

Economic Infrastructure :

Infrastructure Development is critical for economic growth and plays a significant role in setting up an enabling platform for sustainable economic development. It includes services such as water, power and electricity, telecommunications, sewage and sanitation, gas, roads, railways, ports, airports, which promote commercial activities, production and consumption. Further, financial services such as banking, industrial and commercial development, tourism and entertainment and other segments also significantly contribute to the growth process.

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Key Infrastructure projects

Power sector is going to be the key growth driver. On the Power sector front, remarkable progress shown by the government in a short span of 9 months time bolstered the confidence of farmers, domestic users and industrialists. Supply of 24X7 quality, reliable and affordable power to all domestic, commercial and industrial consumers ensuring seven hours of free power supply to farmers, to boost the growth prospects.

Big thrust is being given to renewable energy, particularly Solar and Wind. Ultra mega Solar Parks are being set up by in Anantapuram and Kurnool will augment the power availability considerably. Energy conservation and efficiency measures are planned in a big way. Replacement of all the domestic incandescent bulbs with energy efficient LEDs will save power in the State.

Port-led development is to be the focus. Andhra Pradesh is to be the gate-way of the State's prosperity. Connecting the Ports with the neighborhood areas through road and rail

net work and developing the inland and coastal water ways as major transport routes proposed to boost the economy manifold. Development of four new ports to set the stage for Andhra Pradesh to become the logistic hub and gateway to South East Asia is underway. Laying of three gas pipelines will add strength to the key infrastructure. Green Field International Airport near Visakhapatnam and modernization of three existing Airports at Tirupati, Vijayawada and Rajahmundry to international standards would give fillip to the aviation sector in the State.

Information Technology policy of the state aims to achieve 5 per cent share in national IT exports. The focus will be on development of two ITIRs, promotion of 10 IT hubs, 20 manufacturing clusters and creation of five lakh jobs. The new IT policy envisages broadband connectivity to every household.

High quality road projects, Tourism Circuits, water supply grid and metro rail projects are the other areas of infrastructure prominence.

IRRIGATION

Irrigation development as well as its management is of utmost importance in the State. Andhra Pradesh is rightly called "A river State" as it is blessed with major river systems like the Godavari, Krishna, Pennar, Vamsadhara and other rivulets.

The entire dependable water share of Krishna river is fully harnessed through construction of several multipurpose projects and barrages. The yield from Godavari river has been utilized to an extent of 700.00 TMC only.

Utilisation of Water for Irrigation:

The entire dependable water share of Krishna river is fully harnessed through construction of several reservoirs and barrages. The yield from Godavari river is being utilized to an extent of 668 TMC for existing projects with the surplus flows aggregating

to an average of 3000 TMC flowing un-utilized into the sea. River basin wise utilization of water for irrigation for existing projects and ongoing projects are shown in Table 7.1.

Table 7.1 Utilization for Irrigation

Sl. No	Name of River Basin	Utilization for Irrigation (in TMC)	
		Existing Projects	Ongoing Projects
1	Krishna River	512.65	150.50
2.	Godavari River	368.00	300.00
3.	Pennar River	128.94	58.12
4.	Vamsadhara	28.60	8.69
5.	Other Rivers	323.97	34.44
	Total	1362.16	551.75

Source: Irrigation & Command Area Development Department

Irrigation Potential created up to December, 2014:

Creation of Irrigation Potential has been the most prioritized area since several decades. So far 101.29 lakh acres of irrigation potential has been created up to December 2014 under major anicuts on Krishna, Godavari and Pennar rivers, Projects like Nagarjuna Sagar, Telugu Ganga, Somasila, SRBC, Vamsadhara, Medium Irrigation projects and Minor Irrigation schemes. The details of sector wise irrigation potential created up to December,2014 are shown in Table 7.2 and district-wise irrigation potential created in the state are given in Annexure 7.1.

Table 7.2 : Sector Wise Irrigation Potential created up to December,2014

Sector	Ayacut (lakh acres)
Major Irrigation	63.40
Medium Irrigation	5.57
Minor Irrigation	25.60
APSIDC	6.72
Total	101.29

Source: Irrigation & Command Area Development department

Contemplated Irrigation Potential:

The Completion of present 54 projects (26 Major + 18 Medium + 4 Flood Banks + 6 Modernisation), will create 48.55 lakh acres of new ayacut Irrigation Potential under Major, Medium irrigation projects besides stabilization of 21.18 lakh acres.

Priority projects:

The Government has decided to complete 6 ongoing projects on priority basis to provide early irrigation facilities in the drought prone Rayalaseema and Prakasam Districts and backward districts of Srikakulam and Vizianagaram.

The projects are:

- 1) Pattiseema Lift Irrigation Scheme (Polavaram RMC Lift)
- 2) Thotapalli Barrage project
- 3) AVR Handri Neeva Sujala Sravanthi Project
- 4) Galeru Nagari Sujala Sravanthi Phase I
- 5) BRR Vamsadhara Project (Stage II- Phase II)
- 6) Poola Subbaiah Veligonda Project

All these projects are programmed to be completed during 2015-16 to 2017-18.

Modernization of existing systems:

Due to occurrence of frequent cyclones and consequent damage to crops, modernization of the following river systems was taken up to stabilize the existing ayacut of 46.36 Lakh Acres. Modernization of Delta Systems and other projects has been taken up at a cost of Rs. 14683.61 crore. Scheme wise details are shown in Table 7.3

Table 73: Ayacut area under modernization of delta system

Name of the Scheme	Ayacut (in Acres)
Godavari Delta	10,38,362
Krishna Delta	13,08,000
Pennar Delta	2,47,000
Nagarjuna Sagar project	14,71,000
TBP HLC & LLC	4,64,534
Yeleru Reservoir Scheme	67,614
Nagavali System	39,544
Total	46,36,054

Support for completion of ongoing projects:

Financial assistance from World Bank, JBIC, NABARD and from Government of India is being obtained and the works are in progress for the early completion of ongoing projects. Most of the sites suitable for gravity irrigation schemes have already been exhausted and upland areas which cannot be irrigated by gravity flows are planned to be developed under Major Lift Irrigation schemes. In view of the above, the Government has programmed the following special lift irrigation schemes:

- A. Chinthalapudi Lift Irrigation scheme to irrigate 2 lakh acres in upland areas of West Godavari and Krishna districts with a cost of Rs.1701 Crore and is under progress.
- B. Babu Jagjeevan Ram Uttarandhra Sujala Sravanthi Project is being taken up with a cost of Rs.7214 Crore to create an ayacut of 8 lakh acres in the upland areas of Srikakulam, Vijayanagaram and Visakhapatnam districts.

Accelerated Irrigation Benefit Programme

Since 1996-97, 17 Projects (9 Major and 8 Medium) were included under AIBP in the residuary Andhra Pradesh, with a target to create an Irrigation potential of 5.35 lakh ha. Of these 17 projects, 8 projects were taken up prior to 2004-05, and 9 projects were taken up after 2004-05. Out of the total 17 AIBP projects, 7 Projects (3 Major and 4 Medium) were completed and 1 project was dropped and the balance 9 Projects are under progress. Details of IP created under Major and medium projects (AIBP) are given in Annexure 7.2

IP Creation under AIBP in brief:

The IP contemplated under AIBP (17 Projects) : 5.35 lakh Ha.

Total IP created under AIBP up to November 2014: 2.89 lakh Ha.

Hydrology Project Phase-I

HP-I was taken up with World Bank financial assistance for measurement, validation, storage and dissemination of Hydrological, Hydro Meteorological and water quality data and to establish computerized data base network. Under this project, 50 Gauge Discharge sites on various minor streams

and 22 Digital Water Level Recorders at various reservoirs have been established. Further 124 standard Rain Gauge stations, 56 Autographic Rain Gauge stations, 3 Full Climatic stations, 9 Water quality level I and 3 Water quality level II labs were also established.

Hydrology Project Phase-II

The World Bank has approved the Hydrology Project Phase-II under IBRD loan no.4749 in A.P (before reorganization) as one of the implementing agencies among 13 states and 8 central departments in the country. This phase was commenced in April 2006. The project development objective is to extend and promote the sustained and effective use of the Hydrological Information System(HIS) by all potential users concerned with the water resources planning and management-both public and private, thereby contributing to improved productivity and cost effectiveness of water related investment.

Trainings & Workshops

Hydrological Data Users Group

Hydrological Data Users Group (HDUG) at State Level and District Level were formed to assess Hydrological Information Needs (HIN) of data users. Awareness Raising Workshops were conducted to create the awareness among the data users and general public to assess the needs. Mass events like exhibitions, School/College visits are part of the awareness program.

Trainings

Capacity building is being done by imparting training in subjects like Hydrology, Procurement, Water Quality, GIS and Computers etc., as part of Annual Training calendar of HP-II. Apart from this, officers are also being nominated to the training programs conducted by Central Agencies.

Hydrological Design Aids (HDA)

The Central Water Commission has appointed M/s.Consulting Engineering Services (India) Private Limited (CES) as the consultants for Development of Hydrological Design Aids (Surface Water) and the consultants started work from December 9, 2009. The aim is to develop Hydrological Design Aids to improve upon current design practices and to

standardize those practices for uniform use across the country.

The terms of reference of the consultancy assignment includes the following areas for developing HDA tools.

HDA 1: Assessment of Water Resources Potential – Availability /Yield/ Assessment,

HDA 2: Estimation of Design Flood, and

HDA 3: Sediment Rate Estimation.

The training modules under HDA1 and HDA2 were completed. The development of software by CES is under progress.

CADA Projects

Andhra Pradesh Irrigation Livelihood Implementation Project (APILIP):

One new Minor Irrigation Tank with a tentative cost of Rs. 2.32 Crore is taken up to create new Irrigation potential of about 110 ha and it is proposed to take up rehabilitation of 9 existing Medium Irrigation projects, at an estimated amount of Rs. 215.71 Crore, to stabilize an ayacut of 49,330 ha. The total estimated cost of the project is Rs. 291.34 Crore. Out of 10 projects, 3 Projects were completed, 7 projects are under progress. The newly created ayacut is 110 ha and an extent of 27,195 ha. is stabilized. The cumulative expenditure incurred under this project during 2007-2014 (up to 31.12.2014) is Rs 181.05 crore

Repairs, Renovation and Restoration of Minor Irrigation Tanks (RRR-II)

345 Minor irrigation tanks were covered with an estimated cost of Rs.112.36 Crore apart from 3 works taken up in other programmes. Of which, 264 works were completed, 75 works are in progress and agreement is to be concluded for the remaining 3 works. The expenditure incurred under this project during 2012-14 (upto November,2014) is Rs. 40.92 Crore to bridge gap ayacut of 12,515 hectares.

Minor Irrigation Sector

About 40,900 tanks serving an ayacut of 21.47 lakh acres (including 35,376 tanks transferred from

Panchayat Raj department with an ayacut of 8.01 lakh acres) are under Minor Irrigation.

To take up new constructions and stabilise the existing tanks, funds have been tied up under schemes like NABARD, AIBP, JBIC, Normal State Plan and World Bank assisted Andhra Pradesh Community Based Tank Management Project. The rehabilitation of Minor Irrigation schemes sanctioned under World Bank assisted by Andhra Pradesh Community Based Tank Management Project (APCBTMP) is in Progress. The scheme is intended to improve 975 tanks. About 770 schemes are completed and the remaining are in progress.

Minor Irrigation Census

As per the 4th Minor Irrigation Census, there were 9.72 lakh minor irrigation sources in Andhra Pradesh in 2006-07 as against 8.19 lakh sources as per 3rd Minor Irrigation Census 2000-01, registering an increase of 18.74%. The statement showing data on Minor Irrigation sources from 1986-87 to 2006-07 is given in Annexure-7.3.

GROUND WATER

The groundwater department is a multi disciplinary organization engaged in development and management of groundwater resources in the State. The department has been declared as the nodal agency for all ground water related activities in the State. The Department is engaged mainly in monitoring, estimation and investigations for ground water resources. The activities include hydro geological, hydrological, geophysical and quality aspects. Keeping in view the increased demand for ground water and its shortage in many areas during stress periods, the concept of demand side management, apart from the present practice of supply side management, with a participatory approach is included in this year's annual plan of the department in selected Ground Water assessment units, on a pilot basis.

Groundwater is one of the major sources of drinking water in both urban and rural areas. In addition, it is also an important source of water for agricultural and industrial sector. Being a critical and integral part of

the hydrological cycle, its availability depends on rainfall and recharge conditions.

The demand for water has increased over the years leading to water scarcity in many parts of the world. During the past two decades, the water levels in several parts have been falling rapidly due to an increase in ground water extraction. The number of wells drilled for irrigation of both food and cash crops is rapidly and indiscriminately increasing. Intense competition among users viz., agriculture, industry and domestic sectors is driving the groundwater table to lower levels.

The National Water Policy calls for controls on exploitation of groundwater through regulation and an integrated and coordinated development of surface and groundwater.

Functions

- Periodic estimation of groundwater resources of the state on a watershed approach and according clearances to minor irrigation schemes
- Detailed investigations for delineation of potential zones and selection of well sites, to be implemented by developmental agencies and individuals
- Investigations for identification of feasible areas and suitable sites for artificial recharge and rainwater harvesting structures
- Drilling of exploratory-cum-production bore/tube wells to study sub surface configuration of aquifers and assess aquifer parameters
- Monitoring of groundwater levels and quality through a network of observation wells, stream flow check points and improved network of piezometers with Automatic Water Level Recorders
- Conjunctive use studies in selected major command areas
- Special studies for evaluating groundwater regime through modern tools like, aerial photographs, satellite imagery, Geographical Information System etc., in relation to development and management activities under various programs.

- Acquirer Mapping and Management studies.

In recent years, the department shifted its focus to management by adopting Community Based Ground Water Management (CBGWM).

Estimation of Groundwater Resources

The state has been divided into 736 watersheds (which are also called groundwater basins or assessment units) for estimation of groundwater resources. The latest estimation was done in 2011-12 with 2010-11 data base. Categorization of watersheds/ mandals/ villages is made based on stage of ground water development.

Details of the availability, utilization and stage of Ground water resources as per GEC -2010-11 are shown in Table 7.4 and Table 7.5.

Ground water Resources	Command Area	Non Command Area	Total
Annual Ground water availability (MCM)	9583	9300	18883
Annual Ground water utilization (MCM)	2168	4839	7007
Balance Ground water availability (MCM)	7415	4461	11876
% of utilization stage of Ground water development)	23	52	37
Category	Safe	Safe	Safe

Source: Ground Water Department.

Table 7.5: Stage of Ground Water Development

Category	Watersheds (No.)	Mandals (No.)
Over Exploited	56	41
Critical	14	7
Semi-critical	52	42
Safe	614	580
Total	736	670

Source: Ground Water Department.

Over Exploited villages to be notified under APWALTA

Further, 978 villages have been identified (GEC 2010-11 report) as over exploited for the purpose of notification under Andhra Pradesh Water, Land and Trees Act (AP WALTA), where further exploitation of ground water is banned except for drinking water purpose.

In terms of quantity, the total groundwater availability in the state is 18,883 Million Cubic Meters (MCM) out of which 7,007 MCM is utilized for various purposes leaving a balance of 11,876 MCM. The overall stage of ground water development is about 37%. The stage of ground water development in command areas is 23% and the stage of groundwater development in non-command areas is 52%.

Groundwater Development

A study of the composite hydrographs of the past and present indicates that groundwater development is taking place in the state. It is generally observed that more the recharge more will be the utilization. A break point will be reached where the number of wells will increase and the power consumed will also increase considerably even as groundwater exploitation and total area irrigated through groundwater remain constant. At present, on an average, about 1.2 hectares is irrigated per well and on an average a total of 25,000 wells are commissioned per year due to which the average unit area irrigated per well may decrease. The net groundwater irrigation potential created during 2013-14 was 11.21 lakh hectares. At present, the well population is more than 9 Lakh (mostly bore wells) with the gross area irrigated under groundwater for the year 2013-14 being 16.23 lakh hectares. If micro irrigation practices are adopted, irrigation potential through groundwater can reach to a level of 24 lakh hectares.

Investigations

The department is conducting investigation for selection of sites for wells, artificial recharge studies, implement of APWALTA and hydrological clearances etc. During the year 2014-15 (up to Nov 2014) the department has investigated 3,053 sites under various programmes for selection of Well Sites,

Lift Irrigation, and Artificial Recharge Structures etc. About 2,414 beneficiaries were covered and about 2,516 hectares of land stabilized or new areas brought under irrigation. Out of the above, about 671 Scheduled Castes and 273 Scheduled Tribe beneficiaries were covered under Special Component Sub-plan and Tribal Sub-Plan programmes. An area of about 671 hectares belonging to Scheduled Castes and about 369 hectares belonging to Scheduled Tribes were either stabilized or new areas brought under irrigation. An area of about 2233 hectares was covered benefiting about 1248 farmers under CLDP and APWALTA.

In addition, investigations were also carried out in 237 and 1248 sites for selection of well sites for Industries under environmental clearance and drinking water respectively. About 75 sites were investigated under Lift Irrigation and 22 sites were Artificial Recharge Structures.

Monitoring of Ground Water Levels

During Nov 2014, a net rise in the groundwater level to an extent of 0.89 m. was recorded from pre-monsoon (May, 2014) in the State. When compared the water levels of Nov, 2014 with the same month of previous year (Nov, 2013), a net fall of 2.04 metres was recorded. Coastal Andhra region recorded a net rise of 1.22 metres and Rayalaseema region recorded a net rise of 3.89 metres.

Monitoring of Water Quality

The department collects water samples during pre-monsoon (May) and post-monsoon (November) from all monitoring network wells and also wherever necessary during investigations. During 2014-15, 6,384 water samples against the target of 6,438 were analyzed in the 4 Chemical Laboratories of the department.

Drilling

Under the programme the department is constructing borewell/tubewells in the SC/ST lands to study the lithology and aquifer parameters and handing over to SC/ST beneficiaries. Against the annual target of 145 wells under drilling, 16 wells were constructed in 2014-15 (up to Nov 2014) under Tribal Sub Plan .

Command Area Development

The Department takes up studies under five major project commands viz., Nagarjunasagar Right Canal Command, Nagarjunasagar Left Canal Command, Srisailem Right Branch Canal Command, Tungabhadra Project Complex Command area to study the impact of excessive irrigation, delineate areas already water logged and prone to water logging, recommend conjunctive use of both surface and ground water and to suggest other suitable remedial measures to improve productivity.

Monitoring of Groundwater levels is being carried out six times a year through 764 Command area observation wells to know the impact of canal releases on groundwater regime. The changes in chemical quality of groundwater is being monitored twice a year and detailed hydro geological and geophysical surveys are being carried out to recommend sites for construction of irrigation wells. Groundwater augment in these command areas are underutilized. The present stage of ground water development in various commands is as follows:

- Nagarjuna Sagar Right Canal Command Area (7%)
- Nagarjuna Sagar Left Canal (26%)
- Tungabhadra Project Complex Command Area (40%) and
- Srisailem Right Branch Canal Command Area (32%)

The department is also working out different conjunctive use strategies in the five major commands and preparing conjunctive use plans for each district falling under the above commands.

Water Logging and Associated Problems

According to the report on working group (1991) on problem identification in irrigated areas, the committee set up by the Ministry of Water Resources describes water logging as “an area is said to be waterlogged when the water table rises to an extent that soil pores in the root zone of a crop become saturated resulting in restriction of the normal circulation of the air, decline in the level of oxygen and increase in the level of carbon dioxide”. The area

is said to be water logged when the depth to groundwater levels is less than 2.0 m.bgl. The water table which is considered harmful would depend upon the type of crop, type of soil and the quantity of water.

Conjunctive use Management

The World Bank Mission during their preapproval visit in November 1994, stressed that promotion of groundwater development and conjunctive use in canal commands is essential for the success of proposals to introduce Irrigated Dry crops with rotational water supply, ideally there should be no need for conjunctive use (i.e., supplementing the irrigation needs from groundwater), but in reality conjunctive use of surface water and groundwater in the command area of Nagarjunasagar is necessitated for the reasons such as the Irrigation system is not able to supply required quantity of canal water at required time to service designed command area and maintain the irrigation schedule during the year, when the storage in the reservoir is depleted due to low rainfall, when supply of canal water for irrigation use is reduced due to increase in the demand by other competitive uses and to increase the efficiency of irrigation system.

AP Irrigation Livelihood Improvement Project:

The department is arriving at different conjunctive use plans for the 20 Medium Irrigation projects.

Dissemination of Data

Data is being disseminated to various Government Organizations, Research Institutes, Universities, NGO's and above all to each and every village as per their need. The status on Groundwater level is being disseminated to district administration, as well as to all water related departments for planning purpose.

Rain Water Harvesting for Artificial Recharge

Simple low cost methods are suggested to collect and store runoff water from roof tops of buildings, road surfaces, municipal parks, school play grounds, stadiums, airports etc., in recharge pits for artificial recharge. Such measures help in reducing urban runoff, decrease pollution of groundwater and increase groundwater recharge augmenting yields of wells. Water spreading, recharge through pits, trenches,

wells, shafts and directly diverting runoff water into existing wells are few suggested methods for recharging.

World Bank Assisted Projects

I Externally Aided Projects:

a) AP Community Based Tank Management Project:

Participatory Groundwater Management aims at empowering the groundwater users in the tank influence zone to wisely manage the dynamic groundwater resources replenished through rainfall, surface water sources and return circulation from irrigated areas. The participatory Ground Water Management comprises of five major activities a) Capacity building of the Stakeholders, b) Participatory Hydrological Monitoring (PHM), c) water Audit and Crop Water Budgeting, d) Crop Planning and e) Crop Adoption.

Under this component 142 tanks have been selected for Participatory Groundwater Management activities, falling in 6 districts and covering 71 mandals. The activities cover the installation of PHM equipment including rainguages, drilling of piezometers, trainings, data analysis and dissemination etc. with an estimated cost of Rs.8.54 crore and the period of the project is upto July, 2016.

b) Andhra Pradesh Water Sector Improvement Project

Considering limitations of present groundwater management system there is a need to develop a new groundwater management model that recognizes limitations of existing management system by individual and recommends groundwater management by the community. Under the above project, one pilot project is undertaken by the department and briefed hereunder:

Conjunctive use of surface and groundwater pilot

Under Andhra Pradesh Water Sector Improvement Project (APWSIP) it is proposed to study and articulate the success of conjunctive use of surface and ground water through community participation, and evolve a more systematic and scientific model to meet the demand of irrigation water and service the command area. Two Pilot areas were identified one

each in Nagarjunasagar Right Canal and Nagarjuna Sagar Left canal Command area presently falling in both reorganized states. Andhra Pradesh State is dealing with one pilot area falling in Guntur district with in area of about 5,000 Hectares. Five numbers of WUAs namely 194A, 202A, 215, 216 and 217 are falling in the Pilot Area. Estimated cost of the project is Rs.3.078 crore and the period of the project is March, 2010 to June, 2016.

Status of works completed

i) Base line surveys; ii) Social assessment; iii) Information education communication campaigns Phase I and II; iv) constructed 5 piezometers, 6 rainguages, data retrieval initiated; v) Water Users Association with community based action plans are completed.

Works yet to be completed

i) Implementation of action plan; ii) National level seminar on Surface Water and Groundwater; iii) Information education communication campaigns; iv) Impact assessment after the completion of the implemented programme.

II) Proposed Hydrology Project Phase III

The developmental objective of the project would be to improve the scope and accessibility of water resources data and information and to strengthen water resources planning and management in selected institutes across India. The proposed cost of the project is Rs.100.33 crore and project period is 8 years proposed from 2015-16 to 2023-24.

Neeru-Chettu Mission

Neeru-Chettu Mission is sub-mission of Primary Sector Mission. Neeru-Chettu Mission has been constituted by involving all the departments concerned. The important two aspects of the mission are

(a) Water Conservation

Which would take into account the total rainfall, surface flow and the ground water. Preparation of a Plan to make its optimum utilization by preventing flow of surface water into sea.

b) Water management:

Which would require making effective use of conserved water for various sectors of State economy.

The role of Ground Water Department in the Mission is to provide technical support to the other departments for identification of sites for recharge structures, preparation of conjunctive use plans and impact assessment of Neeru-Chettu activities in the State.

The important objectives are additional recharge to groundwater, technical and systematic development of groundwater resources, improvement of groundwater use efficiency in Non-command areas and implementing conjunctive use plan in command area and finally achieve more productivity per unit of water.

Convergence with other Departments:

The department will work in convergence with Rural Development department, Forest department, Horticulture department, Irrigation department and Andhra Pradesh Space Application Centre (APSAC). The expected outcome of the Neeru-Chettu Mission is to increase the irrigated area under groundwater from 16.00 lakh hectares by 2018-19 through the different activities taken up under Neeru-Chettu Mission.

POWER

The Andhra Pradesh State Electricity Board (APSEB) was formed in 1959. The APSEB was restructured into two functionally distinct corporations viz., APGENCO & APTRANSCO in 1999. Distribution business was segregated from APTRANSCO by the formation of four distribution companies w.e.f. 01-4-2000. Trading activities were entrusted to four Discoms w.e.f. 09.06.2005 in compliance with Electricity Act, 2003.

The State of Andhra Pradesh has been formed by the Central Government through “The Andhra Pradesh Reorganization Act, 2014” (Act No.6 of 2014) dated 01-03-2014, The Eleventh Schedule of the Act gives the principles governing the functioning of the river Management Boards. The Twelfth Schedule of the Act stipulates modalities pertaining to Coal, Gas,

Power. The Thirteenth Schedule of the Act enumerates measures to be taken by various agencies for creating new infrastructure facilities.

The Andhra Pradesh Electricity Regulatory Commission (APERC) constituted by GoAP, has been functioning w.e.f 31st March 1999. APERC has issued annual/multi year Tariff Orders regularly from 2000-01 onwards. Details about APTRANSCO are shown in Table 7.6.

Table 7.6: APTRANSCO during 2014-15

Parameter	Performance as on 30-11-2014
Installed Capacity (MW)	10628.22
Maximum Peak Demand Met (MW)	6549 (14-08-2014)
Consumers served (Lakh Nos)	154.39
Annual Energy Handled (MU) (From 2nd June 2014 to 30th November 2014)	31,575.51
Agricultural services (Lakh Nos)	14.81

Source: APTRANSCO

Government is particularly committed to the welfare of farmers by the way of free power to all agriculture consumers including all the services released. The Estimated Budgetary subsidy (electricity) provided for agriculture given by Andhra Pradesh Government for the year 2014-15 (ie.from Jun'14 to Mar'15) is Rs.2,429.09 crore.

During the year 2014-15, it is programmed to release 93,494 new agricultural connections. So far i.e. up to 30-11-2014, 31,945 agricultural services have been released. The total agricultural services existing in the state as on 30th November 2014 is 14.81 lakhs.

Government of Andhra Pradesh provided free power to Agriculture Sector with effect from

14.05.2004 in view of the extreme hardships faced by agriculture consumers in the past years. Government has also waived the power consumption arrears relating to agricultural consumers of DISCOMs and RESCOs. As per modified policy, farmers having up to 3 connections in dry land, up to 2.5 Acres land holding in wet land are eligible for free power. The modified policy proposes incentives to promote energy saving measures. Incentivized tariff is proposed for those who adopt DSM measures viz., installation of capacitors & Frictionless foot valves by March 2006, ISI pumpsets and HDPE / RPVC pipes by March 2008.

Restructured-Accelerated Power Development and Reforms Programme

Restructured-Accelerated Power Development and Reforms Programme (R-APDRP) is a flagship programme of Government of India which aims at achieving actual demonstrable performance in sustained loss reduction.

Projects under this Scheme

Part-A-I-IT Implementation

This includes projects for establishing of baseline data and IT applications for energy accounting/auditing & IT based consumer service centers. An amount of Rs.188.26 Crore was sanctioned to cover 75 towns in the state with more than 30,000 population (as per 2001 census) (APSPDCL covers 46 towns + APEPDCL covers 29 towns) within five years from the date of sanction of the project. Out of 75 Towns 65 towns declared as Gone-Live Towns

The steering committee in its meeting dated 9th July 2014 has decided to provide extension of time to Andhra Pradesh state up to 31st March 2015 along with matching deferment of GoI loan (Principal and Interest).

States are required to provide detailed timelines broken into quarterly targets. These targets shall be reviewed each quarter and in case state fails to achieve targets in two consecutive quarters, the sanction extension in completion period may be withdrawn and conversion of loan to grant would be limited to only towns completed till that time.

PFC has suggested 24 formats for monitoring the post Go-LIVE performance by DISCOM and the

following 4 formats by PFC/MoP (on quarterly basis).

- i) Town wise AT&C loss report
- ii) New Connection provision time status
- iii) Customer Grievance redressal status
- iv) Feeder with highest losses (10% of total feeders or 1 whichever is higher)

In the 7th Power Minister's Conference held on 10th Sep'2013, it was resolved that the State Governments shall complete all works under R-APDRP Scheme by end of XII Plan. This would include complete implementation of all Part-A (IT) schemes by 2015 and Part-B as well as SCADA Schemes by March 2017.

Progress of Works

- In AP STATE 65 towns (37 in APSPDCL and 28 in APEPDCL) are declared Gone-Live as on 11.12.2014.
- Differential Global Positioning System (DGPS) Survey of consumers/ asset mapping was completed for 30.61 lakh and approved for 29.27 consumers so far.
- Data Center (DC) at Hyderabad and Disaster Recovery (DR) center at Tirupathi have been established with all servers and set up.
- Customer care centers have been established in all the DISCOM head quarters and integrated with Data centre. The software gaps identified by DISCOMs are being attended by the ITIA(M/s TCS).
- Meter-Billing-Collection (MBC) module has been rolled out in all 46 towns of APSPDCL. However, HT Billing through AMR & MRI data S/W development is in progress.
- MDAS data ranging from 60% to 90% is being received under Meter data acquisition system. All steps are taken by DISCOMs and ITIA for resolving modem/meter and SIM/connectivity issues to improve data connectivity.
- Under APSPDCL 9 towns are yet to achieve Go-Live viz., Guntur, Kadapa, Machilipatnam, Madanapalli, Markapur, Nellore, Proddatur,

Vijayawada and Tirupati and Visakhapatnam is under APEPDCL to achieve Go Live.

- In the 9 towns of APSPDCL, the IT project works should be completed before 31/03/2015. In Visakhapatnam of APEPDCL the IT project works should be completed before 31/03/2015.
- M/s.TCS have assured to complete the IT implementation in all the balance towns of APSPDCL by 15-12-2014 and in Visakhapatnam of APEPDCL by 25-12-2014.
- An amount of Rs.132.44 crore (Rs.83.50 crore in APSPDCL & Rs.48.94crore in APEPDCL) out of total sanctioned amount Rs.188.26crore has been spent so far.
- M/s TCS have been asked by CMD/APSPDCL to generate energy audit reports accurately through on line only at the earliest.

Part-A -II- SCADA/DMS (Supervisory Control and Data Acquisition/ Distribution Management System)

- The SCADA/DMS System will provide real time monitoring & control, loss minimization/load balancing and considerable improvement in voltage/VAR profiles. It would also facilitate proper handling of loads while load shedding & restoration, efficient planning of network for future growth by using proven power system planning tools
- Scheme consists of installation of Remote Terminal Units (RTU) at each 33/11 KV Sub-stations and integrating these RTUs with centralised control centre to manage Distribution system of the Town.
- The eligibility criteria of SCADA/DMS system cover urban areas – towns and cities with population of more than 4,00,000 & 350MUs annual input energy.
- SCADA / DMS Visakhapatnam town covered under APEPDCL-1, and APSPDCL, 3towns viz., Vijayawada, Guntur and Nellore towns are covered under SCADA/DMS.
- Rs 48.94 Crore was sanctioned by PFC for SCADA/DMS in the above 4 towns (Rs 39.19crs

in APSPDCL and Rs 9.75crs APEPDCL).

- In APSPDCL the scheme was sanctioned in March'2011 and is scheduled to be completed by March, 2016.
- In APEPDCL the Visakhapatnam Scheme was sanctioned by Steering committee on 27.9.13 and is scheduled to be completed by 26.9.16.

Progress of Works

- M/s Central Power Research Institute (CPRI) was selected as SCADA/DMS Consultant (SDC)
- M/s Chemtrols Industries Limited was selected as SCADA/DMS implementing agency (SIA).
- Contract Agreement was signed by SIA with APSPDCL on 21.1.2013 and EPDCL was issued LOA M/s Chemtrols on 7.1.2014 and requested agreement was entered by M/s Chemtrols on 8.7.2014.
- Site survey is completed at APSPDCL.
- SIA has demonstrated the integration of RTU with IEDs at 33/11 kV JNTU substation on 18.01.2014 which was witnessed by all DISCOM officials and approved.
- FDS for LDMS and GAD of RTU approval was given by erstwhile AP CPDCL (now TS SPDCL) on 12.3.2014 with consent of other DISCOMs.
- The Data Requirement sheets (DRS) for transducers have been approved by DISCOMs. SIA has submitted the DRS for control centre equipment, FAT procedure of RTU and LDMS to DISCOMs for approval.
- AP SPDCL has decided on going for IEDs and the tender is under process.

Part-B:

This includes regular distribution strengthening projects such as renovation, modernization and strengthening of 11KV level Substations, Transformers/ Transformer centers, Re-conductoring of lines at 11KV level and below, Load Bifurcation, feeder separation, Load Balancing, HVDS (11KV), Aerial Bunched Conductoring in dense areas, replacement of electromagnetic energy meters with tamper proof electronic meters, etc. In

addition, works of separation of agricultural feeders from domestic and industrial ones and of High Voltage Distribution System (11KV) will also be taken up in certain high-load density rural areas with significant loads. SCADA enabling items are sanctioned under Part-B scheme.

Rs. 317.07Crs was sanctioned for 42 towns with more than 30,000 population (as per 2001 census) and Aggregate Technical & Commercial (AT&C) losses of more than 15%. (Rs.216.14Crs for System Strengthening and Rs.100.93Crs for SCADA enabling components under part-B).

Distribution System Strengthening in the DISCOM wise sanctions are as follows:

APEPDCL : Rs. 61.82Crs. (10 Towns)

APSPDCL : Rs. 154.32Crs. (32 Towns)

An amount of Rs.100.93Crs. has been sanctioned for providing SCADA enabling components as indicated below:

APEPDCL – Rs: 21.42crore (1 Town)

APSPDCL – Rs: 79.51crore. (3 Towns)

The original scheme was sanctioned in March'2010. Out of 15 towns originally sanctioned in 2010, works have been completed in Narsipatnam town of APEPDCL and in APSPDCL works are completed in 6 towns and works are in various stages of execution in balance 8 towns.

The works covered under original scheme are expected to be completed by March, 2015 in APSPDCL.

Post verification of town baseline AT&C losses, 27 new towns (AP SPDCL-18, AP EPDCL-9) have become eligible for part-B funding since the town AT&C losses are >15%. The DPRs of above 27 towns are sanctioned by PFC (17 towns sanctioned during March '13 and 10 sanctioned during Aug'13)

Out of the above 27 new towns, works are in progress in 9 towns in APEPDCL and tendering activity is under progress for 18 towns of APSPDCL.

The Steering Committee constituted by Ministry of Power on R-APDRP has accepted the proposal of allowing utilities to complete all the earlier sanctioned

Part-B projects within 5 years from date of sanction. But in no case, the completion should go beyond 12th Plan i.e., 31st March 2017. Accordingly, the scheme should be completed before June '2015/March '2017 for SPDCL and March'2017 for EPDCL. Total Towns for Part-B is 42 of which 10 are in EPDCL and 12 in SPDCL. 7 towns were completed and 27 are New Towns.

A total expenditure of Rs.207.70crore has been incurred by the DISCOMs under R-APDRP so far.

Rajiv Gandhi Grameen Vidyutikaran Yojana

The Government of India introduced Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) programme with an aim to provide access to electricity to all households in the country.

Implementation of RGGVY IN 10th & 11th Plans

Under RGGVY programme, 13,002 un-electrified habitations and 35,65,160 rural households including 26,65,142 BPL RHHs, were electrified in A.P. by incurring an expenditure of Rs.912 crore, out of which 90% of the project cost was the grant from the Government of India.

RGGVY IN 12th & 13th Plans

Ministry of Power, Government of India has approved the scheme for continuation of Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) in 12th & 13th Plans with a total outlay of Rs.35,447 crore.

Activities:

Completing Spillover works of projects sanctioned in X and XI plans. Continuing the scheme for covering all remaining census villages and habitations with population of above 100.

Providing free electricity connections to BPL households at the rate of Rs. 3000 per connection as a subsidy in villages and habitations with population of above 100 (no subsidy for APL). No infrastructure cost in respect of villages/habitations covered under X and XI plan projects.

Extending DDG to grid connected areas to supplement the availability of power in areas where power supply is less than six hours a day.

Project Proposals for 12th Plan

1. AP DISCOMS (AP EPDCL + AP SPDCL) have proposed for electrification of 4,287 lakh BPL rural households under RGGVY in 12th Plan with an outlay of Rs.331.9 crore with necessary infrastructure in 10755 Villages. The project proposals of AP DISCOMS were approved by the State-level Coordination Committee, a pre-requisite for seeking the sanction of the projects from REC.

AP DISCOMS have also proposed for setting up of grid connected solar power plants with a capacity of 67 MW (EPDCL-16 MW & SPDCL-51MW) at an estimated cost of Rs.701.35 crore (EPDCL-171.95 Cr & SPDCL- 529.40 Cr) at 121 existing 33/11 KV substations under RGGVY for 12th Plan subject to the detailed guidelines and eligibility, considering the rural areas which are not getting proper quantity as well as quality of power.

2. Electrification of new housing colonies

Under the scheme new housing colonies are being electrified on priority on payment of development charges by the concerned department (Housing). Housing Corporation furnished the list of 2041 new housing colonies identified to be electrified in 2011-12, 2012-13, 2013-14 and 2014-15. Detailed estimates of 1984 new housing colonies have been prepared by DISCOMS in consultation with local officials of Housing department and submitted to Project Director (Housing) for payment of estimated charges for an amount of Rs 7,743.34 Lakh towards electrification. Estimates under preparation in respect of 97 new housing colonies. So far, an amount of Rs.41,44.11 lakhs has been paid as development charges in respect of 1170 new housing colonies. Of which , 1153 new housing colonies have already been electrified and works are under progress in respect of 17 new housing colonies.

AP Rural High Voltage Distribution System Project

Currently, the energy losses due to supply to agricultural services is estimated to be around 25%. The High Voltage Distribution System (HVDS) aims at reduction of losses through replacement of the low voltage network with high voltage network and installation of large number of smaller capacity

Distribution Transformers viz., 25 KVA/ 16 KVA DTRs in place of higher capacity Distribution Transformers viz., 100 KVA/ 63 KVA for supply to agricultural consumers. This system is best suited to meet the scattered low-density loads observed in rural areas in India. Based on the sample studies carried out in Andhra Pradesh, the system loss reduction due to adoption of HVDS system is expected to be around 10%.

HVDS was implemented to 5,44,328 agriculture services at a cost of Rs.2001.18 crore up to 31.03.2014. In addition to the above, during the year 2014-15. HVDS has been implemented to 48516 agricultural services up to 30-11-2014 at the cost of Rs.227.65 crore, bringing the total number of agricultural services converted under HVDS to 5,92,844 at a cost of Rs.2,228.83 crore in the state.

APRHVDS Project Cost (ID-P216):

The cost of project is Rs.294.75 Crore. JICA sanctioned loan assistance to an extent of 85% of the Project Cost, i.e., Rs.251.58 Crore on ODA package at concessional rate of interest of 0.65%. The repayment period would be 40 years (including grace period of 10 years). Power Sector is one of the priority sectors for Japanese ODA Loans.

Project preparatory activities

HVDS Project is taken up with an aim to implement HVDS scheme in a big way in the state where large number of agricultural pump-sets exist. HVDS has already been implemented to 5.53 lakh agricultural pumpsets by availing loans from REC/PFC etc.

Revised Proposed Project Activities:

APRHVDS Project is to implement the HVDS scheme to cover 46,727 agricultural services in 7 districts of the Andhra Pradesh State at an estimated cost of Rs.294.75 crore.

The project implementation would result in saving of Rs. 76.72 crore per annum. The Project would be implemented through the APSPDCL (Tirupati).

Loan Repayment System

It was decided that APSPDCL will repay the loan amount through the benefits accrued by implementation of this project. APSPDCL shall bear

the balance portion of the project cost i.e., 15% from their internal sources or through other domestic lending for the successful implementation of the project.

Status

M/s. Voyants Solution Pvt. Ltd, Project Management Consultant would continue to provide services to APSPDCL in the State under the same contract agreement and also communicated addendum to the MoD to the respective executing agencies.

The 10 packages in respect of AP SPDCL, out of which, 5 packages works are under progress and 5 packages survey works are yet to be started. An expenditure of Rs. 57.57 Crs incurred covering 9988 agricultural services at APSPDCL. APSPDCL received an amount of Rs.36.80 Crs towards claims.

Controlling of Commercial losses

From 2nd June 2014 to 30th November 2014, 20,884 cases have been booked and 11 persons have been arrested. Rs 99.711 Crs has been realized against a penal assessment of Rs. 239.975 Crs and Rs.223.64 Crs have been collected during the above period as compounding fees for first offence from 20,976 cases that were compounded.

Single phasing arrangement has been provided to rural feeders to have, proper regulation of hours of supply to agriculture improved voltages for lighting supply in rural areas. Spot billing using hand held computers introduced covering all the areas i.e., Towns, Municipalities, Mandals and Villages. Monthly spot billing is introduced in all municipalities.

Meetings with consumers held every month at circle and division level. Major issues raised are billing complaints and delay in replacement of DTRs in rural areas. Vidyut Adalats held every week to resolve billing complaints at Mandal Head Quarters.

Distribution Transformer Replacement (DTR) centers increased from 85 to 226 for timely replacement

IT Initiatives

Various Information Technology (IT) initiatives have been taken up in Distribution Companies

(DISCOMs) to improve performance and bring in transparency & accountability.

Some of them are

- CAT (Consumer Analysis Tool)
- MATS (Monitoring and Tracking System)
- TIMS (Transformer Information Management System)
- PMRS (Performance Monitoring and Reporting System)
- Book Consolidation Module and
- Remote Meter Reading (RMR) etc

Enterprise Resource Planning(ERP) has been implemented in APTRANSCO & DISCOMs. e-Vaaradhi, an electronic method of reaching electricity consumers was introduced in EPDCL for passing messages relating to billing information, power shut down information etc., through SMS.

APGENCO-

Generation Progress:

Royalaseema TPP Stage-IV(1x600MW):

Land acquisition completed. 1.4 TMC of water has been allocated for both RTPP stage-III & IV from SPVB Reservoir by Irrigation & CAD. Ministry of Coal allotted 2.31 MTPA long term coal linkage from M/s.MCL for 500MW. Additional 1.2MTPA coal linkage for enhanced 100MW is awaited. The Unit is programmed to commission by 31.10.2016.

Status

Pressure parts: Erection of Divisional SH Coils, Burner Panels with Burners, Furnace Guides, Seal Boxes etc., is in progress. Alignment of 2nd Pass U Headers, WWs, Divisional SH Coils with Loose Tubes, LTSH Inlet Loose Tubes, Economizer Coils, RTs, Buckstays, etc., is in progress. Preassembling of ESP outlet ID ducts is in progress. Switch yard 14/36 columns are completed above lintel level. Outer Lintel beam (excluding the canopy slab for rolling shutters) is completed. Front canopy is completed. Inner lintel beam concreting is in progress. Chimney 5/6 Segments completed. Cumulative 4240 completed. 5th segment concrete completed on 29-11-2014. For balance 1 No segment reinforcement completed. Boiler: Total tonnage of 13061MT has

been erected.

Sri Damodaram Sanjeevaiah Thermal Power Station Stage-I(2X800MW)

The project's Zero-date was commenced on 23.09.2008. Boiler-I&II and ESP-I&II erection are 91.91%, 99.94%, 89.45% and 99.73% completed respectively. Majority of the equipment in the scope of M/s L&T for both the units of TG package are erected 99.88% and 99.09% respectively. Unit 1 was test synchronized with grid on 31.03.2014 and achieved full load of 809MW on 28.08.2014. Most of the Design & Engineering activities by the major contractors are completed. Unit 2 was synchronized with grid on 18.12.2014. Unit 1 is programmed for COD by 31.12.2014 and unit 2 programmed on 31.03.2015.

Nagarjunasagar Tailpond Dam PH (2x25MW)

Main dam civil works are completed. Power house civil works including TRC are completed. Hydro mechanical works are completed except fixing of rubber seals for balance 11 Nos. gates. Erection of Turbine of Unit 1 and its auxiliaries is completed. Arresting of oil leaks is in progress. Erection of Generator of Unit 1 and its auxiliaries is completed. Arresting of oil leaks is in progress. Erection of Turbine of Unit 2 is completed. Assembling of TGB bearing is in progress. Erection & Alignment of Generator rotor & stator of Unit 2 is completed. Trail assembly of brush gear casting is in progress.

Details about power generation and distribution are given in Annexure 7.4

ROADS AND BUILDINGS

Buildings

The present activities of Buildings Wing include Execution of Building works taken up under Plan Schemes, Secretariat Buildings, Court Buildings and Judicial Quarters (under Centrally Sponsored Schemes) and Buildings of other Department as Deposit works and Maintenance of Buildings under Non-Plan Schemes.

The present plinth areas of Government buildings in the control of R&B Department are

1. Non-Residential : 16.24 Lakh Sft.

2. Residential Buildings : 18.57 Lakh Sft

Roads

Roads are one of the basic modes of transportation system and also an important priority sector of Infrastructure. Systematic development of road is one of the important pre-requisites for development and acceleration of growth in the economy. Among the different modes of domestic transportation systems, road transport carries more than 80 percent of the Goods and Passenger traffic. The network of roads, particularly from rural to urban facilitates speedy movement of goods and services and ensures higher growth trends, connectivity social integrity and well being of the society. The productivity and efficiency of road transport is directly linked with the availability and quality of road network.

In view of the high potential in agricultural activity, there has been huge increase in Road network. The total R&B Road network in the State as on 02-06-2014 was 45,831 Kms. Surface wise Lane wise and type of roads details are shown in Table 7.7.

Table 7.7 : Status of R&B Roads

Lane wise (in Kms)		Surface-wise (in Kms)		Type of Road	Length of Road (in Kms)
Four Lane	1,848	Cement Concrete	1,436.53	National Highways	4,423
Double Lane	9,613	Black top	43,122.47	State Highways	6,167
Intermediate Lane	3,108	Non BT 1272		Major District Roads	19,674
Single Lane	30,962			Rural Roads	15,567
45,831		45,831			45,831

Source : Engineer - in - Chief, Roads & Buildings.

State Roads

The construction and maintenance of roads and bridges on State Highways, Major District Roads, Rural Roads are taken up by the R&B department. Particularly Roads taken over from Panchayat Raj department or other Local Bodies are brought to the required standards and kept in motarable condition. The department, which was maintaining a road

network of 21,510 Km in 1965, now maintains a total of 41,408 Km of roads (excluding NH roads) taken over from Panchayat Raj department and other local bodies.

Non-Plan (SH & MDR) schemes

The State Roads wing maintains the entire State Roads (Non-core net) of 34,608 Km using the State Budget grant under Non-Plan. There are two types of maintenance works. One ordinary repairs (annual maintenance) and the other periodical maintenance on the roads which are ripe for renewal. Ordinary repairs mainly consist of pot hole filling, beams sectioning, jungle clearance, repairs to culverts in addition to the other routine maintenance items. The repairs are taken up based on the condition of road, year of last renewal, traffic on the road and soil condition.

The status of Non-Plan maintenance works are as follows;

512 works costing Rs.661.93 Crore are on hand as on 11-12-2014 of which 276 works costing Rs.368.55 Crore are completed. 167 works costing Rs.222.15 Crore in Progress. 14 works costing Rs.10.83 Crore in Agreement Stage. 55 works costing Rs.60.40 Crore at Tender Stage.

Road lengths of 3615 Km length of Road was improved against the target of 3500 Km. Rs.457.44 crore was provided in the year 2014-15, Rs.346.18 crore are released and expenditure incurred was Rs.345.24 crore. 1456 Km length of Road was improved against the target of 1600 Km by the end of Nov 2014.

Normal State Plan (SH & MDR)

289 works costing Rs.2358.06 crore as on 11-12-2014 was sanctioned under Normal State Plan (SH & MDR). Of which, 88 works costing Rs.452.75 crore are completed, 147 works costing Rs.1490.50 crore are in Progress. 7 works costing Rs.49.72 crore at Agreement Stage, 12 works costing Rs.93.40 crore at Tender Stage and 35 works costing Rs.271.69 crore are at Estimate Stage.

An amount of Rs.189.36 Crore was provided during the year 2014-15 against which an amount of Rs.360.26 Crore was spent. Road lengths of 244 Km

are improved / widened and 2 Bridges are reconstructed against the target of 235 Km and 6 Bridges up to the end of Nov, 2014.

Special Component Sub Plan - (SCSP)

Under Special Component Sub Plan for Scheduled Caste, the Government of Andhra Pradesh has sanctioned 10 works costing Rs.10.65 Crore are spillover from 2013-14, of which 3 works costing Rs.3.00 Crore are completed 6 works costing Rs.6.65 Crore in Progress and 1 work costing Rs.1.00 crore at Tender stage.

An amount of Rs.30.00 Crore was provided against which expenditure incurred was of Rs.25.58 Crore. 28 Km of Road lengths was improved against the target of 30 Km during the Year 2013-14.

No budget was provided towards SCSP scheme for 2014-15, whereas the expenditure incurred on the spillover works to an amount of Rs.2.36 Crore. 27 Km of Road lengths are improved against the target of 55 Km during the year 2014-15.

TRIBAL SUB PLAN- (TSP)

Under Tribal Sub-Plan, the Government of Andhra Pradesh sanctioned 27 works costing Rs.139.86 crore are spillover from 2013-14, of which 6 works costing Rs.32.72 crore are completed. 6 works costing Rs.14.75 crore are in progress, 7 works costing Rs.35.63 crore are at Tender Stage and 8 works costing Rs.56.76 crore are at Estimation/LA Stage.

An amount of Rs.60.00 crore was provided and expenditure incurred was Rs.41.60 crore. 52 Km of Road length was improved /widened against the target of 55Km during the Year 2013-14.

An amount of Rs.6.77 crore was provided during the financial year 2014-15 against which an amount of Rs.18.89 crore was incurred expenditure. 72 Km of Road lengths are improved / widened against the target of 65 Km up to the end of Nov, 2014.

Road Safety Engineering Works Scheme

Apart from the above, Road Safety Engineering Works (RSEW) were also sanctioned. At present, 90 works costing Rs.40.77 Crore are on hand, of which 56 works costing Rs.16.70 are completed, 18 works costing Rs.14.57 are in progress. 7 works

costing Rs.3.52 crore are at agreement stage and 9 works costing Rs.5.98 crore are at tender stage.

Road lengths of 40 Km are improved / widened against the target of 35 Km up to the end of Nov, 2014. An amount of Rs.4.00 Crore was provided during the year 2014-15 and expenditure incurred was Rs.11.28 crore.

NABARD Works – RIDF & RIAD

The Government has identified the urgent need to create adequate employment opportunities in rural areas through development of infrastructure. The State Government has taken up infrastructure development in rural areas through financial assistance of NABARD from 1995-96 with the funds provided under RIDF (Rural Infrastructure and Development Fund) & RIAD (Remote and Interior Area Development). Government of Andhra Pradesh has selected Roads and Buildings Department for improving roads and construction of bridges in rural areas. Since inception of NABARD funding to rural area infrastructure, nearly 9000 km of rural roads have been brought to riding surface with BT and connected to nearby towns.

So far, 1672 road and bridge works in 19 tranches i.e., RIDF II to RIDF XIX (including RIAD Phase I to V) (1996-97 to 2014-15) for Rs. 2702.52 crore were taken up. 1484 works were completed with a cost of Rs.1966.72 crore and 111 works costing Rs.419.30 crore are in progress. 45 works costing Rs. 178.02 crore are at tender stage. Remaining 32 works are in design stage with a cost of Rs.138.48 crore.

Rural Development Fund

From 2008-09 onwards, Rural Development fund works have been taken up in Roads and Buildings department with Agricultural Marketing Committee funds to improve connectivity of rural areas and to transport agricultural produce to nearby market yards. Under this scheme improving non BT road to BT standard and construction of Bridge works are taken up.

So far, 977 works costing Rs.1,296.73 Crore for a length of 4991 Km + 16 bridges were sanctioned under Rural Development Fund from 2008-09 to 2013-14 and 784 works costing Rs.995.17 Crore for a length of 3497 Km + 15 Bridges were completed. 176

works costing Rs.250.97 Crore are in progress for a length of 1121 Km and 1 Bridge. Remaining 17 works are in tender stage with a cost of Rs.50.59 Crore.

Centrally Sponsored Programmes (CRF, ISC & EI Schemes)

A Central Road Fund for improvement of roads is being released by the Government of India as per “The Central Road Fund Act 2000, Act No. 54 of 2000”. Under CRF act, Government of India introduced diesel and petrol cess at Rs.1.50 on sale of one litre of Petrol / Diesel. The fund so collected is meant for utilization of

- Development and maintenance of National Highways
- Development of Rural Roads
- Development and maintenance of other State Roads including roads of Inter State Connectivity (ISC) and Economic Importance (EI)
- Construction of Roads under (or) over Rail- ways by means of a bridge and erection of safety works at unmanned rail – road crossings

The Central Government sanctions works under CRF, Economic Importance and Inter State Connectivity with following guidelines:

CRF: GOI approves works and reimburses only upto 10% over the approved amount for the work.

EI: GOI accords technical and financial approval for the works and shares upto 50% of the amount agreed in principle. Even revised estimate is approved by GOI

ISC: GOI accords technical and financial approval for the works and reimburses 100% of the work done. Even revised estimate is approved by GOI.

The Central Government allocates the fund in the following ratio:

- A. 50% of the cess on High Speed Diesel (HSD) Oil for the Rural Roads.
- B. The balance 50% of cess on High Speed Diesel (HSD) Oil and the entire cess of petrol is distributed as follows.
 - 57.5 % for the development and maintenance

of National Highways.

- 12.5 % for the Construction of ROBs and RUBs.
- 27 % for development / Maintenance of other than NHs (CRF).
- 3 % for Inter State Connectivity (ISC) and Economic Importance (EI).

MORTH has accorded approval for 55 works in two spells (31 works in 1st spell & 24 works in 2nd spell) for the year 2013-14. Out of 55 works, 54 works are in Progress & 1 work is under Estimate stage. The eligibility for sanction of CRF works for each year by G.O.I for A.P is Rs.127.25 crore. The Government has provided Rs.137.00 crore in B.E 2014-15 and an amount of Rs.447.25 crore is required for CRF works during 2015-16. The above works are intended for improving the condition of the roads for a length of 833.19 kms which benefit large number of population to transport their agricultural produce and other industrial goods to the nearby market yards, towns, cities etc. which directly/indirectly help the socio economic growth of the state and in turn the country.

Railway Safety Works (ROBs/RUBs) Scheme

Road Over/Under Bridges (ROBs/RUBs) are constructed mainly in lieu of busy level crossings (manned) where Train Vehicular Units (TVUs) are more than one lakh. The constructions are taken up under cost sharing basis with Railways on 50:50 basis as per the norms. Proposals for ROBs/RUBs are approved by the Railway Board. Further, as per public representations, ROBs/RUBs are being taken up at LC's where TUV's are less than 1.00 lakh, with 100% share from the Government of Andhra Pradesh.

At present 100 No of ROBs/RUBs (both 50:50 & 100%) are approved by the Railway Board which are at various stages of construction.

45 works costing Rs.669.26 Crore are completed, 26 works costing Rs.865.95 Crore are in progress, 3 works costing Rs.72.75 Crore are at Tender Stage. 10 works costing Rs.256.75 Crore are at Estimation stage. 16 works costing Rs.55.80 Crore under Stage-I approval.

During the financial year 2014-15, Rs.60.00 Crore budget was allotted under RSW and the expenditure incurred was Rs.58.83 Crore. 3 ROBs are completed against target of 10 ROB's/RUBs up to Nov 2014.

National Cyclone Risk Mitigation Project (NCRMP)

The project is taken up in 9 Coastal Districts. The prime purpose of the project is to provide necessary infrastructure either by new construction or by repairs or improvements to the existing damaged roads to the habitations and cyclone shelters to facilitate evacuation or for transport of relief material in quick and uninterruptedly. Some of the roads near sea coast have un-bridged crossings, or with low level causeways. During cyclones or during heavy / flash floods due to cyclones, the people living near the sea coast face difficulty to reach safer places. When the people stay in cyclone shelters etc., it is also necessary to supply medicine, water, food and other relief material to the cyclone shelter uninterruptedly. Hence, it is very essential to take up the bridges construction and also to make all weather roads.

National Highways

As on February 2015, there are 21 National Highways in the state of Andhra Pradesh covering a length of 4423 Km of which 1812 Kms is four-lane and above, 1515Kms two-lane, 450 two-lane with paved shoulder, 266 Kms intermediate lane and 380 Kms are of Single lanes. The density of National Highways is 8.95 Kms per lakh population (2011) in the State as against all India average of 7.67 km and in terms of area coverage, a length of 27.60 Kms is available for every 1,000 Sq. Kms in the State as against all India average of 28.2 km.

Out of 4423 Kms, National Highways in the state, a total length of 1688 Km was handed over to NHAI for development under NHDP and 462 kms with PIU, Machilipatnam.

Important Activities by NH Wing of R&B Department (State PWD NH)

Under NHDP IV A/B two laning with paved shoulders/four laning on selected National Highways viz., two laning with paved shoulders of Kathipudi to Digamarru on NH 214 (New NHNo.216) for a length of 140 Kms, Vijayawada to

Bhadrachalam on NH 221 (New NH No.30) for a length of 70.60Kms, Digamarru-Ongole Road, NH 214A for the entire length of 255 Kms, developed by PIU Machilipatnam, MoRT&H /GoI. Four laning of NH 4 (New NH No. 69&40) for the entire length of 84Kms in A.P. and four laning of the entire length of 56 Kms of NH 63 (New NH No. 67) in A.P. to be taken up on EPC mode. Preparation of Feasibility reports are under progress for these stretches.

- Strengthening from km 10/0 to 20/0, 27/0 to 40/0, 73/4 to 77/0, 79/0 to 85/0, 93/0 to 96/0, 98/5 to 100/0, 104/0 to 121/8 & 130/0 to 136/0 including widening, reconstruction of culverts between km 84/0 to 121/0 and km 133/10, including minor bridge at km 42/6 & 44/10 of Madanapalli-Krishnagiri Road of NH 219 (New NH 42) under NH(O) for an amount of Rs.4,808.69 Lakhs. Work in Progress.
- 5 Works to a length of 337.00 Kms for Rehabilitation and upgradation of Nagarjunasagar Dam to Yerpedu section of NH 565 were sanctioned for an amount of Rs. 1403.56 Crore in the State of Andhra Pradesh under NHDP IV on EPC mode and are entrusted for execution.
- Three works on NH-67 to length of 149.50 km for Rehabilitation and upgradation of NH 67 from km589 to 641 (Mydukur to Dornala T-Junction), from Km 641/0 to 695/0 (Dornala T junction to Atmakur)& from Km 695/0 to 741/4 (Atmakur to Nellore section) in the State of A.P. to two lane with paved shoulders were sanctioned under NHDP IV on EPC mode for Rs.790.94 Crore and are entrusted.
- Widening and improvements from Ananthapuramu to Mudigubba mandal km.24/5 and km 58/0 of NH 205 (New NH No 42) in the state of Andhra Pradesh. EPC Mode NH (O). Sanctioned for an amount of Rs. 61.96 crore . Work entrusted.
- One work on NH-67 for a length of 62.55Kms. ie. from Km. 425/143 to 487/693 from Gooty-Tadipatri for widening and strengthening 2 lane to 2 lane with paved shoulders under EPC Corridor approach was sanctioned for an amount of Rs.1,5200.00 Lakhs. Work is under

entrustment.

- Widening Single lane/ Intermediate lane to 2 lane with paved shoulder from km 552/950 to 577/545 of NH 234 on EPC Mode under Corridor approach was sanctioned for an amount of Rs. 9,242.54 Lakhs. Work is under entrustment.
- Construction of paved shoulders from km15.0 to km 56.0 of Chittoor-Kurnool Road of NH 18 (New NH 40) in A.P. on EPC mode under Corridor approach was sanctioned for an amount of Rs. 8,998.29 Lakhs . Work is under entrustment.

HUDCO and 13th Finance Commission Works

Strengthening and widening of municipal and inter-city roads in Andhra Pradesh was taken up with loan assistance of Rs.700.00 crore from HUDCO during the year 2005-06. Under this scheme 347 works covering a length of 795 Km, costing Rs.471.92 crore were sanctioned and all the works were completed. 1079 Road safety interventions works at a cost of Rs.92.76 Crore were sanctioned under Road Safety interventions and all the works were completed. The expenditure incurred so far on these HUDCO works is Rs.560.15 crore.

Government of India have allocated grant of Rs.981.00 crore to the state under 13th Finance Commission for taking up works of maintenance of Roads and Bridges for the years 2011-12 to 2014-15, and the grant for R&B department is Rs.136.29 crore for 2011-12, Rs.146.97 crore for 2012-13, Rs.158.91 crore for 2013-14 and Rs.173.98 crore for 2014-15. 374 works for a length of 3427 Km costing Rs.420.90 crore were sanctioned under 13th FC. 329 works for a length of 2959 Km costing Rs.366.09 Crore were completed. 28 works costing for a length of 2831 Km costing Rs.32.83 crore are in progress.

Convergence with “MGNREGS”

The main aim of the scheme is to upgrade the roads which were improved up to GSB/WBM layer under MGNREGS to BT standard, and to identify the roads improved under MGNREGS that need to be upgraded to BT standards to create durable assets. So far 24 works costing Rs. 106.37 Crore for a length of 234 Km were sanctioned under Convergence scheme with MGNREGS. 5 works for a length of 36 Km

costing Rs 14.64 Crore have been completed. 19 works for a length of 198 Km at a cost of Rs.92.30 Crore are in progress. 2 works for a length of 15.2 km costing Rs. 5.5 crore are at tender stage. The expenditure on this scheme is Rs 19.45 Crore during 2012-13 & 2013-14.

Andhra Pradesh Road Development Corporation

The Road Development Corporation was established in the year 1998 to develop and maintain roads and other allied and incidental activities in the State.

A.P. Road Sector Project (P 096021)

The project was approved by the Government of India and World Bank for further strengthening the objectives set in the APSHP, to reduce transport cost and constraints. The cost of the project is Rs.2245.00 Crore.

Major Component of the Project

A. Road Improvement Components

I. Up-gradation and Improvement component

291.15 Kms (Five roads consisting of 7 packages with a cost of Rs.1060.00 crore) of road length is targeted for widening and strengthening in this component.

- a) Road work for Chittoor - Puttur road (CP 01) work is completed
- b) Kurnool – Devanakonda Road (KD-02): Work commenced on 01.11.2014.
- c) Mydukur – Jammalamadugu road (MJ-03 & MJ-04): This road consists of two packages i.e., MJ-03 & MJ-04, Both the works are in progress.
- d) Pedana – Nuzivedu – Vissannapeta road (PNV-08 & PNV-09): This road consists of two packages i.e., PNV-08 & PNV-09 works are in progress
- e) Kakinada – Rajahmundry Road (KR-07): Work is in progress.

II. Long Term Performance Based Maintenance Contract (LTPBMC) 4299 Km. Cost Rs.975.00 Cr. (5 years duration). Under this component, 4299 Km length of roads are targeted for maintaining for 5 years under LTPBMC. This component is divided

into two Phases. Under Phase-I 7 Packages covering a length of 1288 Km were completed. In Phase-II, 19 Packages covering a length of 3011 Km are in progress.

III. Institutional Strengthening, Road Safety & PPP Facilitation Support: Cost Rs.79.20 cr.

- Institutional Strengthening Action Plan (ISAP): M/s Lea Associates Ltd. Canada in association with LASA, New Delhi, were appointed as consultants for consultancy services on ISAP implementation. The services commenced on 07.04.2011. The consultants submitted reports on APRDC organization structure, TNA, Scoping study of Master Plan, Road fund, Status of ISO certification program & project manual and conducted four workshops so far. Institutional Strengthening cell & Working group have been formed with the officers of R&B & RDC Department for effective implementation of Institutional Strengthening Action Plan (ISAP).
- Road Financing Study (RFS): The study is to articulate the case for reforms of Road Financing in the State and recommend operating modalities and new financing arrangements to be adopted by the Government of Andhra Pradesh. The recommendations of the advisory Committee are furnished to Government for establishing Road Fund.

Consultant's recommendations on Institutional strengthening aspects such as Operationalization of APRDC, Re-organization of APRDC structure, Road Financing Options and creation of Road fund, Training, etc., were submitted to the Govt. for approval.

Road Safety Component

Under this component, Renigunta- Rayalacheruvu Road has been identified as Demo Corridor for improving Road safety with the objective of implementation of Road accident mitigation activities through multi sector approach. The work commenced on 1.3.2014 and is scheduled to be completed by 28.2.2015.

Civil works commenced and equipment procurement is in advanced stage. Certain Black spots in CRN in 5

districts have been identified and works entrusted for improvement of the same.

Road Management System (RMS):

It is proposed to establish Road Management System for optimum utilization of funds in prioritization of road improvement and maintenance. The duration of this system is projected for 6 years so as to address effectively various deficiencies in maintenance and management of State Roads. Consultants were appointed and work is in progress.

Widening of roads to four lanes & Bridge Works (On Design, Build, Operate and Transfer basis) under Public Private Partnership

The important objectives are:

Construction of new roads, relieve congestion, improve commuter access and reduce travel time Promotion of Private Participation in Infrastructure, to ensure safe roads, and to improve fuel efficiency.

Public Private Partnership Scheme:

Public Private Partnership means an arrangement between Government / Statutory entity / Government owned entity on one side and a private sector entity on the other, for the provision of public assets and /or public services. PPP functions through investments being made and/or management being undertaken by the private sector entity, for a specified period of time, where there is well defined allocation of risk between the private sector and the public entity. In PPP the private entity receives performance linked payments that conform (or are benchmarked) to specified and pre-determined performance standards, measurable by the public entity or its representative.

1. A second bridge across river Godavari near Rajahmundry including approaches connecting EGK road under (PPP) project was commenced at Rs.88 Cr. 89% of the work has been completed.

2. Concession agreement was concluded on 23.07.2010. Work is in progress on the Narketpally-Addanki -Medarametla Road (Rs.1197 Cr). Work is substantially completed and toll collection commenced from 6-03-2014. Out of 212.50 Km of road length, 124.54 Km is in Andhra and 87.96 Km is in Telangana state.

Annuity Works

A. Nine road works with a length of 163.30 Kms at a cost of Rs. 393.55 Cr. were sanctioned and all works were completed and are in Operation & Maintenance state.

Core Network Roads under Non-Plan

The Maintenance & Management of 6800 Kms of High Density Corridors designated as Core Road Network is entrusted to APRDC. An amount of Rs.100.00 Cr was allocated during 2014-15 for maintenance of Core network roads. 51 works are completed, 50 works are in progress and 4 works are in tender stage.

Core Net Works sanctioned under Plan

Government allocated Rs. 225.65 Crore during the financial year 2014-15 for these works. 114 works comprising of widening of Core net roads, construction of bridges etc., were sanctioned during 2012-13 and 2013-14. 66 works are in progress, 7 works are in Tender stage and. 25 works are in estimate stage.

PPP Projects on State Roads in the Pipeline

Four road works with a total length of 425.30 Km and an estimated cost of Rs.2595.00 crore are in the pipeline. Feasibility studies through consultants for 5 roads is in progress.

PANCHAYAT RAJ ROADS

The total length of the rural roads under Panchayat Raj engineering department was 76,894 Kms in the State as on 01-04-2014. The surface details of the road length are (CC Roads + BT roads) 23,344 Kms, WBM 10,421 Kms, Gravel 19,636 Kms and Earthen 23,495 Kms.

During the year 2014-15, 435.55 Km road length was completed duly incurring an amount of Rs.76.04crore. The annual periodical maintenance of rural roads for the year 2014-15 is completed for 703.00 km incurring an expenditure of Rs.48.39 crore.

TRANSPORT

Road Transport plays a prominent role in the economic development of the State. The Transport department plays a key role in granting licenses to drivers, registration of motor vehicles, issue of transport permits, levy and collection of motor vehicle tax, enforcement of vehicle violations, and acts as nodal agency for road safety and motor vehicles pollution control.

The State as on 31-12-2014 had a registry of 76.41 lakh vehicles. About 77.9% of the vehicles on road are two wheelers, followed by cars, tractor trailers, three wheelers, buses and goods carriage trucks. Details about registered motor vehicles on road are shown in Annexure 7.5.

The transport department collects revenues from the issue of driving licenses, registrations, permits and taxes. The growth of revenue is shown in Table 7.8.

Table 7.8: Revenues of Transport department

Year	Total Revenue (Rs. Crs)
2011-12	1473.54
2012-13	1602.12
2013-14	1517.83
2014-15 (up to December 2014)	1313.97

Source: Transport Department

All the services in the Transport department are fully computerized and the department provides multiple accesses to its services through the Internet, e-Seva centers and AP online in addition to the department's offices with a view to increase accessibility transparency in the functioning of the department.

Enforcement

The Transport Department has been making a conscious effort to enforce the provisions of the

Motor vehicles Act by actively booking cases for violation of various provisions of Motor Vehicles Act, 1988, A.P. Motor Vehicles Taxation Act and the Rules made there under. Officers of and above the cadre of Assistant Motor vehicles Inspectors are empowered to book cases for violation of the provisions of the M.V. Act and AP M.V. Taxation Act. Active enforcement enables better compliance of registration and licensing conditions by operators. In the year 2014-15 (upto December, 2014), the department through active enforcement has been able to mobilize revenue of Rs.162.36 crore.

Road Safety

- The expansion in the road network, urbanization and increased vehicular strength in the Country is general and Andhra Pradesh in particular has led to several road accidents. The Government is aware that Road Safety is a multidimensional and multisectoral problem and therefore needs a coordinated inter-disciplinary approach. The Transport department has been involved in regular efforts to effectively coordinate with all the stake holding departments. In view of the importance attached to road safety at the highest level all the support that is required for achieving the goals in terms of policy, legislation, resources etc., are provided.
- As a part of creating awareness among the citizens, the transport department is regularly conducting road safety awareness campaigns in all the districts. Road safety awareness is also made mandatory for all persons. The transport department has initiated a number of measures under the Road Safety Programme called SAFAR – Safety Always for All Roads and the programme is being continued. The 26th Road safety week is organized in the State from January 19th to 25th January, 2015 with the theme “Safety is not just a slogan, it's a way of life”.
- The Roads and Buildings department is constantly undertaking improvement of black spots which are accident prone. Under the National High Way program linkages are being done with the hospitals to serve as traumatic care centres.
- Active enforcement is being done by the Police and Transport Departments. A large number of

gadgets such as laser guns, breath analyzers, surveillance cameras and cranes have been acquired to increase the enforcement work with a view to mitigate the number of road accidents in the state, the Transport Department has initiated a number of measures.

- Streamlining the Licensing system of drivers.
- The department has introduced computer based learner license test to assess the knowledge of drivers. In addition, the department has introduced slot booking system through e-seva, RTO office counters and the internet for scheduling the learner license test and the driving test.
- Driving test has been made rigorous through strict testing on driving tracks. All Districts have a driving test track.
- Heavy motor vehicle driving schools are being made register online for all candidates undergoing training. Only those registered with the department online would be permitted to take a test for obtaining a heavy motor vehicle license.
- Enforcement by Police and Transport departments has been made more intensive to book violations under the MV act (with reference to driving and overloading of goods and passenger vehicles)
- Plying of contract carriages are being constantly monitored and checked for carrying commercial goods at the cost of the safety of the passengers.
- Sub-inspectors of police have been authorized to check all visible offences.
- Auto rickshaws are prohibited on the national highways.
- Driving licenses of drivers involved in fatal and grievous accidents are being suspended.
- District road safety committees have been reconstituted with District Collector as Chairman for effective monitoring and taking remedial measures.
- Laser guns have been procured for detecting over speeding vehicles. Interceptor vehicles fitted with laser guns, breath analyzers and surveillance cameras and pollution testing equipment have been provided to Visakhapatnam, Vijayawada and Chittoor district to check violations.
- Six Heavy duty cranes have been supplied to the police department to enable removal of stranded and accident vehicles on the important national highways.
- The health department is identifying a large number of hospitals to serve as traumatic care centres in addition to providing immediate emergency assistance through 108. This facility enables precious lives to be saved with minimum delay by deploying 225 ambulances spread across highways. The average reach time (from base to scene) is 15-20 minutes and the 108 ambulances are available for every 30-40K.ms. The injured are shifted by 108 ambulances to private hospitals community health centres, area hospitals or corporate hospitals depending on proximity and the facilities available for particular emergency. In case of major accidents where scanning is necessary to determine injury, 108 service accepts referral cases.
- An empowered committee has been constituted under the chairmanship of Principal Secretary to Government (Transport) to implement the Road Safety Action Plan (World Bank scheme) involving all the line departments.
- Road Safety Council under the Chairmanship of Hon'ble Chief Minister has been constituted at state level to provide leadership and direction at the highest level in view of the magnitude of the problem.
- Instructions have been issued to all the district officers to check contract carriages on regular basis and to ensure that all ticket booking agents obtain the required licenses. Government is taking measures towards road safety improvement. Ultimately road safety is a concern of each and every one in the state.

Pollution Control

The transport department has taken steps to upgrade and net work all the pollution testing stations that were licensed in the private sector to be compatible to new testing norms prescribed in Central Motor

Vehicles Rules, 1989. 101 Pollution testing stations were networked so far.

In order to control vehicular pollution, public service and private service vehicles of more than 15 year old are prohibited in Visakhapatnam area. Restriction imposed on the number of three wheeled contract carriages (Auto rickshaws) in Vijayawada and Visakhapatnam. No new permits are issued to three wheeler contract carriages in these two cities. Any replacement of auto rickshaw is permitted with LPG or CNG operated one. In the state of AP, BS III compliant vehicles are permitted to be sold and registered.

ANDHRA PRADESH STATE ROAD TRANSPORT CORPORATION

The transport needs of the people in the state were first met by a wing of Nizam Railways in June, 1932 with 27 buses and 166 staff, mainly looking after the needs of passengers connected to Railway Stations. Later on, road transport sector was under the department of Hyderabad State from 1st Nov.1951 and with the re-organization of States, a separate corporation was initialized in Andhra Pradesh State w.e.f.11th January, 1958.

The corporation initially had a fleet strength of 609 buses (16 depots) with a staff of 5,081 in 1958. The needs of transport have increased, forcing implementation of nationalization and increase in fleet strength year after year to meet the needs of traveling public as the State has been growing on all fronts since then. The fact that APSRTC is the largest state road transport undertaking in the country was acknowledged both by limca book of records (2000), and the Guinness Book of World Records (31st October, 1999).

The corporation has 4 Zones, 12 Regions and 123 Depots with a total fleet strength of 12,165 buses on 3,956 routes. There are 426 bus stations located in the state catering the public needs. It operates on about 45.08 lakh kms and transports about 62.73 lakh passengers daily with a workforce of 62,015 employees. The corporation has 4 zonal workshops and 4 tyre retreading shops are located at Vijayawada,

Nellore, Kadapa and Vizianagaram.

Product Achievements

The corporation has introduced trend setting improvements in the quality of travel in rural and urban areas by providing newly designed ordinary coaches 'Pallevelugu' for rural passengers; 'Garuda', 'Garuda Plus', 'Indra AC & Vennela AC Sleeper' for long distance passengers; 'Seethala Hamsa', 'Metro Deluxe' and 'Metro Express' for urban passengers, and 'Sapthagiri Ordinary' for ghat road passengers. JnNURM Buses were also introduced for urban passengers in major cities like Vijayawada, Visakhapatnam, and Tirupati. The Corporation has introduced on-line ticket booking system for the convenience of passengers.

Special Achievements

The Corporation bagged National Awards for 1. Highest Tyre Performance, 2. Fuel efficiency and 3. Productivity

Among the STUs in India, APSRTC stands top in physical performance in vehicle productivity and resource utilization indicators like vehicle utilization, fleet utilization, average number of passengers transported, fuel efficiency, tyre life, break down rate and accident rate.

The Corporation is one of the largest employers in the state having 62,015 employees. The staff ratio per bus has been under control at 5.58 and employee's productivity has registered 66 KMs during 2014-15 (upto Dec 2014). The performance of APSRTC from 2007-08 to 2014-15 (upto Dec 2014) is given in Annexure 7.6.

AIRPORTS, NON METRO AIR PORTS

Government has entered into Memorandum of Understanding (MoU) with Airports Authority of India for upgradation/ modernization of non-metro airports at Vijayawada, Tirupathi, Kadapa and Rajahmundry airports. There is a scope for improvement of Air linkage is essential to fast development in the state.

As per MoU, Government of A.P. will provide

additional land required for expansion / up-gradation of the airport on free of cost to AAI besides supply of water, electricity and security arrangement free of cost for 5 years.

Vijayawada Airport

The existing operational airport belongs to Airports Authority of India, Government of India. The existing land of the present airport is in around 536.19 acres. The Airports Authority of India has informed that they have plans to construct a New Passenger Terminal Building with adequate capacity along with approach road, car park, etc., in front of new apron area, where sufficient land is not available at present. AAI is waiting for the possession of land to take up the work of New Terminal Building. However, as per Master Plan, AAI has already constructed New Apron and subsequently extended the Runway from 5725 ft to 7500 ft for operation of A-320 type of Airports.

Government accorded approval to hand over land to an extent of Acres 491.92 cts. (including private land to an extent of Acs.433.27) in Gannavaram Mandal of Krishna District to the Airports Authority of India free of cost and free from encumbrances, for upgradation / expansion of Vijayawada Airport, as per the MoU entered with the Airports Authority of India. Sanction is accorded for an amount of Rs.110.91 crore to meet the expenditure towards acquisition of lands (Patta lands) for expansion of Vijayawada Airport under Phase-I and also Government has issued Draft notification proposals for the above lands. An amount of Rs.52.61 crore has been incurred towards land acquisition so far.

Recently AAI has requested to make available land an extent of Ac.698.00 for expansion of Airport and the Collector, Krishna District has been requested to initiate land acquisition process.

Tirupathi Airport

The existing airport is in an area of 312 acres and belongs to Airports Authority of India. The AAI has proposed to upgrade the airport to International standards. Though no MoU was entered with AAI, GoAP agreed to provide 718 acres of land and 690 acres in Phase-I free of cost. State Government has handed over advance possession of 293 acres located

in Renigunta Mandal. Administrative sanction was accorded to incur an expenditure of Rs.100.00 crore towards land acquisition & shifting of utilities etc. are

The Airport Authority of India, New Delhi has proposed for up-gradation of Tirupathi Airport and the total requirement of additional land is 1165.00 acres (approximately) and the Collector & District Magistrate, Chittoor District was requested to initiate land acquisition process for the additional land also for development of Tirupathi Airport.

Extension of the runway and new terminal building are planned by AAI, Instrument Landing System is already installed. An amount of Rs.91.45 crore has been incurred towards land acquisition so far.

Rajahmundry Airport

This is an existing operational airport in an area of 365.49 acres. GoAP signed MoU with AAI on 14.02.2007 for up-gradation & operation of bigger aircrafts such as B 737 – 800 / A320 etc. The new Domestic Passenger Terminal Building for 150 per hour capacity and new fire station cum Technical Block cum Control tower are completed. The new terminal building is also opened for passengers. The District Collector, East Godavari has submitted proposals for Rs.274 crore for land acquisition and also taken up the process of acquisition of land for development of the airport

Kadapa Airport

This is an existing non-operational airport under the control of Airports Authority of India. Government of Andhra Pradesh entered MoU with AAI on 30-03-2007 for up gradation and to operationalizing the airport. The AAI requested additional land of 476.33 acres, of which 457.83 acres has already been handed over to AAI. The AAI has completed the runway works, Taxi way, Apron, Compound wall and Allied works. The new prefabricated terminal building, fire station cum control tower and allied works are completed. AAI is requesting for providing water, security & electricity.

Visakhapatnam Airport:

The old Visakhapatnam airport is under the control of the Indian Navy. There is demand from the people representatives as well as from the Public to improve

the facilities in the Airport and develop the Air ports as there is likelihood of operation of International flights from Visakhapatnam Airport in the near future. This Airport is at present functioning 12 hours on each day i.e. 8-00 AM to 8-00 PM. The Airport Authorities have requested the Govt. of AP to take up the issue with Ministry of Defence to provide 24 hours watch so that it would facilitate the International Airlines Management to operate the flights according to their schedule. The Hon'ble Minister for Defence, GoI, New Delhi has been requested for extension of ATC watch hours to 24 x 7 and sanction of additional manpower. The watch hours of INS Dega at Visakhapatnam airport has been extended to 22.55 hours for three days in week from 1st October, 2012 for duration of six months to meet the requirements of the proposed operations of Silk Air.

Now the Airport Authority of India, New Delhi has proposed for setting up a new Greenfield Airport at Bhogapuram Mandal, Visakhapatnam and total land requirement would be 4500-5000 acres (approximately) to facilitate two parallel runways for simultaneous operation and the Collector & District Magistrate, Visakhapatnam District was requested to initiate land acquisition process for the additional land also for development of New Greenfield Airport at Bhogapuram, Vishakhapatnam District.

Regional Airports

There are proposals for development of No-frills airports at Nagarjunasagar, Guntur District and Donakonda, Prakasham District and to develop Regional airports at Kuppam, Chittoor district, Dagadarthi, Nellore District and Orvakallyu, Kurnool District.

SEA PORTS

Andhra Pradesh has 974 Kms long coast line with a major Port at Visakhapatnam under Government of India control and 14 non-major ports under State Government. Recent trends show that India's trade is growing especially in dry bulk cargo traffic with China and Asian countries leading to a substantial increase in cargo in the East Coast.

Ports offer tremendous potential for development

and for the growth of a wide spectrum of maritime activities such as international shipping, coastal shipping, ship repairs, fishing, captive ports for specific industries, all weather ports, tourism and sports etc.,

Gangavaram Port

This Port is located in Visakhapatnam district. It is being developed with private participation as a Multipurpose all weather port to become the deepest port (21m) with round the clock operations and state-of-art cargo handling equipment. All statutory clearances were obtained and Phase I works are completed. The operations of the port commenced in April, 2009. Presently Phase II development works are in progress and expected to be completed soon.

During 2013-14, the Port handled 158.10 lakh Tonnes of Cargo and realized revenue of Rs.570.47 crore. The Government received Rs.11.55 crore as Government share. The Port handled 156.20 lakh tonnes of Cargo and realized revenue of Rs.616.73 crore in 2014-15 (upto December, 2014).

Kakinada Anchorage Port

The Anchorage Port is a sheltered Port in 17 Kms length of Hope Island. Anchorage Port handles about 150 to 200 Sea going ships every year. There are about 90 private owned steel barges with a total capacity of 3,000 tonnes employing 2,000 persons. About 3,000 workers are working as shore labour and other labour in the ships. The port handled 30.06 lakh tonnes cargo and realized Rs.8.72 crore of revenue on cargo and earned total revenue of Rs.21.63 in 2013-14. The Port handled 20.14 lakh tonnes of Cargo and realized revenue of Rs. 16.45 crore in 2014-15 (upto December 2014).

Kakinada Deep Water Port

The Deep Water berths developed by the Government were privatized in 1999 and handed over to M/s. International Sea Ports Ltd., for operation and maintenance for 50 years. A Special Purpose Vehicle (SPV) called M/s. Kakinada Seaports Limited (KSPL) was formed for operating and maintaining the Port.

The port handled 134.04 lakh tonnes of cargo and realized Rs.356.09 crore revenue in 2013-14. The

Government received Rs.78.42 crore as government share. The port handled 134.26 lakh tonnes of Cargo and realized revenue of Rs. 348.38 crore in 2014-15 up to December, 2014.

Rawa Port

Rawa port is located in East Godavari District and has an off shore single buoy mooring system for collecting off shore oil tankers for transporting to other ports. The Single Buoy Mooring (SBM) at Rawa port was installed by M/s Cairn Energy (I) Ltd as Acceleration Company. The port handled 12.48 lakh tonnes of cargo and realized revenue of Rs.4.04 crore during 2013-14. The Port handled 9.13 lakh tonnes of cargo and realized revenue of Rs.2.54 crore in 2014-15, up to the end of December, 2014.

Krishnapatnam Port

This port is in Nellore District and is the first Greenfield port that is being developed by Krishnapatnam Port Company Ltd., (KPCL) on Build, Operate, Share and Transfer (BOST) basis under PPP over a period of 30 years. Phase-I of the port is developed with an estimated investment of Rs.1,200 crore and will have three berths. The port started commercial operations from March, 2009.

The port handled 251.92 lakh tonnes of cargo and realized revenue of Rs.1095.34 crore in 2013-14. The Government received Rs.28.46 crore as Government share. The Port handled 292.22 lakh tonnes of cargo and realized revenue of Rs.1263.08 crore in 2014-15 up to December, 2014. The port is presently under operation with 10 berths. Construction of additional berths under Phase-II is in progress.

Machilipatnam Port

The Government of Andhra Pradesh is developing the Machilipatnam port in Krishna District under PPP Mode on Build, Own, Operate and Transfer terms (BOOT) basis. The Revised Concession Agreement was concluded with M/s Machilipatnam Port Limited on 07-06-2010 with a concession period of 30 years (extendable by 10 years + 10 years). Revised DPR and master plan for Machilipatnam Port is under examination. Land acquisition is in progress.

COMMUNICATIONS

There were 10,320 Post Offices in the State, of which 59 are Head Post Offices, 8 are Mukhya Dak Ghars, 1,517 are Sub Post Offices and 8736 Branch Post Offices as on 30th November 2014. Details of District wise post offices data are shown in Annexure 7.7

There were 2,461 Telephone Exchanges, 9.07 lakh land line connections, 37407 public telephone connections (Local +STD), 65.61 lakh wireless subscribers (pre & post paid) and 40,375 wireless subscribers WLL (pre & post paid) up to November 2014 in the state. District wise status of telephone connections are given in Annexure 7.8

BANKING

There were 6,200 scheduled bank offices at the end of September, 2014 in the State. The aggregate deposits amounted to Rs.1,73,379.40 crore and the total bank credit extended was to the order of Rs.2,08,008.14 crore up to September, 2014. The credit-deposit ratio of the banks in the state is 119.97% as against RBI norm of 60%.

The total priority sector advances to Net Bank Credit (NBC) was Rs.1,50,245 crore (74.67%) against RBI norm of 40%. Agricultural advances to Net Bank Credit were Rs.99,555 crore (49.48%) against RBI norm of 18%. Non-Farm Sector Advances was Rs.27,834 crore which accounted for 13.83% of NBC. Other priority sector advances are at Rs.22,856 crore forming 11.36% of NBC. Profile of banking institutions in A.P as on 30-09-2014 is given in Annexure 7.9.

TOURISM

Andhra Pradesh is recognized for its legendary dynasties, its most revered temples, lacquer toys and beautiful weaves, rich literature and vibrant arts of Kuchipudi dance. This is home to a number of holy pilgrim centres, attractive palaces, museums, ports, rivers, beaches and hill stations. Andhra Pradesh with more than 300 tourist locations attracts the largest number of tourists in India. More than 7.5 million visitors visit the state every year.

Andhra Pradesh Tourism Development Corporation (APTDC)

APTDC, the State Government undertaking was incorporated in 1976. It continues to register significant growth since last few years with focus on creation of tourism infrastructure and products.

APTDC continues to strive for promotion of new tourism products such as Eco-Tourism, Beach Tourism and Cruise Tourism. The river Cruise tourism to Pattiseema and Papikondalu on river Godavari, Nagarjunasagar to Srisailam on Krishna river have become immensely popular.

APTDC operates 28 tour packages including on demand tours. The transport fleet is operated through network of 8 tour promotion scheme agents, authorized booking agents and 10 Central Reservation Offices.

Currently, the corporation runs a chain of hotels and restaurants providing quality accommodation and food for tourists at important locations. 45 hotels with around 973 rooms and 2039 bed strength in prime locations fostering homely ambience packages and an impressive fleet of 52 buses that connect important tourism locations within and outside the state. The water fleet with 75 boats and launches provide pleasure cruises and river cruises at affordable prices. The corporation runs Sound & Light shows, river & Lake cruise and pleasure rides making tourism a pleasurable experience.

The activities of the Corporation can be classified broadly into the following:

- Hospitality (Hotels & Catering Units)
- Transport (Guided & Package Tours)
- Water Fleet (Leisure Cruises & Pleasure Boating)
- Sound & Light Shows
- Eco-Tourism
- Construction of new tourism products
- Tourism Asset management
- Conduct cultural festivals

While the primary focus of APTDC remains aggressive in developing a world-class tourism infrastructure, recently, it has ventured into new

tourism related fields like, Heritage, Pilgrimage and Eco-tourism etc.

Growth of APTDC

APTDC has registered a systematic growth both in terms of revenue and tourist arrivals over the years. The thrust of the Government of Andhra Pradesh on development and promotion of tourism has enabled this. In line with the policy of the Government, APTDC has focused on development of tourism infrastructure that has led to promotion of new tourism products and successful functioning of tourist centers. 15.23 lakh tourists visited the state accruing a revenue of Rs.71.39 crore during 2013-14.

Tour Packages

APTDC has designed a number of Tourists packages to different destinations covering temples, hill resorts, beach resorts, heritage sites both in and outside the state. A modern transport fleet of over 55 buses including Twin Deck Bus service for local sightseeing has been developed for this. APTDC is the first corporation in the country to introduce Volvo coaches that set a new level in tourism travel. The transport fleet is supported by a chain of central reservation offices in Hyderabad, Tirupathi, Visakhapatnam, Bengaluru, Chennai, Kolkatta and Shirdi supported by a network of tour promotion agents. APTDC also enters into strategic alliance with major tour operators. These tours connect major hubs such as Chennai, Bengaluru, Shirdi, Tirupathi, Hyderabad, Coimbatore, Mangalore and Goa making South India a seamless travel destination.

Haritha Hotel Chain

The “Haritha Hotel Chain” with 45 hotels (973 rooms) located in important tourist centers provide the right ambience and quality that tourists demand. All APTDC hotels provide a restaurant, AC and non AC accommodation and in major locations a swimming pool. Few places where hotels & resorts are located include Vijayawada, Visakhapatnam, Jungle Bells, Araku Valley, Rishikonda, Tirupati, Horesely Hills, Kuppam, Kurnool, Dwaraka Tirumala, Srisailam, Nellore, Kadapa, Srikalahasthi, Orvakallu and Dindi including new hotels and resorts at Srikakulam, Chinthapalli, Kakinada and Thummalapenta and Tirupati..

Wayside Amenities

APTDC has taken up development of wayside amenities along highways to provide better facilities to highway travelers like Restaurant, Washrooms, Parking area, Souvenir shop and Children play area at Alankanapaly, Ontimitta, Gopavaram, Thallapaka, and Lepakshi have been completed and commissioned. Wayside amenities development at Nagari, Udayagiri and Kalikiri have been taken up and works are in finishing stage.

Water Fleet

APTDC owns the large water fleet of 86 small and big boats. The corporation operates leisure based cruises and water sport boats at different lakes and rivers of the State and also Para sailing at Srisailam, Vijayawada, Rishikonda and Mypadu. The vessels NagaSiri and Vijayasiri are very popular for leisure cruises.

APTDC water fleet strength includes FRP boats, Launches, Parasailing boats and large vessels. The Corporation operates 8 cruises in Godavari and Krishna rivers. New catamaran type boats and the latest Speedboats were introduced at various water bodies to strengthen water fleet operation. APTDC operates pleasure rides at Nellore, Srisailam, Vijayawada, Hope Island (Kakinada), Vishakhapatnam (Bay of Bengal), Rajahmundry and Brahasgaram.

river Cruises

Most popular river Cruise on river Godavari between Pattiseema and Papikondalu is being operated that is attracting large number of tourists. The introduction of the river cruise on Godavari has motivated many private entrepreneurs to operate similar cruises on the river. The cruise offers a pleasurable experience of a four hours boat ride and brings the tourists back to Pattiseema in the evening. A two day package with night stay intended camp along the banks of the Godavari near Kollur enroute to Papikondalu is also arranged for tourists. A package tour was introduced in river Krishna from Nagarjunasagar to Srisailam. A Twin deck cruise (120 seater) (Haritha) with an air-conditioned lower Deck is presently operating in Godavari river in addition to FRP boats.

Houseboats

In addition to pleasure cruises, 3 air-conditioned house boats are being operated, which offer an experience similar to the backwaters of Kerala. The House boats are equipped with two bedrooms and a deck to laze through the day along the serene and picturesque Godavari in East Godavari district.

Ropeway

The Ropeway facility was established and commissioned in January 2005 at Srisailam Pathalaganga gives good revenue of an average of about 10 to 12 Lakh per month to the corporation. This facility benefited many local people with direct and indirect employment. Boating revenue also increased as more tourists got down at Pathalaganga to take the boat rides. This has become a major attraction for Srisailam pilgrim tourists also.

Sound and Light Shows

Sound and Light show organized at Chandragiri palace near Tirupati to showcase the historic and heritage monuments of Chandragiri Fort to tourists is immensely popular. These shows have recorded narrations (English, Hindi & Telugu) along with imaginative use of music, sound and light effects—creating a dramatic history of the forts.

Lord Balaji Darshan Air Package Tour

APTDC in association with Jet Airways and Spice Jet has launched Lord Balaji Darshan - air package tour. The Package Tour includes Hyderabad – Tirupati – Hyderabad Airfare, Balaji Darshan, Transportation, A/c Accommodation at Tirupati, Food, Guide Services, Local Temples Visit.

Single Window Service

For the first time in India, APTDC has introduced Customized Tours in the year 2009 to fit the specific needs of tourists. The tour is customized on the requirement of choice of activities of the tourists and APTDC helps plan the entire itinerary to provide a seamless tour experience. Services offered in package include- transport, accommodation, sightseeing & visits, escort services, shopping, local cuisine, local events. Places not shown to routine visitors are shown; sightseeing places specifically insisted by the tourists are taken care of and includes entry tickets

with specific taste involved for local cuisine.

Online Booking is extended to general public facilitating the tourist to book APTDC properties online. For more details please log in to www.aptdc.gov.in. APTDC also taken up a massive Social Media/On- line Campaign through Facebook, Twitter, Youtube etc. It has a Toll free No: 1800 425 45454 which operates round the clock.

Mega destinations and secondary destinations

APTDC has focused development in and around the three primary destinations of Vijayawada, Visakhapatnam and Tirupathi. In addition, development is also centered around the 3 secondary destinations like Kakinada, Kurnool and Nellore. The development of infrastructure is based on developing destinations and tourism circuits with a funding mix from the Government of India and State Government.

Eco-Tourism Initiatives

The Corporation has taken up the initiative of identifying potential Eco-tourism spots in the state. It has successfully implemented popular eco-projects like the Belum caves, revamping of Borra caves, an exotic Jungle destination by name 'Jungle Bells' at Tyda, the illumination of Ettipothala waterfalls and development of Bhavani river Island.

Community Based Eco-tourism

Andhra Pradesh is encouraging community based Eco-tourism in association with Forest department, under their Community Forest Management program by providing opportunities for jungle walks, forest retreats, wild life tourism, bird watching and trekking.

Maredumilli (East Godavari District), Nelapattu (Nellore District), Mamandur, Talakona, Nanniyal (Chittoor District), Balapalli (Kadapa District), Ettipotala (Guntur District), Kambala Konda (Visakhapatnam District), Orvakallu (Kurnool District) Coringa Wild life sanctuary (East Godavari District) are few of the places identified for Eco-tourism. Transport to and from the destination is provided by APTDC. Vana Samrakshana Samithi (community) provides accommodation, guide services and food facilities. Forest department

provides the infrastructure under Community Forest Management (CFM).

Tourism Projects

A. Completed Projects

- Development of Adventure Tourism at Puligundu, Chittoor District
- Development of Kolleru Lake Resort at Gudivakalanka, West Godavari District.
- Development of Ramayapatnam as Beach Destination Prakasam District
- Development of Beach Destination at Baruva, Srikakulam District
- Establishment of Institute of Hotel Management Catering Technology and Applied Nutrition society at Tirupati
- Construction of Eco-Tourism Centre at Orvakallu, Kurnool District.
- Construction of Beach Resort at Kakinada – Completed
- Construction of Beach Resort at Tummalapenta- Completed.
- Construction of IITM, Nellore.
- Development of Eco-Tourism facility at Coringa in East Godavari District

B) On-going projects

- Development of river Cruise Circuit on river Godavari & Krishna
- Development of Buddhist Circuit at Nagarjunasagar, Chandavaram and Undavalli
- Development of Kolleru Lake in West Godavari
- Development of Eco-Park at Nellore Tank, Nellore
- Placing Touch Screen Kiosk at important tourism infrastructure
- Construction of Budget Hotel at Arasavalli – Work in progress
- Development of Temple circuit in East Godavari District.

- Development of Tourist Circuit in Guntur District.
- Development of Heritage Tourist Circuit in Ananthapur District.
- Development of Visakhapatnam-Bheemunipatnam Beach Corridor mega circuit.
- Development of Gandhi Hill at Vijayawada.
- Development of Konaseema-Bhadrachalam-Papikondalu Mega Circuit.
- Development of Tourist Circuits in East and West Godavari District.
- Development of Srikakulam Mini Tourist Circuit.
- Setting up of SIHM at Kakinada.
- Development of Kurnool Tourism Circuit.
- Development of Tourist Circuit in Pileru, Chittoor District.
- Development of Wayside amenities at Kalikiri, Chittoor District.
- Development of Wayside amenities at Nagiri, Chittoor District.
- Development of Ameen-Peer Dargah at Kadapa.

All the above projects are ongoing and in various stages of progress. Out of the above, the prestigious projects to the Corporation would be development of Visakhapatnam- Bheemunipatnam Beach Corridor Circuit Project and Development of Konaseema-Papikondalu –Bhadrachalam Mega Tourism Project as Mega Destinations. Once completed, these projects will be the jewels in the crown of APTDC.

Projects prioritized

The following Projects are prioritized for grant of Central Financial Assistance (CFA) during the year 2014-15.

1. Mega Circuits

- Kondapalli – Ibrahimpatnam and Surrounding areas Mega Circuit.

2. Circuit

- Guttikonda Bilam Cave – Piduguralla – Kondaveedu Fort – Kotappa Konda Temple Circuit, Guntur District.
- Buddhist Circuit, Srikakulam

3. Destinations

- Sound & Light Show and area development in Srikalahasti.
- Development of Perupalem Beach in West Godavari District.
- New Projects Sanctioned By the State Government for the year 2014-15
- It was decided to take up the following new tourism projects which have been prioritized by the Tourism Development to be taken up through APTDC.
- Completion of Budget Hotel at Tirupati.
- Completion of Budget Hotel at Arasavalli.
- Refurbishing of Resort at Bhavani Island, Vijayawada.
- Refurbishing APTDC Guest house at Kuppam, Chittoor District.
- Procurement of House Boats and development of Boating facilities at Bhavani Island.

INFORMATION TECHNOLOGY AND COMMUNICATIONS

The IT turnover in the State of Andhra Pradesh stands at Rs. 1,279.64 cr (FY 2013-14), which is about 0.28% of the GSDP of the State. Post Bifurcation of the State, the State Government of Andhra Pradesh envisaged Andhra Pradesh to be “The Sunrise State of India”. With an aim to develop Andhra Pradesh as the preferred IT Destination not only in India, but also in the entire Region, Government of Andhra Pradesh taking proactive initiatives to re-build the State.

After the formation of the New State, ITE&C Department developed a Blueprint Document – “Re-Imagining Andhra Pradesh – role of e-Governance,

Electronics and IT” for development of Electronics & ICT Industry in the State. The document laid out a vision:

“To develop Andhra Pradesh as a knowledge society of global repute, with a focus on enhancing the quality of life of its citizens, through high-quality education and healthcare, increased productivity in agriculture and allied activities, creation of requisite employment potential by promoting electronics and IT industries, and above all, by providing good governance.”

Significant, consistent and planned efforts have to be made to attain the vision of the state. Given the advantage in terms of manpower and entrepreneurship available in the State, IT & Electronics Sectors are identified as the important Growth Engines. Besides this, e-Government and e-Governance are going to play a pivotal role in establishing the promised Good Governance.

Taking cues from the Blueprint Document, the Government has drafted a Triad of Policies – namely, IT Policy 2014-2020, Electronics Policy 2014-2020 and Innovation & Startup Policy 2014-2020.

Key Targets

- Create an additional direct employment of 9 lakhs (5 lakhs in IT and 4 lakhs in Electronics)
- 5% share in National Exports of Software, i.e. about Rs. 43,000 cr.
- To attract Investments
- Rs. 12,000 cr in IT
- Rs. 30,000 cr in Electronics
- Be FIRST in India in Quality & Quantity of e-Services
- Be known as the Silicon Corridor of India
- Take Gigabit to all Villages
- Make at least one person e-literate in every household
- Establish 100 Incubators / Accelerators
- Incubate about 5,000 Companies & Startups
- Develop 5 million sqft. of Incubation Space
- Mobilize Venture Capital of Rs. 1,000 cr. for Innovation

- Foster Innovation Culture
- Create at least one home grown billion dollar technology startup

To achieve the envisaged results in a time-bound and coordinated manner, Three Missions are being constituted, namely, e-Governance Authority, Electronics & IT Agency and Innovation Society with an estimated budget outlay of Rs. 315 crore for the year 2014-15.

The growth of IT in Andhra Pradesh has been nominal in the recent past. Details of the key IT Destinations of the State and their corresponding IT Turnover details are shown in Table 7.9.

Table 7.9 Software Turnover during 2013-14

Center	SEZ	Non SEZ	STPI	Total
Visakhapatnam	125.70	700.00	307.75	1,133.45
Vijayawada	14.53	22.70	17.27	54.50
Kakinada	51.37	16.57	23.56	91.50
Tirupati	NA	NA	0.19	0.19
Total	191.60	739.27	348.77	1,279.64

Source: Commerce & Export Department, Software Technology Parks of India, Hyderabad

Key Initiatives

Infrastructure

ITIR Visakhapatnam

Taking cues from the ITIR Policy Resolution 2008 by GoI, GoAP had submitted a proposal to develop Information Technology Investment Region in an area of 40.4 sqkm in Visakhapatnam Region. The Region would have about 16.5 sq km of processing area and 23.9 sqkm of non processing area. GoAP submitted the proposal to DeitY for the development of ITIR in Visakhapatnam with a total outlay of Rs. 10,357 cr. Currently, the proposal is under active consideration by the Central Government. Once the ITIR is fully operational, it would create a employment opportunities to about 3.7 lakh IT Professionals in the next 25 years.

Electronics Manufacturing Clusters

As per the targets set in the Electronics policy, the Government is aiming to develop about 20 EMCs across various parts of the state by 2020. GoAP had

submitted a proposal to develop EMCs at Kakinda to Deity. In addition, ITE&C Department requested APIIC to prepare DPR for EMC at Visakhapatnam as well. Developing these EMCs would create a conducive ecosystem for the development of Electronics Industry in the State. In addition the Department is extending its support to promote the two approved EMCs one at Sricity and the other developed by ELCINA- Raagamayuri in Ananthapuramu.

Incubation Towers

The Andhra Pradesh Innovation and Start-up Policy 2014-2020 envisages to create world class shared infrastructure for technology product start-ups to operate at low cost and technology service start-ups at nominal cost till the company achieves self-sufficiency. GoAP envisages to develop physical incubation infrastructure through PPP and the host institutes as pilot incubators to create world class live work and play environment for nurturing innovation and start-ups. The common infrastructure includes: a) Common testing labs and tool rooms, b) Enterprise Software and Shared Hardware, c) Shared services like legal, Accounting, Technology, Patents, Investment Banking, d) Other amenities and facilities like individual accommodation, hostel rooms and e) Community for startups.

As part of this initiative, ITE&C Department has constructed and inaugurated 50,000 sft Sunrise Startup at Technology Research and Incubation Park (TRIP) at Hill No. 3 Madhurawada IT Layout and a Pilot Incubator M/s MobME Wireless Solutions Ltd is in place to encourage the students to become prospective startups and entrepreneurs on Bootup-Startup-Scaleup model.

IT Incubation Towers at APIIC Layouts in Kakinada (15,000 sft) and Tirupati (7,500 sft) are also completed and ready for inauguration. In addition, a 15,000 sft Incubation Tower is proposed in JNTU Ananthapuramu Campus.

IT Layouts/ Parks/ SEZ/ Electronics Clusters

ITE&C Department is keen to develop state-of-the-art IT Infrastructure in the State. For this purpose the Department closely works with Industrial Infrastructure Development Agencies like APIIC,

Urban Development Authorities, etc for alienating suitable land and infrastructure development for Industry.

Promotion Initiatives

In order to promote the IT & Electronics Industry in the State, the ITE&C Department had conducted various Road Shows/ Interactive sessions/ meets with the Industry. The Department organized Roadshows at Bangalore, Chennai, Japan, Singapore, UK, USA, etc. In addition, the Department organized CEO Conclave in Visakhapatnam where more than 400 CEOs/ Top executives from the Industry participated. During the Event, MOUs were exchanged with major IT Companies, most prominently, an in-principle with Google in the areas of Internet Safety Education, Digital Literacy for Government Officials, Assisting the Government in Building Mobile Websites, etc. In addition, the Government is planning to attend various National and International Seminars with the Industry to promote the State.

AP State Enterprise Architecture

The central theme of the APSEA is to provide structure that can be created to meet the transformational requirements of the Government. APSEA is proposed to be a Metamodel. Currently, a high-level document is prepared and in order to detail out several of the ideas presented in APSEA document, mostly in consultation with the departments and agencies of the Government, a Consultant has been appointed. The basic objectives and value proposition of each department, the services it intends to provide to its stakeholders in the TO BE scenario, the proposed service levels and KPIs, the TO BE decision-making processes, its position in the capability-maturity model, etc. would be documented and incorporated appropriately in the APSEA.

Policy Initiatives

GoAP approved the most progressive and investor friendly policies in order to give a thrust to the Industry. Salient Features of these policies are as below:

- Focus on Enhancement of Quality Technical Education, Updation of Syllabus in the Technical

Institutes to meet the Industry standards, accrediting online courses, improving e-literacy with industry participation

- Develop the facilities, in the form of IT Towers, IT Parks and IT Zones by adopting a transparent PPP policy.
- Sub-leasing of the space created for IT employment, in the IT Layouts/IT Towers to synergize collaborations and enhance IT employment.
- A highly empowered 'Single Window Clearance Unit' proposed to be created and operationalized for granting approvals & clearances.
- Deemed approval, if the required approval is not granted within 4 weeks
- An empowered Mission for Electronics & IT Promotion to give a fillip to the development of the sector and take faster and agile decisions.
- To make one person e-literate in every household in partnership with the industry

Incentives

The Triade of Policies offer Incentives and Facilitations unparalleled in the Country.

Common Incentives

- Industrial Power Category Conversion
- Power Subsidy: 25% on Power Bills Consumed by MSMEs - maximum of Rs. 30 lakhs in 3 years and 50% by SC/ ST & Women Entrepreneurs – maximum of Rs. 50 lakhs in 5 years.
- 100% exemption of Electricity Duty
- Reimbursement Stamp Duty, Registration Fee and Transfer charges on sale deeds/ lease deeds/ mortgage deeds/hypothecation deeds (100% on first transaction/ 50% on 2nd transaction)
- Rebate on land cost upto 80% at the rate of Rs.60,000 per employment created in case of Mega Projects and Rs.40,000 for other companies.
- Reimbursement of Patent Filing Costs & Quality

Certification – max of Rs. 5 lakh in each.

- Technology & Market Support
- Establish COE on Fables Semiconductors

Incentives for Mega Projects

- Mega Projects: Projects or the investment intents that can create employment of 5,000 or more in a span of 5 years.
- In case where the premises are taken on lease /rent basis, a rental subsidy @ Rs. 10 per sft per month shall be provided for a period of 3 years in prescribed scale of space per employee.
- An investment subsidy of 10% of the value of the Capital Expenditure other than land shall be provided to Mega Projects that enter into an MOU with the state within 2 years of notification of the Policy”

Incentives for MSME Units

- 50% Subsidy on Lease Rentals for a period of 3 years
- 50% reimbursement of exhibition stall rental as Market Development assistance
- Recruitment / Training Assistance @ Rs. 20,000 per IT Professional employed within a period of two years.
- All turn key projects with an outlay upto Rs. 5 cr (50 Mil) to be undertaken by Government Departments would be reserved for MSMEs registered and operating in AP.
- Performance-linked grant: MSMEs that record a year-on-year growth rate of 15%, as per audited accounts, shall be eligible to get a grant of 5% on Turnover.
- 20% Subsidy on Bandwidth Connectivity paid to ISP for a period of 2 years
- Special incentives for Skill Upgradation & Training

Pilot Incubators in PPP Model

With a view to jump-start the startup ecosystem in the state of Andhra Pradesh, Reputed Pilot Incubator (Host Institute'), which are approved by National Science and Technology Entrepreneur Development

Board, Dept of Science & Technology, Govt. of India, will be selected on nomination basis & non-exclusive basis to setup a Pilot Incubators under Public Private Partnership model.

Performance Linked Assistance at Rs. 12,500 per month, for a maximum period of three years per incubated startup company located in the identified Incubation Centre developed by the State, would be provided to the Pilot Incubator (Host Institute) approved under the Pilot Projects. 10% annual increase in performance linked assistance would be provided.

Reimbursement of VAT/ CST:

100% Tax reimbursement of VAT / CST, for the new units started after the date of issue of this Policy, for a period of 5 years from the date of commencement of production for products manufactured in AP and sold in AP. The details of development of IT & ITES services are shown in Table 7.10.

Table 7.10 Development of IT&IT Enabled Services

S No	Name of the Scheme	Achievements		
		Upto 2013-14	During 2014-15 (upto December 2014)	Cumulative upto December 2014
1	No of Companies (including startups)	174	72	246
2	Turnover during the year (IT, ITES & EMCs) (Rs.in crore)	1,280	860	
3	Employment Created	22,639	2,133	24,772
4	IT Parks declared/EMC	2	2	4

AP Secretariat Campus Area Network (APSCAN)

APSCAN is one of the largest Campus Area Network which has capacity to connect 5000 nodes on the network for data and presently 3000+ nodes are operational. The backbone consists of Inter-block and Intra-block connectivity on the fiber optic cable using Gigabit technology. APSCAN provides Wired & Wireless connectivity to all blocks in A.P. Secretariat, 1 Gbps backbone (Optical Fiber Cable –

OFC) and 100 Mbps Distribution switches for every 2 floors in each block for LAN. Apart from this, it Provides Internet, Intranet, eMail, SDC Staging & DR Services. Internet Bandwidth is provided through 3 Service providers. Present Service provider is M/s CMCLtd.

New G2G AP SWAN Network - (AP Broad Band Network)

Government has implemented the new G-2G SWAN which connects the State Capital to all District headquarters (DHQs) with, 12 Mbps bandwidth connecting all DHQs up to MHQs with 4 Mbps under AP Broad Band Network. The new Network is completely IP based and provides voice, data and video communications to all Government offices. 13 DHQs are connected with SHQ and 669 MHQs are connected to respective DHQs and have been operational. TPA (Third Party Audit) has been completed. Migration to New SWAN for existing Government offices connected to Old SWAN has been completed. Migration to New SWAN for existing Government offices connected to Old SWAN has been completed. Service providers were selected through tender process for Horizontal Connectivity to SWAN. Agreements have been signed and orders issued for e-Seva, IGRS, RTA, revenue department connections to SWAN as per requirement projected by concerned departments. More than 2000 Horizontal links are connected and operational. Video Conference System is connected with DHQs and SHQs, DTA, RTA, MA&UD, MROs; APGLI Departments are utilizing the network. Mandal level Video Conference system is procured and commissioned in 669 Mandals and 49 RDOs, 13 CPOs, 14 Collectorates and 3 ITDAs.

APNET/SAPNET

The Government of Andhra Pradesh as a part of its objective to harness IT potential established a Satellite based communications Network to be utilized in District Education, Tele Medicine, Agriculture Extension, E-Governance, creating Awareness in Self Help Groups and Human Resource Development.

An earth station has been functioning since 2002, utilizing the INSAT-III B Satellite using Ku Band. SAPNET, an autonomous society is running the

operations. The Earth Station has a capability of 4 Video Channels. All MPDOs are equipped with Mana TV and Receive only Terminals. Presently Andhra Pradesh has 2 Channels. Channel 1 is to telecast the recorded programmes and Channel 2 is being used for transmission of programmes of Education, Agriculture Department, Indira Kranthipatham and Police, HRD, Social Sector Programs and JKC's Programs through IEG.

AP State Data Center (APSDC)

AP State Data Center was built in approximately 9,000 sft. in the A.P. Financial District at Manikonda village to cater for the entire needs of all the departments of the State Government, by providing rack space, and latest servers on dedicated basis to culminate in a managed Data Center Services and finally to include Application Management.

APTSL has signed contract for Commissioning and Operations & Management of SDC with M/s. Wipro Ltd. on 24.09.2010. The contract value is Rs. 19.77 crore (Rs. 9.40 crore CAPEX+ Rs. 10.37 crore OPEX for 5 years). M/s Wipro has completed commissioning of IT and Non-IT equipment and 'Go-Live' was declared on 16.08.2011.

DeitY has allotted Rs.55.75 crore (Rs.14.56 crore as CAPEX & Rs. 41.19 crore as OPEX) for the Site preparation, Support, IT computing and Storage infrastructure and the Operational expenses. This includes charges for Diesel, Electricity, Bandwidth, Consulting & TPA charges and new initiatives.

APSDC architecture design conforms to Tier-II+ standards (TIA-942 standards) with minimum uptime of 99.749% and provides support Infrastructure for Power, (AC, UPS, Generators etc), Network Infrastructure, Security Infrastructure, Management Infrastructure, Disaster Recovery Setup, Computer Infrastructure and Storage Infrastructure. 78 Applications from 31 Departments are hosted.

Mee Seva

Mee Seva was launched in Chittoor District on 04-11-2011, delivering Revenue & Registration Department services to the citizens. Today, MeeSeva offers citizens a bouquet of 309 high volume services from 32 departments through 4070 MeeSeva kiosk centers.

The Project has already completed 3.5 crore transactions and soon reaching 4 Crore mark. The target is to ensure that Mee Seva becomes the entry and exit point for the citizen to approach Government for any service. Mee Seva centers are also providing Business Correspondent Services for various banks and achieving financial inclusion for the citizens. This is significant because of the large scale Aadhaar based DBT roll out in the country.

e-Procurement

E-Procurement System is being used in the State for all procurements above the value of Rs.10 Lakhs. The e-Procurement platform is extensively used for procurement works by Irrigation Department, Roads and Buildings, Tribal Welfare Engineering Department, Panchayat Raj Engineering Departments, AP Police Housing Corporation, Public Health Engineering Department, HMWS&SB, APTRANSCO, APGENCO, SCCL. Currently e-Procurement is implemented successfully in 27 Departments, 43 PSU's & Corporations, 20 Universities and 135 Urban local bodies are using the e-Procurement service and they have successfully transacted 3,18,035 tenders with a value aggregating to Rs.3,53,768 Crore up to 31.08.2014.

APSFKNW/IEG Human Resource Development Jawahar Knowledge Centres (JKCs):

Jawahar Knowledge Centers (JKC) – is a unique Human Resource promotion initiative of the government. Jawahar Knowledge Centers is the concept initiated to address the problem of bridging the gap between the academic competencies of the students and industry expectations. At present 239 colleges (167 engineering / MCA Colleges and 72 Degree colleges) in the Andhra Pradesh state are registered for the training from JKC. Some of the prestigious programs/ projects of JKC are:

ISB Program, MIT Program and Netherlands Organisation for Scientific Research (NOW) Program

The core function of IT Projects division is to deliver e-Governance solutions to Government departments across the state. APSFKNW has offered

IT Services to over 34 government departments, with offices and data centers located at Hyderabad. APSFKNW helps its clients leverage its infrastructure and Technological expertise

Setting up of Aadhaar Permanent Enrollment Centres (PECs) at Mandal Head Quarters

The UIDAI is in the process of evolving a national level policy for setting up PECs across the country. The Mee Seva centers in the districts will ensure that the needs of un enrolled beneficiaries are taken care. As per the directions of UIDAI and Government of Andhra Pradesh, the Secretary, IT&C Dept and Registrar-UIDAI has directed APTS to initiate the process of setting up of 811 Permanent Enrolment Centre's (PEC) in Mee Seva in each Mandal headquarters across the State. A total of 811 Aadhar kits have been delivered as on 27-02-2015 to 811 PECs and 3062612 have been delivered through these PECs

Details of the Aadhaar kits delivered and activated status as on 27-02-2015 is given in Table. 7.11.

Table 7.11: Aadhaar Kits Delivered and enrolment status as on 27-02-2015

District	Aadhaar Kits Delivered	Enrollments done	No of Packets Started Uploading
Srikakulam	39	152331	151127
Vizianagaram	56	206009	205413
Visakhapatnam	57	155375	155208
East Godavari	67	190009	189481
West Godavari	51	226419	226232
Krishna	60	111788	111701
Guntur	57	214079	212364
Prakasham	55	171814	171564
SPS Nellore	75	372562	371637
YSR	54	146049	142098
Kurnool	95	560383	555735
Ananthapuramu	68	377896	376988
Chittoor	77	193422	193064
TOTAL	811	3078136	3062612

Source: ITE&C Department