major rivers flowing through the state namely, Godavari and Krishna. And for this Andhra Pradesh is called as Rice Bowl of India. Transportation sector is already well developed in the state. Government and new investors should concentrate on 2 important and revenue generating sectors, that is Communication and Water & Sanitation Sectors.

Karnataka:

The state has highest Number of Projects. Though allotment of PPP Projects started in 1999, in recent times the state secured good count of Projects. The Highest no of Projects are done in Transportation sector with a count of 101 Projects this is the highest of all the Southern states.

Kerala:

There are few problems for tourists since the state got popular, once the government is done with those minor problems those minor problems, state will get good amount of revenue from

Tourism Sector. Coming to Transportation sector, Good number of PPP Projects were allotted to Kerala in Past. As there is Cochin Port, Government can provide an opportunity to develop coastal line which generates revenue for the state. And there are 44 Rivers flowing through the state where Agriculture development can be much focused

Tamil Nadu:

We can see development in only 3 sectors. Other two sectors are not yet developed; allotted of only one PPP Project to Social Commercial Infrastructure sector shows the clear picture for the scope of Investment. Transportation sector has enough no. of PPP Projects and Energy sector is with considerable no. of Project which must be developed.

Telangana:

The state is divided from Andhra Pradesh hence there are very few No. of Projects even we can give Last Rank in Allotment of PPP Projects to Telangana. However, there is very poor Urban Infrastructure development and Communication sector. Another main problem for Telangana is Water.

5.2 Suggestions

We have already analysed few points which must be seriously considered. Development, allocation of PPP Projects and Private Public Investments in Transportation sector is quite good. In Total there are 259 PPP Projects are allotted to southern states. If any Investments are to be made in Transportation sector, those funds or Projects should be diverted to Kerala as it has only 28 PPP Projects in Transportation sector.

Coming to Communication sector, there are no PPP Projects allotted to any of the Southern states. Hence, it is suggested to Government to Allot few PPP Projects in Communication sector if there is chance. Communication sector is also playing Vital Role today in development indirectly. Communication sector can also make returns if once investments are made.

Now As far as Water & Sanitation sector and Energy sector is considered, there is only Minimum No. of PPP Projects allotted to whole Southern states. It is State Government duty to encourage private investors to bid for Central Government and wins PPP Projects. In Top 10 States 2 Southern states are suffering from Water Problem.

If we observe the below Table.1.7, there are many other sectors other than 5 sectors which mentioned in above study. We don’t have enough information to study about the development in rest of the sectors. It is high time to realise and Government should provide necessary information of all the sectors. Especially there is very tiny no. of projects in few sectors like Communication, Water & Sanitation, Irrigation, etc.

Table No.1.7

Table showing categories and Sub- categories of Infrastructure sector



Social Infrastructure	
<b>Education</b>	<ul style="list-style-type: none"> <li>• Construction of Primary &amp; Secondary Schools</li> <li>• Maintaining Universities and Standards</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• Food grain storage, cold storages, warehouses</li> </ul>
<b>Sector</b>	<b>Sub – Sector</b>
Economic Infrastructure	
<b>Energy</b>	<ul style="list-style-type: none"> <li>• Power Generation</li> <li>• Power Transmission</li> <li>• Power Distribution</li> <li>• Oil &amp; Gas Pipelines</li> </ul>
<b>Transport</b>	<ul style="list-style-type: none"> <li>• Roads</li> <li>• Airports</li> <li>• Railway Track, Metro</li> <li>• In land Water Transport</li> <li>• Sea and Costal Transport</li> </ul>
<b>Tele – Communication</b>	<ul style="list-style-type: none"> <li>• Telecommunication Network</li> <li>• Telecommunication Towers</li> <li>• Defence Telecommunication</li> <li>• communication satellites</li> <li>• internet servers</li> <li>• cable television network</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Postal network, courier mail Services</li> </ul>
<b>Postal Services</b>	
<b>Irrigation</b>	<ul style="list-style-type: none"> <li>• Water Pipelines</li> <li>• Drain Pipelines</li> <li>• Sanitation</li> <li>• Dams, Canals, Reservoirs</li> <li>• Sewage Treatment Plants</li> </ul>

From the below table we can state few things like in the year 1991 when PPP Projects came launched in India there is very slow growth in Number of PPP Projects allocation. Till 1999 PPP Projects in India is in Single digits only. After seeing the success and Revenues that PPP Projects are generating gradually PPP Projects count has been increased. Till date 1733 Projects have been sanctioned, few are in operation; few are still in Construction stage. Few are generating revenues. The below Cone Chat.2.11 shows us in the Year 2007 and 2011 PPP Projects in India got Boom. It is suggested that South Indian States Partnership should be formed for Southern state development. Honourable Chief Ministers of respective states with respective government authorities should sit for a Summit and discuss the pros and cons of Collaboration. This plan makes equal justice to all

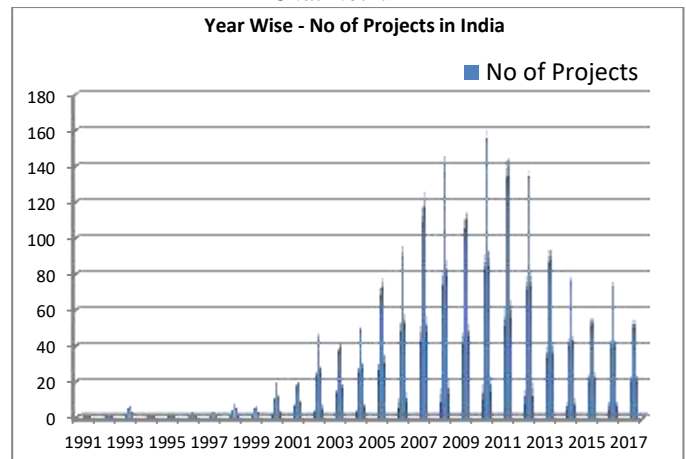
states and stands beneficial in respect of development, Sharing of Investments and Sharing of technology to complete the Projects with in time.

Table No.1.8  
Table Showing Year & No. of Projects

Source: Self-Generated

Financial Year	Number of Project	Financial Year	Number of Project
1991	1	2004	51
1992	1	2005	93
1993	7	2006	95
1994	1	2007	151
1995	1	2008	145
1996	3	2009	142
1997	4	2010	160
1998	8	2011	179
1999	7	2012	138
2000	20	2013	116
2001	24	2014	78
2002	47	2015	69
2003	50	2016	75

Chat No.2.11



CONCLUSIONS

India is a country with 3/4<sup>th</sup> of its GDP arises from Service and Manufacturing Sectors. In Developing countries like India there should be extensive support of Private People to government to turn up as Developed Nations. The contribution to Economic growth through PPP Projects – Infrastructure Sector have been recognised in recent years and allotting good count of PPP Projects which is leading to generation of high Income to Government, high productivity in less time duration.



Through implementation of PPP

- 1. We can save time and funds, where the same funds can be channelize savings of economic in productive way.
2. Regulation of RERA and MAHA RERA focuses on setting up systems and processes in place to streamline the activities associated with -----
3. In recent past from survey it is observed that Physical infrastructure has been concentrated than Social and Economic Infrastructure.
4. It is suggested to Southern states to identify Oil Reserves in Pacific and Arabian Ocean.

After in deep analysis, we can state that, there is gradual increase in the allotment of Projects in recent times as shown in Graph. Compared to 1991-92 to 2016-17 the number of Project allotment has increased from 5 Projects to 1174 Projects which is a good sign for Development. Yet many states and many parts of India are suffering with lack of availability of Sector resources, and not allotment of PPP Projects to respective state in proper ratio. From above analysis we can give a tabular representation of projects allotted to states.

Communication sector needs highest concentration, allotment of PPP Projects and investment for all southern states as there are no PPP Projects in Communication sector throughout the India.

Energy Sector is mostly developed in Arunachal Pradesh, Himachal Pradesh, and Maharashtra who has very less energy problems. Compared to Northern states energy sector has given minimum Priority

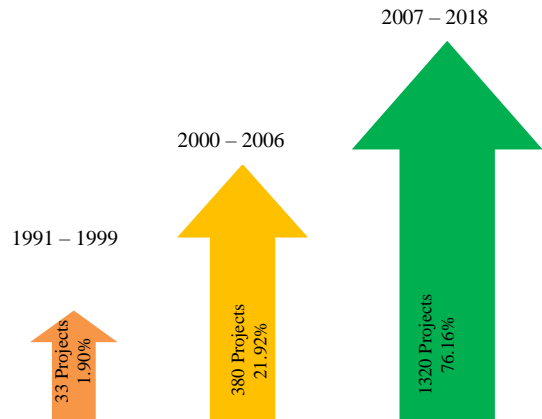
Social and Commercial infrastructure sector is having very normal development and most of projects are given to states namely Madhya Pradesh, Maharashtra, Rajasthan

Transportation sector projects are mostly concentrated in states namely Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Karnataka. Other states of India are also well developed with Transportation.

Water & Sanitation sector is also not prioritised compared to transportation sector. The total count of Water & Sanitation projects in India is equal to highest State in Transportation projects. This sector is also having very little number of projects like 3,2,1,8 in Telangana, Tamil Nadu, Kerala, Andhra Pradesh states respectively. There are highest projects of all states is 13 in number allotted to Karnataka.

Growth of PPP Projects

Observation since 1991 to till 2017



GLOSSARY

Table with 2 columns: Abbreviation and Full Name. Includes AP (Andhra Pradesh), BOO (Build Operate Own), BOT (Build Operate Transfer), BTO (Build Transfer Operate), BDO (Build Develop Operate), BBO (Buy Build Operate), BOOT (Build Own Operate Transfer), BROT (Build Rent Own Transfer), DCMF (Design Construct Manage Finance), COD (Commercial Operation Date), GDP (Gross Domestic Product), LDO (Lease Develop Operate), LPI (Logistic Performance Index), MW (Mega Watts), PPP (Public Private Partnership), US (United States), WAA (Wrap around Addition), NHA (National Highway Authority of India).

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