

# Agriculture & Farmers' welfare in Andhra Pradesh

*- Technology the way forward*

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# Prologue

- ❖ The State of A.P, basically being **Agro-Based economy**, Agriculture & Allied sectors contribute more than 29% of the GSDP as against 17% in All India GDP.
- ❖ 10 major crops occupies 80% of the gross cropped area against 165 crops enumerated. Major 10 crops indentified as growth engines to accelerate the growth of the Agriculture Economy through special focussed strategies.
- ❖ Agriculture, undoubtedly a back bone to the economy in achieving inclusive Double Digit Growth as its impact spreads over to other sectors of economy such as manufacturing and Trade & Transport sectors.
- ❖ Having recognised the importance of Agriculture sector in the State, the Government of A.P implementing the best practices for enhancement of productivity and there by ensuring the well being of the **farming community**.

# Role of DES

D.E.&S. happened to be SASA and therefore maintain sound database on Agriculture Statistics, which will be helpful to Planners and Policy makers to prepare appropriate action plan/policies for the welfare of the farmers.

- The action plan/policies based on reliable, credible and timely data leads to arrive desired results.

DES maintain

Agriculture Statistics sound data base through light on

- ❖ Rainfall scenario
- ❖ Land utilization at village level
- ❖ Irrigation details -crop wise-source wise
- ❖ Productivity levels of all major crops

And give direction/ Advise line departments

- ❖ To create forward and backward linkages
- ❖ For Supporting prices
- ❖ Value chain management

# Initiatives taken by the Government

- ❖ The Revenue & the Agriculture Department have taken the following steps to enumerate 100% crop sown areas:
  1. The manual records have been replaced with E-crop booking as part of implementation of Web Land portal ([webland.ap.gov.in](http://webland.ap.gov.in)), a unique initiative of the Government of A.P to maintain the accuracy and a revolutionary reform in the field of Agriculture statistics.
  2. Tabs provided under E-crop to the field functionaries to capture the photographs of crops in all survey / sub-division with LAT- LON to improve the quality and timeliness of data as the captured data is being uploaded in Web portal directly from field.
  3. The DE&S maintains a sound data base on Agriculture statistics from grass root level i.e., Village to State level.

# New Initiatives taken by DE&S

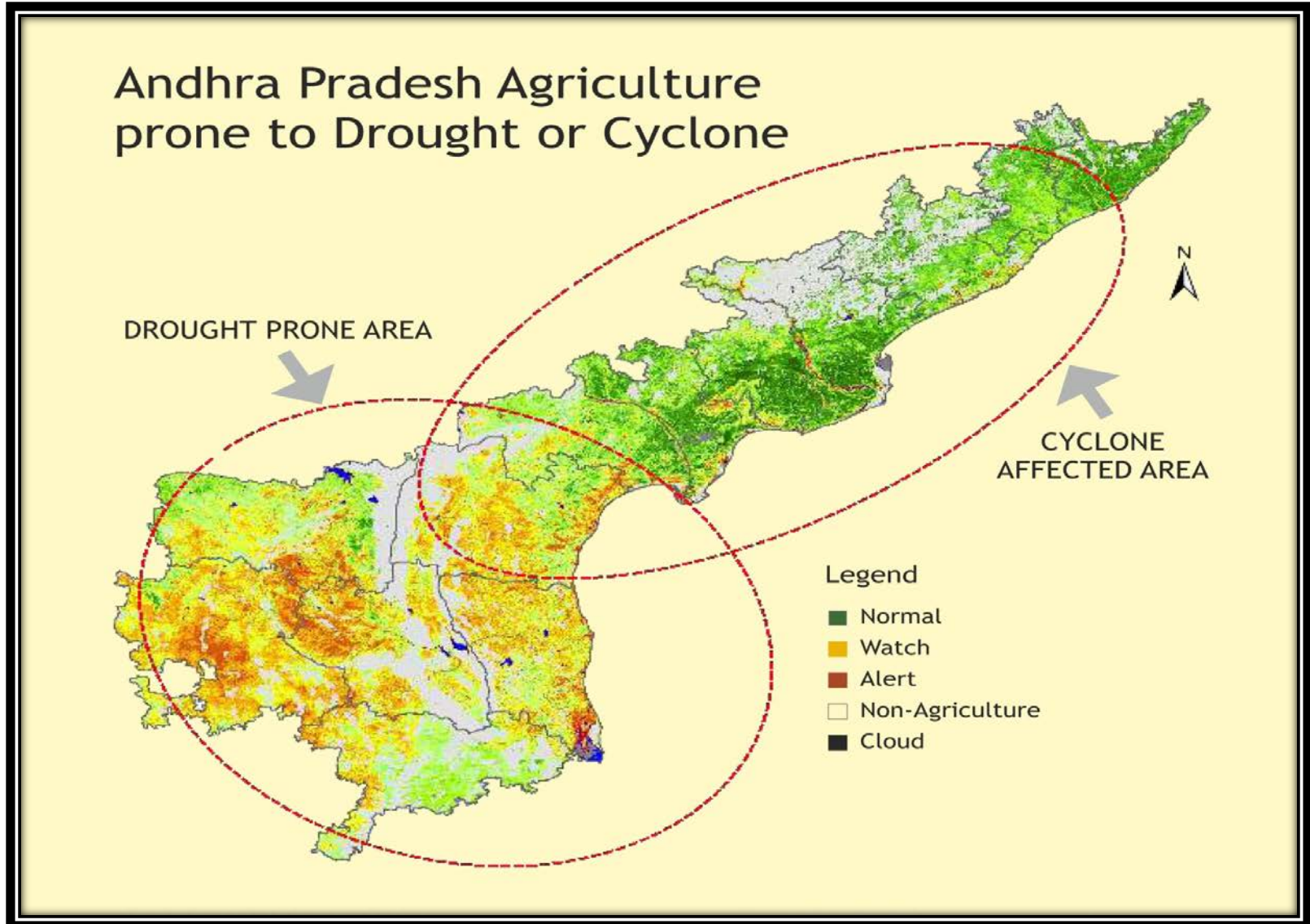
- ❖ Taking the advantage of the initiative of the Government, the DE&S being SASA, has taken the following measures to maintain Quality, Accuracy & Timeliness of the Agriculture Statistics.

## A. RAINFALL STATISTICS

- G.O.A.P established around 1900 Automatic Weather Stations, spread over 670 mandals for capturing the data on weather parameters viz., Rain fall, humidity, Wind velocity, temperature etc.
- The AWS data is being collected through remote sensing technology on hourly basis and analyzed to estimate real time accurate weather scenario.
- Settlement of claims of weather based Agriculture insurance through AWS scheme.
- The Claims of Rs.400 crores were settled within a month in Ananthapuramu District for Groundnut crop with the timely submission of Weather based data to the Insurance companies.
- The rainfall data of manually operated Rain gauges and AWS is being integrated which provides information like Dry Spells, Rainy days.
- It linked to the **Chief Minister dashboard** to take real time policy decisions at apex level during the time of Drought and floods.
- Brief analytical and activities of AWS is as follows

# Measure, Monitor, Map and Manage Water

– To Build Climate Resilience

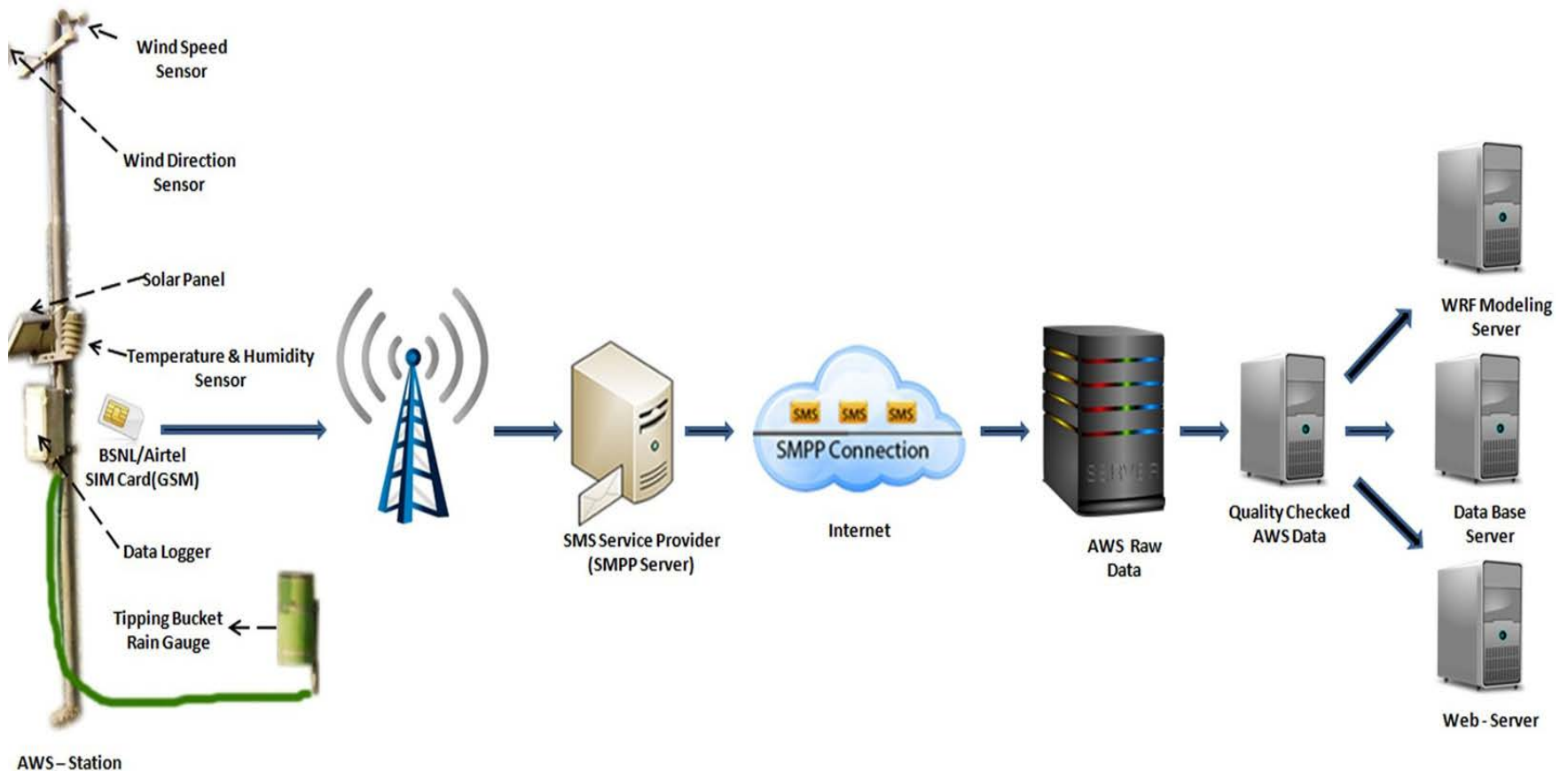


# Climate Resilience

- ❖ World Class Gauging Network for Half – hourly monitoring
- ❖ Map and Dissemination to Manage
- ❖ State of the Art Early Warning System
- ❖ Vulnerability Mapping
- ❖ Web Based Digital data Dissemination
- ❖ Collaboration and Knowledge Management
- ✓ Measure and Report on Real Time
  - 1168 AWS at **10 Km X 10 Km resolution aids in** Cyclone and Flood Early Warning
  - Implementing Weather Based Crop Insurance
  - Real time Drought Monitoring
  - 431 ARS in Urban areas at **2 Km X 2 Km** resolution to manage Urban Flooding
  - 94 River Gauges in 72 river basins - Monitors water level and Flood Management
  - 76 Reservoir Level Recorders for Monitoring Water Levels for Efficient Water Management
- ✓ Real Time Automatic Piezometers :
  - Monitor Ground Water Stress and Poor Quality Areas.
  - Prioritize recharge to bring Ground water 3 to 8 m below Ground Level

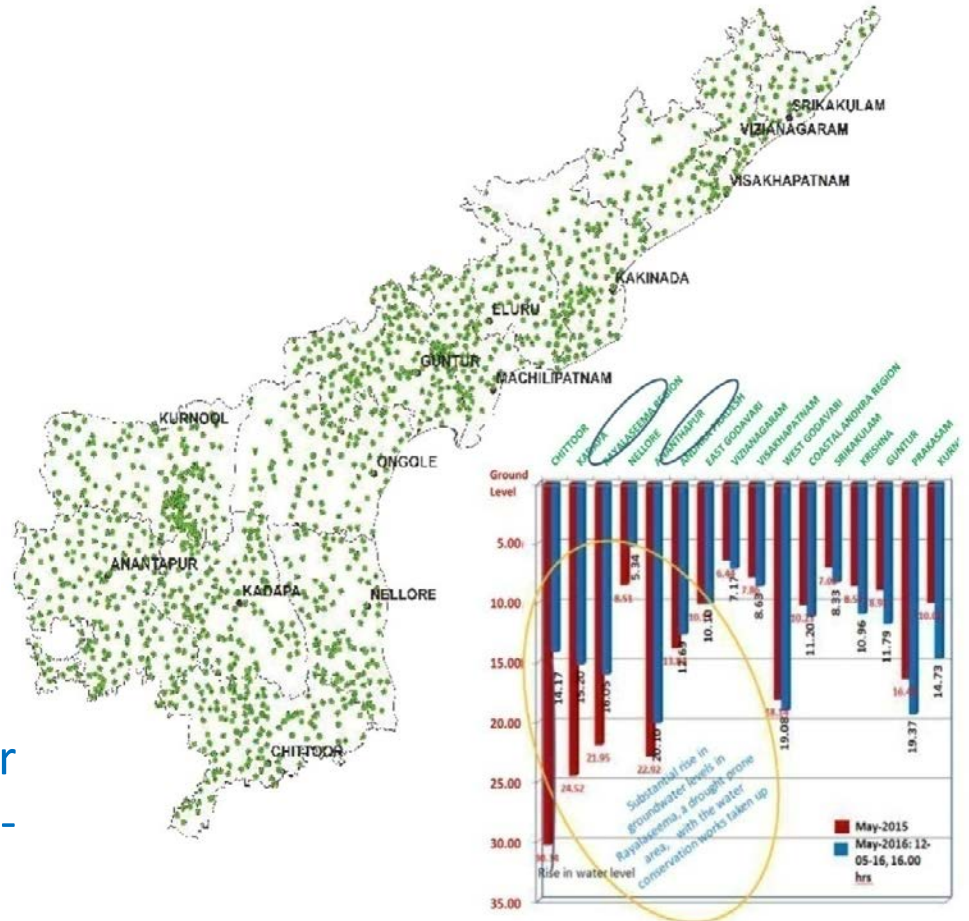
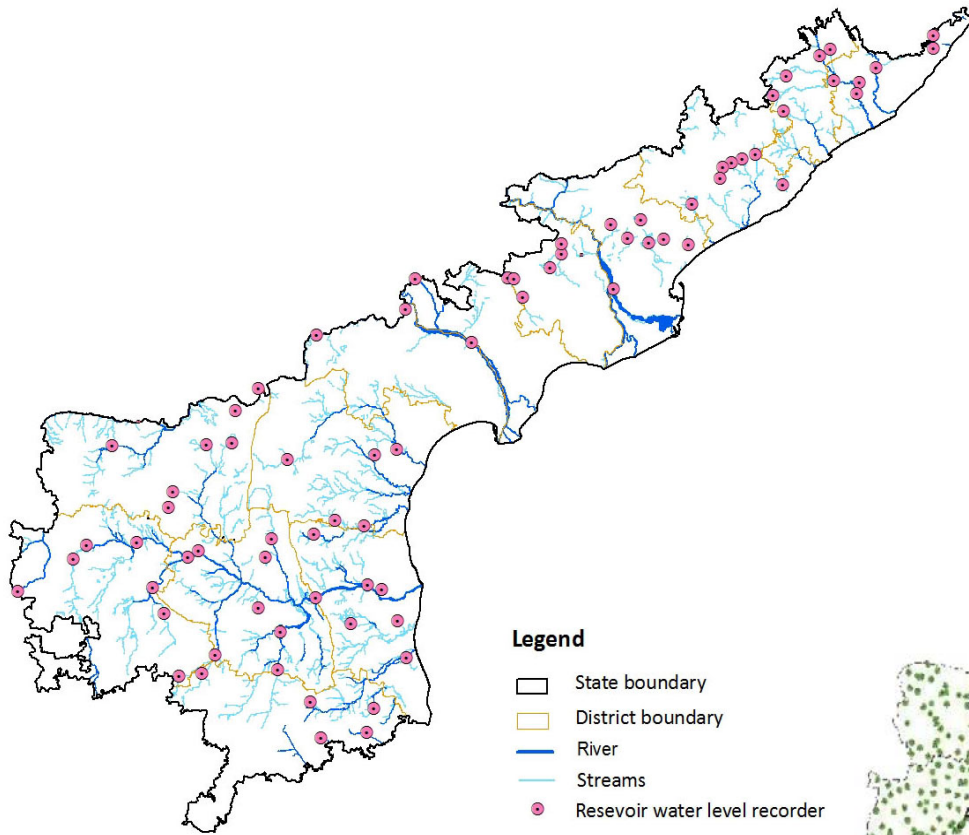
# AWS DATA FLOW MODEL

- Data from AWS stations are transmitted through GSM Technology in an encrypted form. The received raw data is decrypted in real time and retrieved at APSDPS central server. Quality checks are performed on this raw data to eliminate error values and disseminate to various technical units





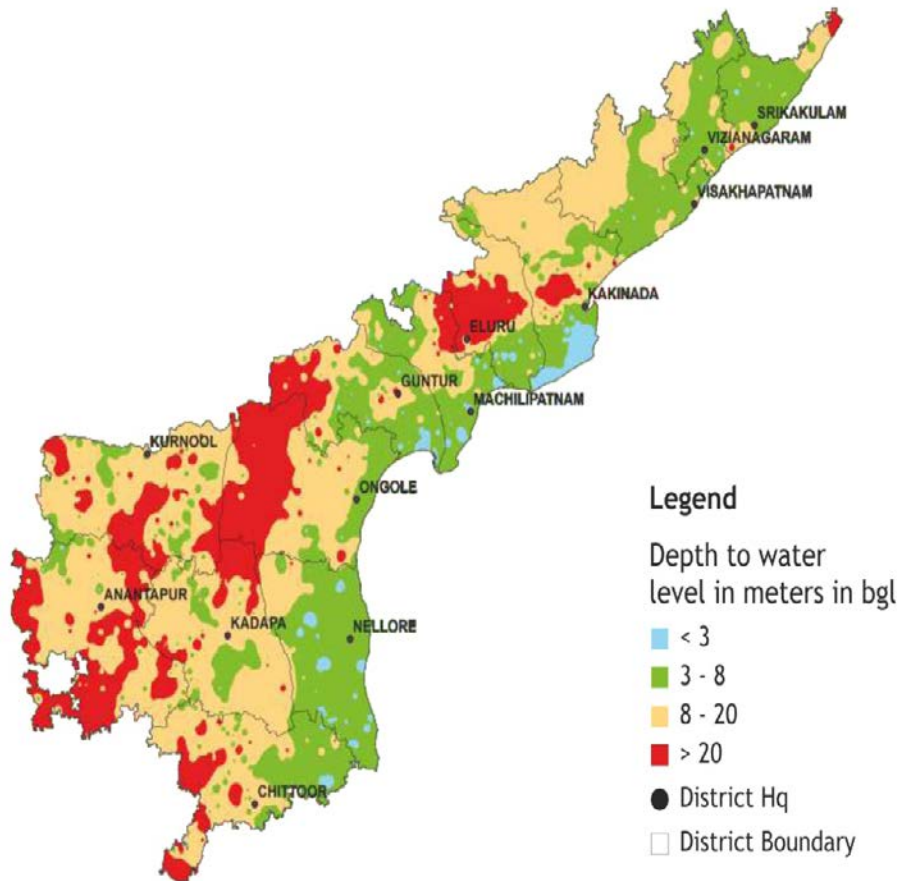
1254 Real Time Automatic Piezometers - Monitor Ground Water Stress and Poor Quality Areas.



76 Reservoir Level Recorders for Monitoring Reservoir Water Levels - for Efficient Water Management

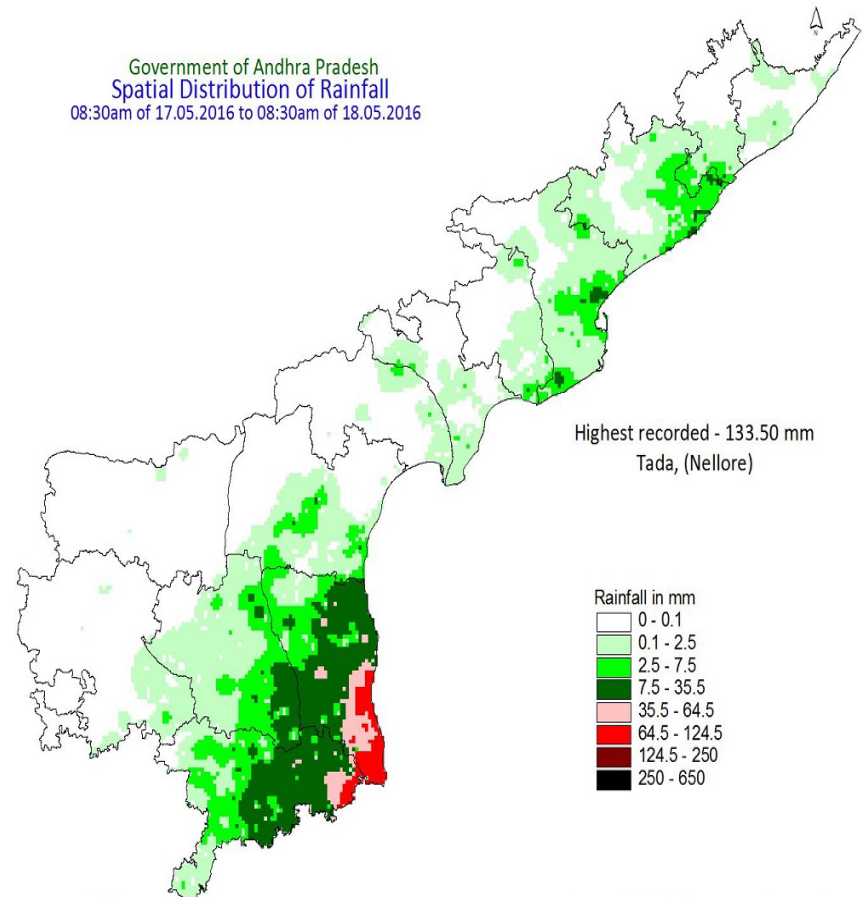
24x7 Data Center for Digital  
Data Dissemination-  
SMS, Email, Web Service

Mapping of **Surface and Ground Water**  
status Daily / Weekly / Monthly /  
Seasonal for better decision making  
and management



Ground Water Depths

Government of Andhra Pradesh  
Spatial Distribution of Rainfall  
08:30am of 17.05.2016 to 08:30am of 18.05.2016



High resolution daily rainfall



# Real Time Web Based Management and Data Dissemination

✓ Digital Data Dissemination of Analyzed reports through Web Portal on real time basis



Andhra Pradesh State Development Planning Society  
Planning Department  
Government of Andhra Pradesh



Sri.N Chandrababu Naidu  
Hon'ble Chief Minister



Sri Yanamala Ramakrishnudu  
Hon'ble Minister for Finance & Planning

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[Early Warning Maps](#)
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NEW Updated on current low pressure in Bay of Bengal
 NEW Realtime Rainfall

### Cyclone Alert

Rainfall (mm) Forecast for 24hr  
Valid from 08:30am of 18-05-2016 to 08:30am of 19-05-2016

**Rainfall (mm)**

- 0 - 0.1
- 0.1 - 2.5
- 2.5 - 7.5
- 7.5 - 35.5
- 35.5 - 64.5
- 64.5 - 124.5
- 124.5 - 250
- >250

\*As per WRF model runs made at APSDPS

**Rainfall Status(Avg from 01-06-2015 to tilldate)**  
Actual **836.2mm** Deviation **-11.4%**

District-wise, Month-wise Rainfall Status from 01/06/2015

District	Actual	Normal	Deviation(%)	Status
Srikakulam	772.5	1130.5	-31.7	Deficient
Vizianagaram	963.5	1092.9	-11.8	Normal
Vishakapatnam	1091.8	1171.3	-6.8	Normal
East Godavari	1013.5	1198.0	-15.4	Normal
West Godavari	908.5	1137.0	-20.1	Deficient
Krishna	825.5	1020.7	-19.1	Deficient
Guntur	646.7	836.0	-22.6	Deficient
Prakasham	616.2	855.5	-28.0	Deficient
Nellore	1271.3	1070.0	18.8	Normal
Chittoor	1109.7	906.0	22.5	Excess
Kadapa	796.3	681.6	16.8	Normal
Anantapur	540.7	528.5	2.3	Normal
Kurmoor	438.4	648.5	-32.4	Deficient
State	836.2	944.3	-11.4	Normal

- Today's Maximum Temperature recorded (ie from 8.30 AM to 5 PM)

Max/Min Temperature in Top Cities

<b>Vijayawada</b> 42°C / 29°C	<b>Vishakapatnam</b> 37°C / 26°C	<b>Thirupathi</b> 41°C / 27°C
<b>Amaravathi</b> 42°C / 28°C	<b>Vizianagaram</b> 41°C / 24°C	<b>Nellore</b> 40°C / 27°C
<b>Guntur</b> 39°C / 24°C	<b>Srikakulam</b> 37°C / 26°C	<b>Kurmoor</b> 43°C / 28°C
<b>Ongole</b> 37°C / 28°C	<b>Eluru</b> 40°C / 29°C	<b>Kadapa</b> 44°C / 27°C
<b>Rajamahendravaram</b> 41°C / 27°C	<b>Kakinada</b> 40°C / 27°C	<b>Anantapur</b> 39°C / 24°C

10

# Area Statistics

- ❖ **DES collects data on area statistics on weekly basis for principal crops, which covers more than 80% of Gross Area Sown.**
- ❖ **The data being periodically updated weekly/Monthly till the sowing are completed which are authenticated by the District Collectors.**
- ❖ **The weekly sown particulars are linked with “ CM CORE DASH BOARD” and being reviewed by Hon’ble CM on weekly basis.**
- ❖ **Government of AP constituted committees from sub-district level to state level for periodical reconciliation of Area figures with line departments i.e., Agriculture department, Horticulture, Commissioner of Sugars, Irrigation department and Fisheries.**
- ❖ **These committees are headed by Tahasildar at mandal level and Collector at district level**
- ❖ **Significant variations in the reported figures over Normal/ previous year figure will be verified by the joint committees with line department at village level and reconciled figures only reported to DES.**
- ❖ **Kharif and Rabi Agrl. Census are being conducted every year on pre announced fixed time schedule with the support of District Collector involving Revenue, Agriculture and Statistics personnel and after thorough scrutiny at different layers area figures are being released by 15<sup>th</sup> December for kharif and 15<sup>th</sup> June for Rabi**
- ❖ **These figures only will be used for all official purpose at all levels by all departments.**

## **B. AREA STATISTICS**

1. Based on monthly cultivation accounts, Area statistics is being collected from all Revenue villages and prepare various Area Statistics reports viz., TRAS cards, advance estimates and Agriculture census etc.
2. Area Statistics is being reconciled with the line Departments viz., Revenue, Agriculture, Horticulture, Sericulture, Sugars, Fisheries & Irrigation every month from Mandal to State level, as per the GO issued by the Government.
3. To ensure reliability and quality of data on all aspects, various cross checks have been exercised on the data so collected and ensured consistency among different data sets released by the DE&S.
4. Web applications are being developed by DES to facilitate the speedy flow of Agriculture Statistics right from mandal to state for analysing, generation and dissemination of various reports.

## C. YIELD STATISTICS

- ❖ The CCEs are being conducted on 19 major crops during kharif & 13 crops during Rabi, which covers 85% of the Gross cropped Area duly established procedure supported by IASRI
- ❖ District wise Major 10 crops are covered under (productivity estimates) CCEs, even though the crop is not significant at state level to prepare DDP estimates.
- ❖ The CCEs are equally shared by Agriculture department and DES to have collective responsibility to improve the quality.
- ❖ All functionaries are being trained on conduct of CCES every season
- ❖ Effective Supervision is being taken up both on GCES and Insured crops by Agriculture department DES and Revenue department.
- ❖ Abnormal yields will be critically reviewed through post harvest supervision
- ❖ Quality CC kits consist of electronic weighing machine , tape etc., provided to all primary workers to have accurate measure of harvest produce.
- ❖ To maintain quality and timeliness in yield data, Tabs are provided to all primary workers to ensure reliable and real time data transmission for quick settlement of claims under AIS and compilation of production estimates immediately after harvest.
- ❖ DES releases Agriculture Scenario of the year as “ Agriculture Statistics at a Glance”, on 15<sup>th</sup> August every year, which contains time series data of area, yield production , Crop calendar on sowings and harvest.

## C. YIELD STATISTICS

- ❖ A.P - a role model in using the technology at optimum level for effective delivery of services in implementation of Agriculture Insurance Scheme.
- ❖ 10,000 Tabs provided with Internet facility to all the field functionaries to capture the images of CC experiments and for quick transmission of yield data from field itself through dedicated APP.
- ❖ Adoption of technology and participation of Insurance companies during the harvest of CC experiments helped a lot in timely settlement of claims under Agriculture Insurance.
- ❖ The Government of A.P. have revised the Cut-off dates for submission of Insurance estimates well before the due dates prescribed by the GOI to create trust among farming community by settling the claims immediately after harvest.



# Success Stories on Agriculture & Farmers' welfare

- ❖ Recognizing the welfare of farmers in Agro-based economy, the Government have taken landmark initiatives for the well being of farming community in the State.
  
- ❖ Some of the noteworthy interventions made by the Government are as follows:
  1. Interlinking of Rivers
  2. Real time monitoring of Ground water
  3. Agricultural Insurance
  4. Water harvesting structures
  5. Rain guns
  6. Soil grid

# Success Stories on Agriculture & Farmers' welfare

## 1. Interlinking of Rivers

**Pattiseema** lift irrigation project which has taken up and commissioned within a recorded time, interlinked the Godavari water with Krishna basin at Prakasam Barrage.



The standing Paddy crop which is in stress in around **10 lakh acres** in the Krishna delta due to lack of water in Krishna basin, was saved by lifting of **53 TMC** of Godavari water through Pattiseema Lift. This innovative intervention of the Government has lit a lamp in the lives of farmers of Krishna delta.

# Success Stories on Agriculture & Farmers' welfare

## 2. Real time monitoring of Ground water

- For effective and optimum conservation and utilization of ground water, 2.10 lakh Ground water recharge structures (Panta Sanjeevani) were taken up in a massive scale under Neeru-Chettu programme which helped in increasing ground water table that led to bring additional area under irrigation.



- Ground water situation is being monitored on real time basis by using the 1254 piezometers and with the help of this technology, dynamic ground water levels are being monitored for recommendation of crops as per the Water Auditing Report .

# Success Stories on Agriculture & Farmers' welfare

## 3. Agricultural Insurance

- The State of Andhra Pradesh has pioneered in the nation in implementation of Village insurance scheme to mitigate the plights of the farming community in the country.

## 4. Water harvesting structures (Farm ponds)

- To maintain the rate of moisture in the atmosphere apart from balancing the ground water table, water harvesting structures were taken up in a big way which helped the standing crops to sustain during the prolonged dry spell period.



# Success Stories on Agriculture & Farmers' welfare

## 5. Rain guns

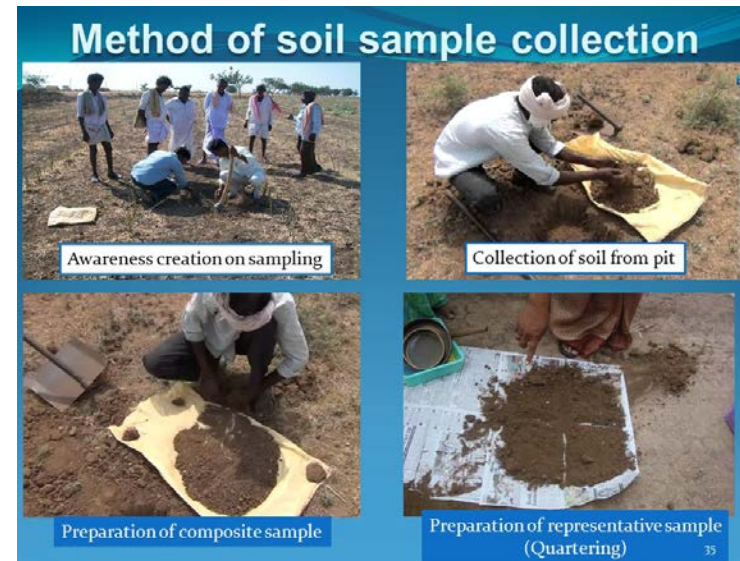
- The usage of Rain guns proved as best devices to protect the crops during drought period through judicious use at times of irrigated water scarcity.



# Success Stories on Agriculture & Farmers' welfare

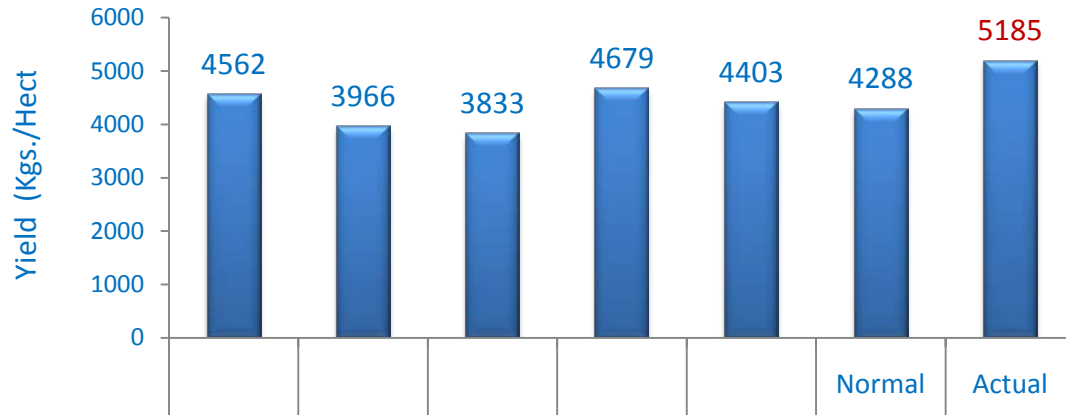
## 6. Soil grid

- Soil grid programme is being implemented to test the health of the soil and thereby supplement with the deficient nutrients which helped the farming community to reduce the indiscriminate usage of chemical fertilizers.
- Soil health cards (clearly indicating the soil status) are being distributed to all farmers in the State for effective monitoring and to sustain the soil health on this front. So far, **17 lakh cards** have been distributed.

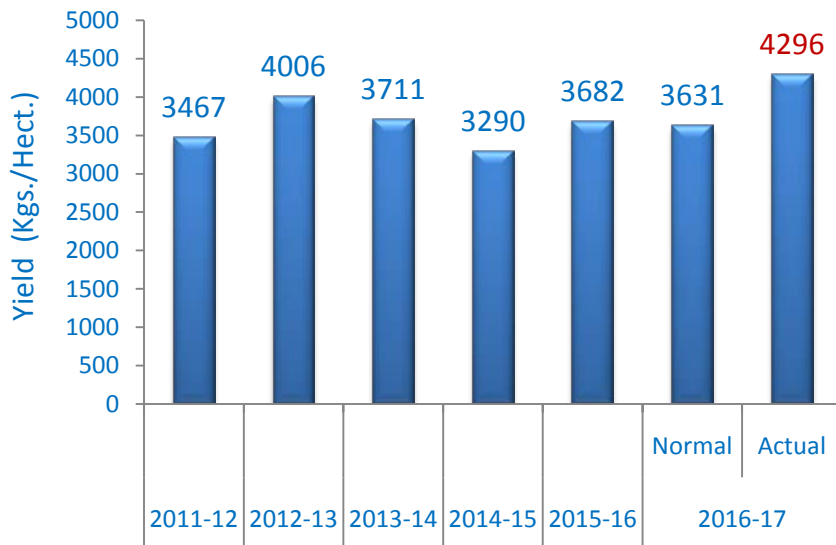


# SOIL GRID - IMPACT ON PRODUCTIVITY DURING KHARIF 2016-17

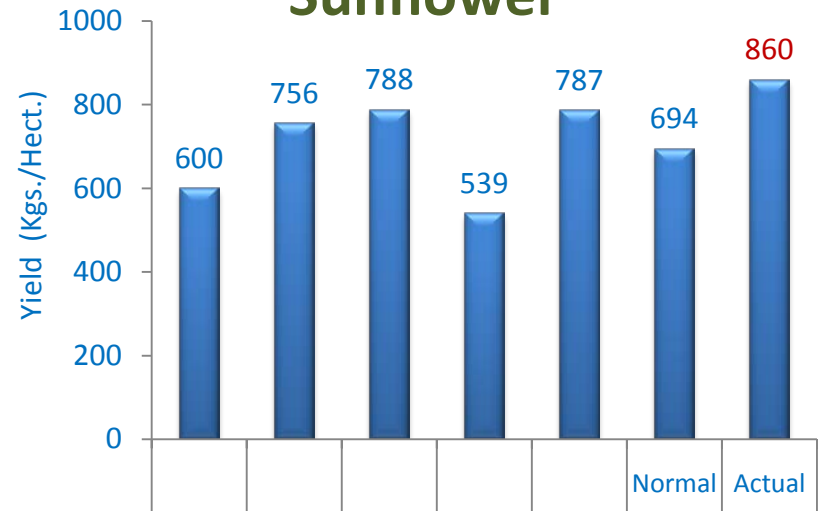
## Paddy



## Maize



## Sunflower



Agriculture is not the career,  
the way of life

THANK YOU