ANNUAL ADMINISTRATIVE REPORT FOR THE YEAR 2015-16
ANNUAL ADMINISTRATION REPORT OF WATER RESOURCES DEPARTMENT FOR

THE YEAR 2015-16

Andhra Pradesh is blessed with 40 Major, Medium and Minor Rivers, out of which Godavari, Krishna and Penna are prominent Rivers. There are 40,817 Minor Irrigation Tanks (3,573 Tank Cascades), 15.35 lakh bore wells, 1132 LI schemes, 64,122 Check dams, 61,834 Percolation tanks, 6.48 lakh farm ponds in the State providing water wealth to the State.

The rainfall in the State varies from 496.6 mm in Anantapuramu to about 1217 mm in North Coastal districts with average annual rainfall of 966 mm. Rainfall is erratic and not uniformly distributed. Drought is a recurring phenomenon in the State alongside frequent episodes of floods and cyclones. At the same time, surplus water is going into the sea from River Godavari. The average annual flow into the sea from Godavari river is about 2500 TMC. In this background, Government contemplated inter and intra linking of rivers to transfer water from surplus basins to deficit basins.

With the increase in population, growing urbanization and industrialization, the demand for water for various purposes in increasing steadily. To meet the growing demands, Government is taking a mission based approach with long term vision.

1. Functions of the Department

1. Hydrological assessment of availability of water in the river basins including water allocation to the Irrigation and other purposes duly assessing the availability in the basin.
2. Planning & design of Irrigation systems.
3. O & M of reservoirs and canal systems.
4. Construction of new projects to create irrigation potential for economic development of the State.
5. Stabilization of existing ayacut by rehabilitation of the age-old projects.
6. Modernization of age old Major & Medium Irrigation projects.
7. Improve water management and efficiency by integrated and coordinated and implementation of operation and maintenance plans for existing Irrigation projects.
8. Flood management.
9. Restoration and maintenance of flood banks.
10. Irrigated area assessment and assessment of water royalty charges for industrial and other utilization.

11. Presentation of data & analysis on water availability of Interstate river basins to the respective tribunals.

2. **Organisation Setup of the Department**

At Secretariat level, the policies, the administrative matters budget and financial matters are being dealt by Principal Secretaries and Secretaries with the assistance of Joint Secretaries etc. The Water Resources Department is headed by the Engineer-in-Chief (Administration) who is in charge of overall administration of the Water Resources Department. The Engineer-in-Chief is also advisor to the Government in all irrigation matters of the state and co-ordinate with all Chief Engineers.

At present the Engineer-in-Chief, PIP, is looking after the activities of Engineer-in-Chief (Irrigation) and Commissioner (Engineer-in-Chief) COT is looking after the post of Engineer-in-Chief (Administration) as only three no.s of Engineers-in-Chief posts were allocated to Andhra Pradesh during bifurcation.

There are 19 Chief Engineers functioning in the department including one Chief Engineer in the cadre of Joint Secretary.

The Superintending Engineer is in charge of a circle. The Superintending Engineers who are working under the concerned Chief Engineers are the regional Officers in charge of a circle and their jurisdiction may cover more than one district in some cases. The Executive Engineer is in charge of a Division in a district and is in charge of construction and maintenance of all Irrigation works in the division. The Deputy Executive Engineer is in charge of a Sub – Division and in charge of Construction and maintenance of Irrigation works under Sub Division Jurisdiction and works under the control of the Executive Engineer. The Assistant Executive Engineer/Assistant Engineer is in charge of the construction and maintenance of Irrigation works within the Section and works under the control of Deputy Executive Engineer.

The department is also having quality control, vigilance and enquires organization in order to ensure the quality of work and to prevent and take necessary action on any corrupt practices.
Cadre Strength of the Department is as follows:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Designation</th>
<th>Sanctioned Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engineers-in-Chief</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Chief Engineers</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Superintending Engineers</td>
<td>51</td>
</tr>
<tr>
<td>4</td>
<td>Executive Engineers</td>
<td>266</td>
</tr>
<tr>
<td>5</td>
<td>Deputy Executive Engineers</td>
<td>900</td>
</tr>
<tr>
<td>6</td>
<td>Asst. Executive Engineers &amp; Asst. Engineers</td>
<td>3320</td>
</tr>
<tr>
<td></td>
<td><strong>Engineering cadre Total</strong></td>
<td><strong>4559</strong></td>
</tr>
<tr>
<td>7</td>
<td>Circle scale Technical Staff</td>
<td>2200</td>
</tr>
<tr>
<td>8</td>
<td>Circle scale Ministerial Staff</td>
<td>7157</td>
</tr>
<tr>
<td>9</td>
<td>Work Charged Establishment</td>
<td>4800</td>
</tr>
<tr>
<td></td>
<td><strong>Grand Total</strong></td>
<td><strong>18716</strong></td>
</tr>
</tbody>
</table>

APSIDC

Andhra Pradesh State Irrigation Development Corporation Limited was incorporated as a Company under the provisions of Companies Act 1956 and started functioning w.e.f. 07.09.1974. The Company affairs are administered by the resolutions passed by the Board of Directors appointed by the Government of Andhra Pradesh. The Joint Managing Director is the Chief Executive of the Company supported by Departmental Heads in Technical, Finance and Administration Departments.

Basically, it is an Engineering organization entrusted with execution of Lift Irrigation Schemes, Ground Water Schemes (Tube wells & Bore wells) all over the
State. The Administrative control of the APSIDC, hither to under the control of PE Department for the purpose of restructuring, was re-transferred to the respective Administrative Department of Secretariat (Water Resources Department) vide G.O Ms.No:37 of Public Enterprises – II Department, Dt:07.09.2001.

The Government (SR) Department has directed to divide the Andhra Pradesh State Irrigation Development Corporation Limited and to start functioning as two separate entities on and from the appointed day. Accordingly the APSIDC has created two distinct State Units within the entity and started functioning as two separate units from the appointed day i.e., 02-06-2014. The Expert Committee headed by Dr Sheela Bhide, IAS (Retd.) has approved the final demerger proposal of APSIDC and the proposal for apportionment of employees between APSIDC and TSIDC as on 02-06-2014.

At present, the Corporation is functioning with three Circles, 06 divisions and 02 Project Offices in the Andhra Pradesh State and their Head Quarters have been fixed depending upon the work load. The Superintending Engineer is in charge of a Circle working under the control of Joint Managing Director and jurisdiction may cover more than one District. The Executive Engineer is in-charge of a Division with jurisdiction of one or two Divisions will look after construction and commissioning of all Lift Irrigation Scheme works in the Division. The Deputy Executive Engineer is in charge of a Sub-Division and in-charge of construction and commissioning of Lift Irrigation Schemes under Sub-Division jurisdiction and works under the control of the Executive Engineer. The Assistant Executive Engineer / Assistant Engineer are in-charge of the construction and commissioning of Lift Irrigation Schemes within the section and works under the control of Deputy Executive Engineer.

The Social Engineering Cell headed by the Senior Geophysicist with Hydrologist, Assistant Geophysicists and Assistant Hydrologists are presently looking after the Social Engineering activity of Lift Irrigation Schemes i.e., capacity building of the farmers (beneficiaries) as the ground water activity is dispensed by APSIDC from 1996 onwards.
<table>
<thead>
<tr>
<th>S.No</th>
<th>Cadre</th>
<th>Sanctioned posts</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vice-Chairman and Managing Director / Joint Managing Director</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Chief Engineer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Superintending Engineer</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Executive Engineer</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Deputy Executive Engineer</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Assistant Executive Engineer</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>Assistant Engineer</td>
<td>75</td>
<td>54</td>
</tr>
<tr>
<td>8</td>
<td>ATO / JTO</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>Technical Assistant (Tracer)</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Senior Geophysicist</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Hydrogeologist</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Assistant Geophysicist</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Assistant Hydrogeologist</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>175</strong></td>
<td><strong>136</strong></td>
</tr>
<tr>
<td>14</td>
<td>Manager</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Assistant Manager</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>16</td>
<td>Assistant Section Officer</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>17</td>
<td>Junior Section Officer</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>18</td>
<td>Junior Steno</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>Typist</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>Record Assistant</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>Assistant Computer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>Drivers</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>23</td>
<td>Attenders</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>24</td>
<td>Watchman</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>Workcharged Estt</td>
<td>53</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>192</strong></td>
<td><strong>89</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Grand Total</strong></td>
<td><strong>367</strong></td>
<td><strong>225</strong></td>
</tr>
</tbody>
</table>

**Groundwater**

Ground water has emerged as key resource in the irrigation sector of Andhra Pradesh providing irrigation facility to 41% of gross irrigated area in the state. The Ground Water and Water Audit Department is playing a crucial role in the development, management and conservation of the precious resource in the state.

The Ground Water Department was established in 1971 for evaluation of Minor Irrigation schemes for well sinking and energization of wells with pump sets in the state as per the agreement entered by the Government of India with the World Bank for financing Minor Irrigation schemes. Later on the department is entrusted with the responsibilities of providing scientific inputs for exploration, assessment, monitoring, augmentation and regulation of ground water resources in the state.
The Ground Water Department was renamed as Ground Water and Water Audit Department in 2014 and kept under the administrative control of Water Resource Department. The department has Directorate, headed by the Director and constitutes 13 district offices headed by Deputy Directors and 2 offices headed by Assistant Director.

**The main functioning of the Department:**

- Estimation of groundwater resources periodically in the State with groundwater basin/watershed concept and according clearances for minor irrigation schemes.
- Detailed investigations for delineation of potential zones and for selection of sites for construction of wells by Developmental Agencies and Individuals.
- Investigations for identification of feasible areas and suitable structures for artificial recharge measures to be implemented under Watershed and other programmes.
- Monitoring of groundwater levels and quality through network of observation wells and improved network of purpose built piezometers with Automated Digital Water Level Recorders.
- Drilling of exploratory-cum-production bore/tube wells.
- Special studies for evaluation of the groundwater regime through modem tools like aerial photos, satellite imagery, GIS etc., for development and management of groundwater resources and to prioritize areas for recharge measures and for implementing regulatory measures under Andhra Pradesh Water, Land and Trees Act (APWALTA).
- Monitoring and disseminating the Real Time ground water levels through CM dashboard for the utility of different stake holders, Planners and Academicians.
- Development of decisions support system for the determination of best groundwater management and recharge techniques for reversing the declining trend of groundwater table in different geomorphic and geological units in the State(748 micro basins).
• Conjunctive use study in command areas of Tungabhadra Project Complex, LLC., KC Canal, Srisailam Right Branch Canal.

Ground Water investigations in different parts of the state are carried out by technical officers under the supervision of 13 offices of Deputy Directors at Srikakulam, Vizianagaram, Visakhapatnam, Rajahmundry, Eluru, Vijayawada, Guntur, Ongole, Nellore, Chittoor, Kadapa, Ananthapuramu and Kumool.

To monitor the groundwater management in command area under Tugnabhadra Projects and SRBC, the O/o the Deputy Director is functioning at Kurnool and O/o the Assistant Director at Nandyal respectively. The Deputy Director is in charge of the District Office and assisted by Assistant Hydro geologists, Assistant Hydrologists, Assistant Geophysicists, Technical Assistant (Hg), Technical Assistant (H), Technical Assistant (GP) assist the Deputy Directors and Assistant Directors in Technical matter. Administrative Officers and/ or Superintendents assist the Deputy Directors in Administrative and Accounts matters. Total 650 posts were sanctioned of which 337 are filled (52 %) and 313(48 %) are vacant

3. Budget and Expenditure:

The Capital and Revenue Budget and Expenditures details of Irrigation Projects are as below

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Budget (Rs. in Lakhs)</th>
<th>Expenditure (Rs. in Lakshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>Plan</td>
<td>467813.00</td>
<td>897992.00</td>
</tr>
<tr>
<td>(upto March 2016)</td>
<td>Non-Plan</td>
<td>57992.66</td>
<td>56594.21</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>525805.66</td>
<td>954586.21</td>
</tr>
</tbody>
</table>
Physical and Financial Achievements

The achievements for the year 2017-18 in Major, Medium, Minor and APSIDC are appended below.

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Description</th>
<th>Achievements for 2015-16 in acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Major and Medium Irrigation (New)</td>
<td>99,434</td>
</tr>
<tr>
<td>2</td>
<td>Major and Medium Irrigation (Stab)</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Minor Irrigation (Bridging gap ayacut)</td>
<td>1,42,000</td>
</tr>
<tr>
<td>4</td>
<td>APSIDC (New)</td>
<td>27,000</td>
</tr>
<tr>
<td>5</td>
<td>APSIDC (Stab)</td>
<td>1,29,000</td>
</tr>
</tbody>
</table>

The new I.P. created under Major & Medium Irrigation projects during 2015-16 is 0.99 Lakh Acres under the following projects.

- Thotapally - 67,800 Acres
- HNSS - 16,178 Acres
- Pushkara LI Scheme - 8,000 Acres
- Thadipudi LI Scheme - 7,456 Acres

Total - 99,434 Acres

Water Management during 2015-16:

Area irrigated in both Khariff and Rabi seasons in 2015-16

<table>
<thead>
<tr>
<th>(Ayacut in Lakh Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
</tr>
<tr>
<td>Khariff</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>S.No</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

4. POLICIES:

Reform Measures and Policy Initiatives

As Irrigation is a State subject, states have the autonomy to evolve and constitute institutions appropriate to local conditions reflecting the predominant
ideological, political and regional demands. The Irrigation Reforms in Andhra Pradesh followed a path setting trajectory containing several significant measures culminating in crucial outputs. To identify the factors and regions of imbalance, assess sustainability options, classify long time trends to identify State requirements and interventions based on the type of risks and potential involved for generating informed interventions, evaluate both spatial and socio-economic potential planning points to generate separate plans for required interventions.

1. Andhra Pradesh State Water Policy (2009)

The State Water Policy is intended to identify and specify the common framework and broad guidelines within which the water sector is to be managed and developed. The policy outlines the current areas of concern, basic approaches, suggests reform measures and identifies priorities, goals and sets the vision guiding irrigation sector in the State of the Andhra Pradesh.

The Water Policy sets the tone and tenor of water management in the State and together with the Andhra Pradesh Farmer's Management of Irrigation Systems Act, 1997, CAD Act, 1980 and the Andhra Pradesh Water Tax Act, 2002 delineates the broad scope, parameters and rules governing the water resources management in the State. The policy contains six sections spelling out the need, objectives, strategies, approaches and implementation arrangements for water resources management in the State.

Objectives

- Ensuring of water security to the population
- Managing demand for water, a finite and increasingly diminishing resource for drinking, irrigation, industry and power supply
- Improving and safeguarding existing drinking water supplies, managing water for irrigation, industry, power supply and environmental sustainability and prevention of pollution along with issues like development of new.
- Maintenance and operation of existing infrastructure, pollution, over-abstraction and unplanned development, water logging, salinization,
increasing toxic elements, are the main challenges and issues of concern for the State.

- Building of an enabling environment, implementing of participatory and capacity building tools, through the integration of new management tools and systems such as the integrated data systems, water demand management and a new communication system as being the key areas of focus.
- Improving water management and efficiency by integrating efforts of related institutions, encouraging participation and involvements of users, progressive re-engineering and re-orientation of institutions, practices and processes, institutionalizing service charging for water, improving infrastructure, services and utilization efficiency for a holistic and optimal development, management and operation of infrastructure.
- Improving the availability, efficiency and productivity of irrigation through outcome oriented institutional and investment activities, realizing optimum irrigation potential of irrigation projects, sustainable use of ground water by improving performance of irrigation projects through involvement of primary stakeholders.
- Maintain and sustain ecological balance by conserving and protecting water bodies and wet lands through regulation and enforcement of standards.

**Water Use Priority**

- Drinking water
- Irrigation
- Hydro-power
- Ecology
- Industries
- Tourism and recreational uses
- Ports and Inland navigation
- Strategy

Water Management focused on taking appropriate cost effective delivery of water resources, rehabilitation, modernization operation and maintenance of
infrastructure and a pro user participation legal environment, promotion of modern management practices for development of appropriate information analysis, communication, bench marking and auditing systems.

Use of appropriate modern technology like modern computer hardware and software, modern knowledge base, interactive decision support systems, data and voice communication systems, internet use, improved information flow arrangements, effective targeted research and knowledge partnership, moving towards 24X7 urban and rural drinking water supply, prevention of water pollution, conservation of water by reducing losses in evaporation, conveyance and distribution of water, flood, drought and land erosion management as the special focus areas of the policy.

Establishment of regulatory institutions, Strengthening of Water User Organizations with greater responsibilities in management of water and irrigation infrastructure, Restructuring and capacity building of the existing Water Resources Department and other water sector organizations identified as main institutional arrangements for operationalizing the policy objectives.


The Andhra Pradesh State R&R Policy 2005 for giving more benefits to the displaced families, as compared to National R&R Policy is being implemented for the early acquisition of lands etc., for the ongoing projects by paying appropriate compensation to the ryots for their lands and houses and the rehabilitation works are in progress.

3. Andhra Pradesh Water Resources Regulatory Commission

Andhra Pradesh Water Resources Regulatory Commission Act is enacted and published in the gazette on 09-09-2009. Government has appointed 01-08-2010 as the date on which the provisions of Act came into force. Commission is yet to be constituted.
4. Water Management Committee (WMC)

Sectoral approach and fragmentation of water resources development between various departments has been the bane of efficient water resources development often leading to its sub-optimal utilization. Conventional departmental divisions and resultant policy duplication and cross-cutting programmes, increases expenditure, undercut's outputs and impacts effective action negatively. The diverse uses, objectives and interests of water use and management departments have often led to sub-optimal utilization and inefficient exploitation. Taking cognizance of the significance of coordinated action for improved water management a Water Management Committee (WMC) has been constituted as an apex body at the State level competent to take decisions on policy and reforms, regulation and performance and convergence on water related issues.

Objectives

The WMC represents the evolving of the irrigation management towards establishment of more effective and efficient management structures in place to prepare the sector for future demands and requirements. It also aims to affect interdepartmental co-ordination for synergy in their respective plans and operations.

Composition

The Chief Secretary to the Government of Andhra Pradesh is to be the Chairperson and the Principle Secretary (Irrigation) & Commissioner CADA are to be the convener of the Committee. The other members include Principal Secretaries of the concerned Departments, Secretaries of Water Resources Department, concerned Engineers-in-Chief, Chief Managing Director, AP Genco, Engineer-in-Chief (IW) and Director, Ground Water Department. The CAD & WM Wing of the restructured / renamed Water Resources Department provides technical support to the Water Management Committee.
Functions

Policy / Reforms

- Review implementation of the State Water Policy.
- Setting guidelines and review of institutional reforms for efficient water resource management for the various water user departments.
- Setting guidelines for research and analysis in water resource management for future policy formulations and reform.

Regulation and Performance

- Fixing rates for various water uses.
- Setting guidelines and development of water management plans for the various water user departments.
- Fixing norms for quality on water related infrastructure and services.
- Setting norms for water quality and water pollution, especially related to industrial waste water.
- Fixing norms and procedures for operation and maintenance of water resources infrastructure both by departments and user organizations.
- Fix norms for apportionment of water tax and royalties collected by Irrigation Department to various agencies for O & M of irrigation systems.
- Setting guidelines and review conjunctive use of ground water and surface water in command areas.
- Setting guidelines and review managing water logging/salinity problems including salinity ingestion.
- Fixing norms and review performance of the Technical Group.

Convergence

- Setting guidelines and review harmonizing existing policies, executive orders and rules related to water resource management issued by different departments.
- Setting guidelines and review harmonizing water management plans for the various water user departments.
5. Command Area Development (CAD) Committee

Government has constituted CAD Committee vide G.O.Ms No. 21 (I&CAD Genl. IV.1) Department dated: 05-03-2010. This committee reviews and monitor of O&M Works, budget and ayacut development under Irrigation projects.

The committee will approve the action plans of O&M and deferred Maintenance works in each of the project under plan & non plan.

6. Apex Committee

The Government has constituted Apex Committee vide G.O.Ms No.197 Water Resources (CAD) Department, dated: 03-11-2015 to lay down the policies for implementation of the provisions of the Andhra Pradesh Farmer’s Management of Irrigation System Act, 1997 and to give such directions to any Farmers Organization, as may be considered necessary, in exercising their powers and performing their functions in accordance with the provisions of the Act.

7. Expert Committee

The Government has constituted Expert Committee vide G.O.Ms.No.198 Water Resources (CAD) Department, dated: 06-11-2015 to study the APFMIS Act and its implementation in Andhra Pradesh, to take up field study on the performance of WUAs and maintenance of Water Bodies in Andhra Pradesh and in other States, to suggest the ways of strengthening the WUAs in the State and to recommend any changes required in the APFMIS Act, 1997.

5. Status of Irrigation:

<table>
<thead>
<tr>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Geographical area</td>
<td>402.70</td>
</tr>
<tr>
<td>Total Cultivable Area</td>
<td>199.04</td>
</tr>
<tr>
<td>Irrigation Potential Created</td>
<td>102.78</td>
</tr>
<tr>
<td>Balance Cultivable Area</td>
<td>96.26</td>
</tr>
</tbody>
</table>

The irrigation projects are classified based on the irrigated ayacut under the projects.
Major Irrigation Projects - Ayacut above 25000 Ac (10,000 ha.)
Medium Irrigation Projects - Ayacut above 5000 Ac up to 25000 Ac (10000ha.)
Minor Irrigation Projects - Ayacut up to 5000 Acres (2000 ha)

In addition, the Department is also in charge of Command Area Development works, Flood Control and Drainage works in the State. For the early completion of ongoing projects and to modernize the existing Irrigation Projects in the State financial assistance is being received from Rural Infrastructure Development Fund (RIDF), (NABARD), JICA (Japan International Co-operation Agency), Accelerated Irrigation Benefit Programme (AIBP) and World Bank assistance in addition to the State Development Plan.

**Major and Medium Irrigation Projects**

In order to utilize the available water to the maximum extent possible for irrigating the entire cultivable command area in the State, Government of Andhra Pradesh has taken up 57 no. of Major & Medium Irrigation Projects amounting to Rs.88,23,373.00 Lakhs from 2004 onwards, which comprises 28 nos. of major, 18 nos. of medium, 4 nos. of flood banks and 7 nos. of modernization works.

Out of 57 Projects, 13 No.s of Projects were completed, 43 No.s of Projects are ongoing, 1 No. of Project is yet to be grounded. Out of 43 No.s of ongoing Projects, 16 No.s are giving partial ayacut.

From the 13 No.s of Completed Projects, 16 No.s of ongoing Projects (giving partial ayacut) and old Projects the New Ayacut created is 12.88 Lakh Acres and stabilization is 16.12 Lakh Acres.

Land Acquisition is a major hurdle in construction of irrigation projects. For speedy completion of land acquisition required for various projects consent awards are being passed after discussions with the land owners duly paying higher amounts than the registration value. For the Ongoing Projects 4.27 Lakh Acres of land is acquired, against the requirement of 5.85 Lakh Acres.

Regarding R&R, land is acquired for 186 Centers against contemplated 437 Centers and 21287 houses were completed against contemplated 38,363 houses. At present R&R is implemented in 21 Irrigation projects, covering 559 Habitations and
361 Revenue villages. Out of 21 projects, The R&R works are in progress for 10 projects and 7 projects are completed and the remaining 4 projects are yet to be started. The expenditure incurred up to January 2016 is Rs.1,28,634.00 Lakhs.

Where ever it is not possible to create command area by gravity, lift irrigation schemes have been taken up to benefit the backward and drought affected areas. 17 nos. of Lift Irrigation Schemes were taken up with an administrative sanction of Rs.23,93,920.00 Lakhs. The irrigation potential to be created under new schemes is 23.25 Lakh Acres which comprises of 22.40 Lakh Acres (New) and 0.85 Lakh Acres (Stab).

6. PROGRAMS AND SCHEMES:

On Going Prioritized Projects:

Priority Projects:

The Government has decided to complete 7 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) BRR vamsadhara Project (Stage II- Phase II)
2) Thotapalli Barrage project
3) Polavaram RMC, Polavaram LMC & Pattisam Lift Irrigation Scheme
4) Poolasubbaiah Veligonda Project
5) Kandula Obula Reddy Gundlakamma Reservoir
6) Galeru Nagari Srujala Sravanthi Phase I
7) Handri Neeva Srujala Sravanthi Project

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

1. B.R.R.Vamsadhara project phase-II of stage-II:

This Project consists of construction of side weir at Katragada to divert the flood waters of Vamsadhara River for filling Hiramandalam reservoir (19.05 TMC capacity) connected through a flood flow canal of 33.70 Km with two balancing reservoirs at Singidi and Parapuram enroute the flood flow canal. The scheme intends to create an IP of 20,000 Acres under flood flow canal, 5,000 Acres under High Level Canal of Hiramadalam reservoir
and 20,000 Acres under Right Main Canal which is intended to merge in Phase II of Stage II after completion of the project. The scheme is proposed for Irrigating 45,000 Acres of ayacut in 9 Mandals and 225 Villages in Srikakulam District. Administrative sanction accorded for Rs.93,390.00 Lakhs.

The Vamsadhara Water Disputes Tribunal (VWDT) constituted by the Government of India allowed Government of Andhra Pradesh to resume the work of side weir so as to utilize 8 TMC of Water.

Side Weir Complex including Side Weir (300 m length), Stilling Basin, Head Regulator, Escape Regulator and left Earth Dam are to be completed. Under Hiramandalam Reservoir, R&R under earth bund is to be finalized and Land Acquisition for the balance extent is to be completed. Target year of completion 12/2016

The cumulative expenditure incurred under Phase II of stage-II up to 02/2016 is Rs.5,851.00 Lakhs.

B.E Provision for Phase II of Stage II for 2016-17 is Rs.5,677.00 Lakhs.

2. Thotapalli Barrage Project:

The project comprises of formation of Reservoir on river Nagavali near Thotapalli (V) of Vizianagaram Dist, excavation of Right Main Canal, Link Canal and distributaries to irrigate 1,84,000 Acres including stabilization of 64,000 Acres of existing wet ayacut under Thotapalli old regulator and its open head channels apart from creating new ayacut of 1,20,000 Acres. Revised administrative sanction is accorded for Rs.77,490.00 Lakhs. The scheme proposes to utilize 15.89 TMC for irrigating 1,84,000 Acres of ayacut in 10 Mandals covering 155 Villages in Vizianagaram District and 7 Mandals covering 132 Villages in Srikakulam District. Apart from providing Irrigation Water, the scheme intends to feed 42 Tanks for Drinking Water Supply in 24 Villages enroute the Right Main Canal. **Hon’ble Chief Minister inaugurated and released water on 10.09.2015. New ayacut of about 70000 Acres has been irrigated in Khariff 2015.** 83% of works are completed. Land Acquisition and R&R is to be expedited. Target Year of Completion 06/2016.

Gajapathinagaram Branch Canal: This Scheme is an extension of right main canal of Thotapalli Reservoir Project at Km.97.70. The total length of the canal is Km.25.00. The scheme proposes to irrigate 15,000 Acres of ayacut in 6 Mandals in Vizianagaram District. 36% of works are completed and Railway crossing is to be taken up. Land Acquisition is to be expedited. Target Year of Completion 10/2016.
The cumulative expenditure incurred upto 02/2016 is Rs.70,259.00 Lakhs.
B.E. Provision for 2016-17 is Rs.5,254.60 Lakhs.

3. Polavaram RMC, Polavaram LMC & Pattisam Lift Irrigation Scheme:

PIP Right Main Canal:

Government has accorded administrative approval for Rs.2,24,068.80 Lakhs vide G.O. Ms. No. 150, Dt: 23.07.2008 for execution of Right Main Canal. The Canal runs for a length of 174 Kms in West Godavari and Krishna Districts. For execution purpose, the canal is divided into 7 Packages. All the works are grounded and the works are in progress. The percentage of work done is 74%. The total extent of land required for Right Main Canal i.e., 12,543.61 Acres was acquired.

It is proposed to Irrigate 3,20,000 Acres under this Right Main Canal in West Godavari and Krishna Districts and to divert 80 TMC of water to Krishna river. It is programmed to complete the Right Main Canal works by June 2016.

PIP Left Main Canal:

Government have accorded administrative approval for Rs.1,95,474.00 Lakhs vide G.O. Ms. No. 104, Dt: 30.05.2008 for execution of Left Main Canal works. The Canal runs for a length of 181.50 Kms in East Godavari and Visakhapatnam Districts. For execution purpose, the Canal is divided into 8 Packages. All the works are grounded and works are in progress. The percentage of work done is 59%. It is proposed to Irrigate an ayacut of 4,00,000 Acres in East Godavari and Visakhapatnam Districts and also to supply 23.44 TMC of water to Visakhapatnam city for industrial and domestic needs. The total extent of land required is 10,661.95 Acres under the Left Main Canal. The extent of land so far acquired is 10,378.53 Acres (98%). Works are in progress in packages 1 to 8. It is programmed to complete the Left Main Canal works by June 2017.

Pattisam Lift Irrigation Scheme (Polavaram RMC Lift):

Right Main Canal comprises of excavation of Main Canal, formation of Banks including canal lining and construction of CM & CD works from Km 0.00 to Km177.12.

The canal length of Km 133.19 is completed against Km 177.31 and structures are under progress.
Pattisam Lift Irrigation Scheme:

Diversion of water from river Godavari to River Krishna through Polavaram Project Right Main Canal by lifting water from River Godavari @ Pattisam for domestic and industrial use as a part of water grid. As maximum water is to be drawn during flood days only, lifting of higher discharges of about 240 cumecs (half the design capacity) utilizing the infrastructure of RMC for diversion of Godavari water to River Krishna is proposed.

The Government have accorded administrative approval of Rs.1,30,000.00 Lakhs. vide G.O. Ms. No.1, dt: 01.01.2015 to complete Electro and hydro mechanical works including construction of pump house, pressure main etc. to lift water from river Godavari to RMC @ Km 2.5 and completing balance works on PIP RMC. Total power required is 123 MW. Tenders were finalized and work was entrusted on 30.03.2015. It is proposed to complete the construction of Pattisam LI Scheme and commission the Scheme within 12 months time.

The work is in progress & 95% of the work is completed till date and partly commissioned.

4. Poola Subbaiah Veligonda Project:

Poola Subbaiah Veligonda Project takes off from Kollamvagu foreshore on Right bank of Srisailam Reservoir near Markapur, Prakasam District. The Project is contemplated to provide irrigation facilities to about 4.47 Lakh Acres & drinking water facilities to 15.25 Lakh people in drought prone fluoride affected 30 Mandals of Prakasam, Nellore & Kadapa Districts with a capital outlay of Rs.5,15,000.00 Lakhs utilising 43.50 TMC of Krishna River flood water by gravity.

- Ayacut proposed in different districts is

  Prakasam district 3,36,100 Acres
  Nellore district 84,000 Acres
  Kadapa district 27,200 Acres
  
  -------------------
  4,47,300 Acres

Balance Works

- Head Works
  1) Head Regulator
  2) Tunnel - 1 Boring to a length of 12.75 Km (Total Length 18.82 Km)
3) Tunnel - 2 Boring to a length of 9.35 Km (Total Length 18.84 Km)

- **Main canal**
  1) Feeder canal : 7.97 Kms
  2) Teegaleru canal : 5.70 Kms
  3) Gottipadia Canal : Completed
  4) Eastern Main canal : 21.15 Kms

- **Distributaries Completed for 5000 Acres**
  Balance : 4,42,300 Acres

Target Year of Completion 2017-18

The cumulative expenditure incurred upto 02/2016 is Rs.3,97,876.00 Lakhs.

B.E Provision for 2016-17 is Rs.22,000.00 Lakhs.

**5. Kandula Obula Reddy Gundlakamma Reservoir Project:**

Kandula Obula Reddy Gundlakamma Reservoir Project is contemplated to provide Irrigation facilities to about 80,068 Acres and drinking water to about 2.56 Lakh population in 8 Mandals of Prakasam District at a capital outlay of Rs.59218.00 Lakhs. As on date an expenditure of about Rs.54285.00 Lakhs was incurred on the project and out of which Rs.24919.00 Lakhs on works, Rs.21892.00 Lakhs on LA and Rs.7474.00 Lakhs on R & R were incurred. An Irrigation Potential of 60,050 Acres was already created. All the works completed except for a part of distributary network. The project is completed and water will be impounded in the reservoir in the coming monsoon. Hon’ble Chief Minister of AP dedicated Kandula Obul Reddy Gundlakamma Reservoir Project to nation on 24-11-2008. Target year of completion 06/2016.

The cumulative expenditure incurred upto 02/2016 is Rs.61,000.00 Lakhs.

B.E. Provision for 2016-17 is Rs.1,044.00 Lakhs.

**6. Sri Krishna Devaraya Galeru Nagari Sujala Sravanthi Phase-I**

Galeru Nagari Sujala Sravanthi Project envisages drawal of 38 TMC of flood water of Krishna River from the foreshore of Srisailam Reservoir to provide irrigation facilities to an extent of 2.60 Lakh Acres in the Districts of Kadapa, Chittoor and Nellore besides providing drinking water facilities to a population of 5.00 Lakh living in 640 villages and towns enroute the canal.
In view of the large magnitude of the Project and to derive early benefits, the project was taken up in a phased manner. Further the GKLI System works are taken up to lift 6.00 TMC of water from Gandikota Reservoir foreshore to provide water to an extent of 47,500 Acres of direct ayacut and also to supplement 41,000 Acres of ayacut under PBC System. The project works were started during the year 2004-05 and the works are different stages. Further Government has proposed to construct a reservoir at Vattalur village to irrigate an ayacut of 12,000 Acres.

Due to formation of Gandikota Reservoir 22 villages are getting submerged. 8 R&R Centres are proposed for accommodating the villagers those who are getting affected under Gandikota Reservoir. 5 R&R Centres are completed and the remaining 3 centers at different stages. Due to formation of Paidipalem Reservoir one village namely Kumarampalli is submerged under GKLI System. R&R Centre is provided near Kumarampalli. Entire project affected persons are shifted to R&R Centre. Due to formation of Vamilkonda Sagar one village namely Sarvarajapeta is under submersion. R&R Centres are identified at different places as per the request of villagers. The entire village is resettled at 3 locations.

The ayacut contemplated under different Schemes under this Project is as follows.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNSS Phase – I</td>
<td>35,000</td>
</tr>
<tr>
<td>GKLI Scheme</td>
<td>47,500</td>
</tr>
<tr>
<td>GNSS Phase – II</td>
<td>2,25,000</td>
</tr>
<tr>
<td>Vattalur Reservoir</td>
<td>12,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,19,500</strong></td>
</tr>
</tbody>
</table>

The works are under progress. So far an extent of 1,000 Acres are created under GNSS Phase-I and 5,000 Acres under GKLI Scheme so far.

- The site clearance in forest area to an extent of 372.03 Ha for stage-I of Kurnool District works is obtained from the Ministry of Environment & Forests.
- Stage-II clearance is also obtained for 259.82 Ha.
- Stage-II clearance is awaited for 112.21 Ha.
Projects Status – Phase-I:

- Work completed 88%.
- Ayacut developed so far is 1000 Acres.
- This project is intended to benefit enroute Ground Water charging. No ayacut under flood flow canal up to Owk Reservoir.
- Land Acquired : 32808.08 Acres
- Land to be acquired : 3856.71 Acres
- Forest land to be acquired : 456.60 Acres

Phase-I is proposed to be completed by 06/2016.

The cumulative expenditure incurred under GNSS Phase-I & II including GKLIS upto 2/2016 is Rs.5,52,567.00 Lakhs.

B.E. provision for 2016-2017 for Rs.34,800.00 Lakhs.

7. Handri Neeva Sujala Sravanthi Project:

As a part of programme of protecting Rayala Seema from ravages of drought and severe famine and to reverse the desertification process, the HNSS Irrigation Project is envisaged to provide irrigation facilities to an extent of 6.025 Lakh Acres (Khariff ID) in the four districts of Rayalaseema and supply of drinking water to about 33 Lakh People, Utilizing 40 TMC of flood water from the Krishan River. This flood water is to be drawn from the foreshore of Srisailam Reservoir with an approach channel of 4.806 kms length and the Main canal runs for a length of 565.00 Kms. Water is to be drawn during the 120 flood days from August to November. This scheme involves lifting of water in 8 stages in Phase-I into Main canal and 4 stages on Phase-II main canal with a total lift height of 369.06 Meters, excavation of 5 Nos. of tunnels for a length of 13.05 Kms and formation of 8 balancing reservoirs.

The main canal to a total length of 216.00 KM is almost completed and water is being released to the canal system since 2012 by lifting water through 6 pumps against 12 pumps in each pumping station.
Administrative approval for Phase-I was accorded by Government vide G.O.Ms.No.2, Irrigation & CAD (PW. Maj. Irr.VI) Dept. Dt:03.01.2007, for Rs.2,77,400.00 Lakhs and second R.E. for Rs.4,31,749.00 Lakhs was accorded by Government vide G.O. Rt No. 153 Dt: 25-02-2016.

Administrative approval for Phase-II was accorded by Government vide G.O.Ms .No.3, Irrigation & CAD (PW. Maj. Irr.VI) Dept., Dt: 03.01.2007, for Rs.4,07,600.00 Lakhs and second R.E. for Rs.7,34,100.00 Lakhs was accorded by the Government vide G.O. Rt. No. 154 Dt:25-02-2016.

The total length of HNSS Main Canal in Kurnool, Ananthapuram, Kadapa and Chittoor Districts is 565.00 Km. The HNSS Scheme starts near Malyala village, ends at Adivipalli Reservoir in Chittoor district. There are 2 Reservoirs in Kurnool District and 3 Reservoirs in Anapatramu District and one Reservoir in Kadapa district and 2 Reservoirs in Chittoor districts as follows.

1) Krishnagiri Reservoir at KM 70.65 of HNS  S   :  0.16 TMC
2) Pattikonda Reservoir at KM 108.57 of HNSS  :  1.13 TMC
3) Jeedipalli Reservoir at KM 216.300 of HNSS :  1.68 TMC
4) Gollapalli Reservoir  :  1.613 TMC
5) Marala Reservoir  :  0.465 TMC
6) Charlopalli Reservoir  :  1.425 TMC
7) Srinivasapuram Reservoir  :  0.98 TMC
8) Adivipalli Reservoir  :  1.089 TMC

- Ayacut proposed under HNSS Phase-I is 1,98,000 Acres

Kurnool district 80,000 Acres
Anantapur district 1,18,000 Acres

Total 1,98,000 Acres
• Ayacut proposed under HNSS Phase-II

<table>
<thead>
<tr>
<th>District</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anantapur</td>
<td>2,27,000</td>
</tr>
<tr>
<td>Kadapa</td>
<td>37,500</td>
</tr>
<tr>
<td>Chittoor</td>
<td>1,40,000</td>
</tr>
</tbody>
</table>

**Total** 4,04,500 Acres

The total project cost is Rs.11,65,849.00 Lakhs in 2 Phases i.e., HNSS Phase-I (Rs.4,31,749.00 Lakhs) and HNSS Phase-II (Rs.7,34,100.00 Lakhs).

The Cumulative expenditure incurred upto 02/2016 is Rs.7,35,986.00 Lakhs.

B.E. provision for 2016-2017 for Rs.50,420.00 Lakhs

**Mutchumari Lift Irrigation Scheme:**

The Pump house No.1 of HNSS Project is located near Malyala Village. At this location, water can be drawn from the foreshore of Srisailam reservoir at a level of (+) 254.20 m / 834 feet. The Government of Andhra Pradesh has intended to lift water during lean period and to supplement water for K.C Canal scheme & HNSS Scheme at Mutchumari from an elevation of (+) 240.00 m/787 feet. The K.C. Canal system provides irrigation facilities to 2.65 Lakh Acres in Khariff and Rabi seasons in Kurnool and Kadapa districts by utilizing 29.90 TMC of water from Tungabhadra River and 10 TMC of water is being drawn from T.B. Dam during lean flows in Tungabhadra River. The releases at Kotla Vijaya Bhaskara Reddy barrage (Sunkesula barrage) have been very meagre. So supplementations of water to KC Canal become necessary. Hence lift irrigation scheme of K.C. Canal has been envisaged to lift water from the foreshore of NSRS (Srisailam) Project.

The Government of Andhra Pradesh have accorded administrative approval for lifting of 5.00 TMC of water from foreshore of Srisailam Reservoir for K.C. Canal for a period of 60 days during needy days with 1,000 Cusecs discharge for an ayacut of 32,000 Acres. It is proposed to complete the scheme by 06/2016.

7. (A)Minor Irrigation,

**Neeru-Chettu:**

To make the state Drought Proof within five years and is aimed to eradicate poverty and reducing economic inequalities by better water conservation. Water conservation mission is one of the seven missions constituted or invigorating the
growth engines with the objective of overall development of the State. The Government of Andhra Pradesh has taken up Neeru – Chettu Sub – Mission under Primary Sector Mission with a vision to make the state Drought Proof.

**De Silting Of Tanks:**

Due to De silting of Tanks additional capacity of 5.85 TMC created and 57,698 Acres of Ayacut stabilized. 1656 Lakh cubic meters silt was removed.

**PantaSanjeevini (Farm Ponds):**

Due to digging of 7936 No. of Farm ponds additional Ayacut of 1732 Acres stabilized.

**Improvement in Ground Water:**

1. Due to works taken up under Neeru – Chettu a substantial improvement in Ground Water levels is observed, water levels in Rayalaseema has risen 6.83Mts. in November 2015 when compared to October 2015.
2. In Chittoor District the ground water level has risen by 18 Mts. due to rain fall and works executed under Neeru – Chettu. Real time ground water monitoring will be done in 1254 piezometers in the state from Jan’2016

**NEERU – CHETTU ACHIEVEMENTS during 2015-16**

<table>
<thead>
<tr>
<th>Desilting of Tanks</th>
<th>1,820 Lakh Cum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check Dams and Percolation Tanks</td>
<td>28,244 No.s</td>
</tr>
<tr>
<td>Farm Ponds</td>
<td>1,14,882 No.s</td>
</tr>
<tr>
<td>Other Harvesting Structures</td>
<td>82,984 No.s</td>
</tr>
<tr>
<td>Lift Irrigation Schemes</td>
<td>172 No.s</td>
</tr>
<tr>
<td>Total Ayacut Stabilised and Created</td>
<td>3,03,021 Acres</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>Rs.2,826.80 Crores</td>
</tr>
</tbody>
</table>

(B) **APSIDC:**

- Government have examined the issue of revival of defunct L.I. schemes and recognized as a priority item of work and sanctioned huge amount of Rs.13877.00 Lakhs for revival of 181 schemes to stabilize 1.55 Lakh Acres under Neeru – Chettu programme during 2015-16.
- Government have fixed target for completion of revival works by 20-12-2015 so that the farmers can utilize the schemes for Kharif 2015 and Rabi 2016.
- Government has sanctioned the total cost of revival exempting the contribution of 10% from the beneficiaries keeping the welfare of the farmers in view.
- Construction of New Lift Irrigation Schemes in drought – Prone areas and providing irrigation facilities to small and marginal farmers.
- Restoration & Renovation of defunct lift irrigation schemes.
- Construction of new lift irrigation sources.

(C) GROUND WATER DEPARTMENT:
- Installed Automatic Digital Water Level Recorders (DWLRs) with Telemetry system in 1254 Piezometers covering all 736 groundwater basins (a micro-hydrological unit), all geological formations in 13 districts.
- Also Installed 130 Electrical Conductivity Sensors for water quality monitoring in the existing piezometers.
- Relevance: Instrumentation and automation will aid in sustainable development of resource and in improving water use efficiency in agriculture. The resource can be managed on real time basis. If not measure, we cannot manage it.
- Selection of areas by APSAC & Ground water Department.
- For construction of water harvesting structures in different types of Geological formations in 736 basins of AP State.
- To find out suitable places for construction of underground reservoirs for storing water by conducting experiments.
- Keeping of ground water level from 3m to 8m.

Budget and Expenditure for the F.Y -2015-16
The statement showing the budget estimation and expenditure for the financial year 2015-16. (Rs.in Lakhs)
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Scheme</th>
<th>Budget estimates 2015-16</th>
<th>Expenditure 2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>NoN PLAN:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>Non.Plan 01 (Head Quarters)</td>
<td>453.58</td>
<td>263.78</td>
</tr>
<tr>
<td>02</td>
<td>Non.Plan 04 (District)</td>
<td>25545.54</td>
<td>1283.82</td>
</tr>
<tr>
<td></td>
<td><strong>Total Non. Plan</strong></td>
<td><strong>25999.12</strong></td>
<td><strong>1547.60</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PLAN:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>National Hydrology Project</td>
<td>150.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Phase. III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Special Component Plan</td>
<td>200.00</td>
<td>14.40</td>
</tr>
<tr>
<td>03</td>
<td>Tribal Sub-Plan</td>
<td>118.00</td>
<td>11.58</td>
</tr>
<tr>
<td>04</td>
<td>Office Buildings</td>
<td>50.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Total Plan</strong></td>
<td><strong>518.00</strong></td>
<td><strong>25.98</strong></td>
</tr>
</tbody>
</table>

*5. Targets and Achievements of the F.Y 2015-16:*

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of The Indicator</th>
<th>Union of Measurements</th>
<th>Annual Targets</th>
<th>Achievements</th>
<th>% of Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigations</td>
<td>No.of Sites</td>
<td>10,275</td>
<td>14,478</td>
<td>141</td>
</tr>
<tr>
<td>2</td>
<td>Monitoring*</td>
<td>No.of data points</td>
<td>23,626</td>
<td>26,107</td>
<td>111</td>
</tr>
<tr>
<td>3</td>
<td>Water Quality</td>
<td>No.of Water Samples</td>
<td>5,524</td>
<td>6,331</td>
<td>115</td>
</tr>
<tr>
<td>4</td>
<td>Drilling</td>
<td>No.of Wells</td>
<td>300</td>
<td>358</td>
<td>119</td>
</tr>
</tbody>
</table>

**INITIATIVES TAKEN UP BY THE DEPARTMENT:**

The Ground Water Department is under the Administrative control of the Irrigation and Command Area Development Department. Apart from the Directorate at Hyderabad the Department has 14 Offices headed by Deputy Directors and 2 offices headed by Assistant Directors.
The activities of the Department have been supervising by the Director from Head Office assisted by the Officers of various disciplines with Supporting Technical as well as Administrative and Accounts Staff. All the district offices are engaged in investigations, monitoring, estimation management of groundwater resources, drilling and quality studies of groundwater.

- Under command area studies groundwater levels and quality variations in major project command areas of Nagarjunasagar Left and Right Canals, Srisailam Right Branch Canal and Tugabhadra Project Complex are being monitored by the offices of the Deputy Directors at Guntur and Nandyal and Office of the Assistant Director (CUFU) at Anantapur.

- Under World Bank assisted Hydrology Project, the existing laboratories were upgraded to Level-II laboratories at Kadapa, Kurnool, Visakhapatnam and Rajahmundry which are capable of analysing 30 parameters.

- Apart from the above activities, the Department is taking up other programmes as detailed below:

- **Construction of Office Buildings in the Districts.**

  As per the instructions of Honourable Minister for Minor Irrigation, the Department was proposed to construct office buildings in 13 districts. So far Office Buildings at six locations viz., Srikakulam, Visakhapatnam, Kakinada, Kadapa, Kurnool and Nellore have been completed. The processing of construction of buildings at Guntur and Vizianagaram are in progress. The Government has accorded administrative approval for Office Building at Ongole and Rajahmundry. The process of according Technical Sanction, Tendering is being carried out by the respective executive agencies.
• **Externally Aided Project:**

  **Andhra Pradesh Community Based Tank Management Project [APCBTMP]:**

  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 Groundwater 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 a total of 142 tanks have been selected for Participatory Groundwater Management [PGM] activities, falling in 6 districts and covering 71 Mandals. The activities covers the installation of PHM equipment including raingauges, drilling of piezometers, trainings, data analysis and dissemination etc.

  Project outlay:  Rs.8.54 Crores [as per revised MTR]. Project period upto July, 2016.

• **Andhra Pradesh Water Sector Improvement Project [APWSIP]:**

  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 Nagarjunsagar Right Canal and Nagarjunasagar Left Canal Command area presently falling in both reorganized States. Andhra Pradesh State is dealing with one pilot area falling in Guntur District with an areal extent of about 5,000 Hectares. Five numbers of WUAs namely 194A, 202A, 215, 216 and 217 are falling in the Pilot area.

- Project outlay: Rs.3.078 Crores  
  Project period: March, 2010 to June, 2016

- Status of works completed: i] base line surveys; ii] social assessment; iii] Information Education Communication campaingsPhase.I and II; iv] constructed 5 nos. piezometers; 6 nos. of rainguages; Data retrieval initiated; v] Water Users Association with community based action plans are completed.

- Works to be completed: i] Implementation of action plan; ii] national level seminar on Surface Water and Groundwater; iii] Information Education Communication campaings; iv] Impact assessment after the completion of the implemented programme.

**Proposed Hydrology Project Phase.III:**

- The project developmental objective 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 project cost is Rs.100.33 Crores and project Project period is 8 years proposed from 2015-16 to 2023-24.

• During Financial Year 2015-2016 an amount of Rs.140.00 lakhs is proposed for sustainability of HIS and payment of contractual obligations towards field personnel.

• **New Scheme:**

• **Proposals for special studies in Andhra Pradesh for sustainable development of groundwater resources:**

  During 2015-2016, the Department proposes to undertake special studies in all the 13 districts with an objective to ascertain the aquifer parameters, groundwater conditions, groundwater recharge and prepare suitable action plans for the sustainable development of groundwater resources in the State. Also to take up skill development programmes, awareness programmes on latest innovative technologies.

  An amount of Rs.65.00 lakhs is proposed to conduct the special studies under Plan budget.

8. **Achievements:**

• The Hon’ble Chief Minister inaugurated Thotapalli Barrage Project and released water on 10.09.2015. New Ayacut of one Lakh acres was created.

• Pattiseema Lift Irrigation Scheme is India’s first major river linking project. Diversion of water from river Krishna through Polavaram Project Right main canal by lifting water from river Godavari at Pattisam for domestic and industrial use as a part of water grid. The Government has accorded administrative approval of Rs. 1300.00 Crores vide G.O. Ms. No.1, Dt: 01.01.2015.

  Latest Technology is used in the project by diaphragm wall construction. First Major Lift Project A.P completed within scheduled time of 365 days. First lift pump (10 Cumeecs) commissioned in a record time of 5-1/2 months. Project put into beneficiary use during construction phase itself by
drawing 4.2 TMC water, Which saved crops in Krishna Delta. The worth of the crops thus saved is Rs.2400cr.

- Ayacut irrigated: 2015-16
  - Khariff: 66.81 Lakh acres
  - Rabi: 33.39 Lakh acres

- Long pending issue of land acquisition in Polavaram Right main canal is cleared by successful negotiation with land holders. About 1.2 Crore cum of earth work is completed in the Polavaram Right main canal in record time and 8.8 TMC of water is supplied to Krishna Delta, by linking river Godavari and Krishna

- **Pattiseema Lift Irrigation Scheme:**

  The Polavaram Irrigation Project is declared as National Project in the A.P., Reorganization Act. Before completion of this project, in order to achieve early benefits, the present State of Andhra Pradesh has taken up the Pattiseema LIS which is conceived as a part of Polavaram Project to divert 80 TMC of Godavari waters to river Krishna, which otherwise going waste into sea and there by utilize such waters for Irrigation, drinking and Industrial needs in Rayalaseema region to mitigate the hardship of people of Rayalaseema region suffering due to frequent droughts and scarcity conditions. The project is completed.

- It is a fact to reckon with that by sending water to Krishna Delta through Pattiseema Lift Scheme in crucial period of irrigation, the crops were saved from wilting. Almost 8 Lakh Acres of crop was saved in Krishna Delta and their by produced crop wroth 2400 Cr.

- **Polavaram Irrigation Project Right Main Canal:**

  To achieve the target in a short period, the Government of Andhra Pradesh have taken so many decisions in resolving the issues which are long pending and motivated the agencies to take the challenge and partly completed the excavation of canal to link Godavari River to Krishna River through Polavaram right main canal.

  The Government acquired 1822 Acres of balance land which was pending in Hon’ble high court for the past 8 years conducting number of meetings and resolved the issues with Ryots to start the excavation of canal.
The entire length of 177 kilometers of Polavaram Right main canal was made through by excavating about 1.2 Crore cubic meters of earth in record time of less than two months apart from constructing temporary structures.

The pattiseema lift scheme is benefited so many number of ryots who are actually in need of irrigation water during this drought season in Krishna river catchment and 8.38 TMC of water was diverted from river Godavari to river Krishna through Polavaram right main canal to save the Krishna delta ayacut during khariff 2015.

The inter-linking of river Godavari and Krishna was also achieved with this event.

- In Godavari Delta System (GDS) during 2015-16 Rabi, 8,69,141 acres of ayacut was irrigated with 69 TMC of water as against designed requirement of 83 TMC of water by effective management and adopting warabandhi system.
- The Ground water Department has completed APCBTMP successfully and the participatory Ground water Management (PGM) component got the prize from UNICEF.
- Ground Water Department constructed 10,030 borewells in North Coastal area to utilize the dynamically rechargeable Ground water Resources to create additional ayacut.
- In HNSS Project, During 2015-16 7.80 TMC of water was lifted. Water is released from Jeedipalli Reservoir to Gollapalli Reservoir on 02.12.2016 and water is supplied to 33 MI tanks in this area.

**9. CONCLUSION**

This Government is determined to make Andhra Pradesh a drought proof state by taking up integrated management and development of water resources through scientific water conservation, water management, interlinking of rivers and completing all ongoing Projects in a time bound manner.