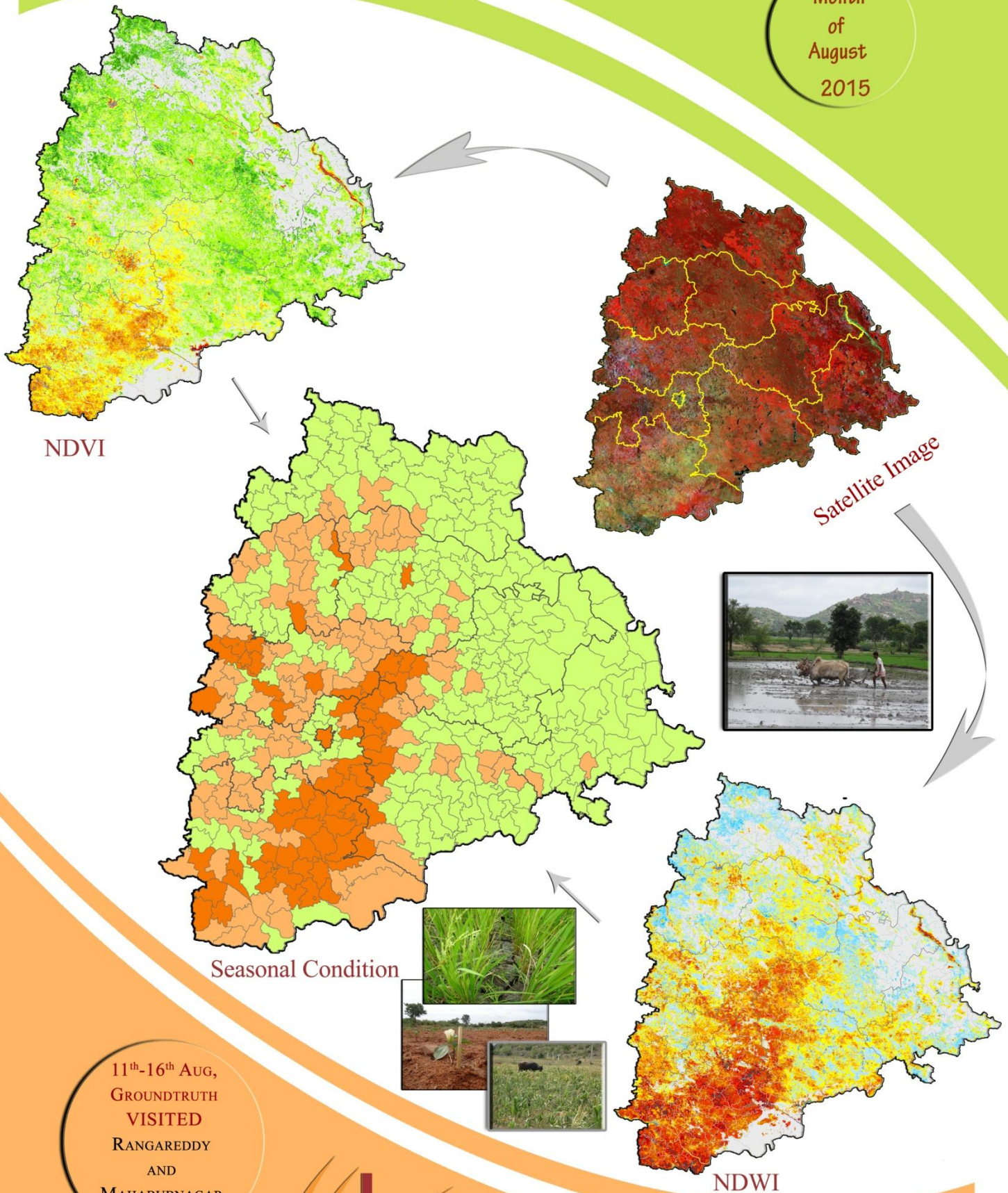


Fortnightly Report of Seasonal Condition

Integrated Seasonal Condition Monitoring System

Month
of
August
2015



11th-16th AUG,
GROUNDTRUTH
VISITED
RANGAREDDY
AND
MAHABUBNAGAR
DISTRICTS

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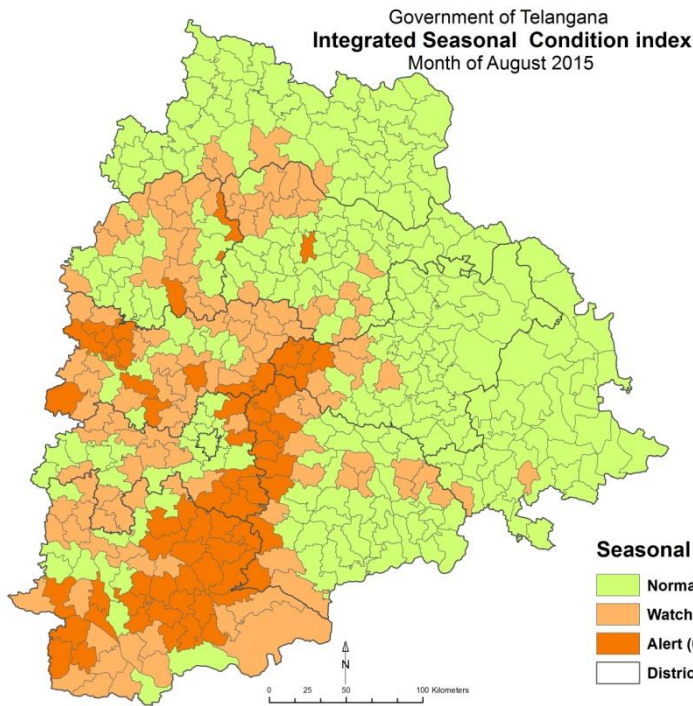
HIGHLIGHTS

INTEGRATED SEASONAL CONDITION MONITORING SYSTEM (ISMS)

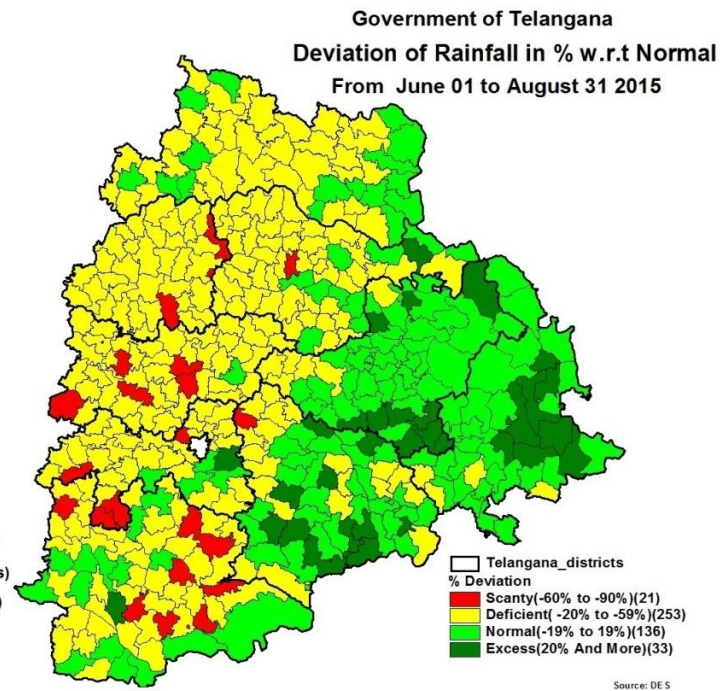
TELANGANA

Cumulative Report up to 31st of August, 2015

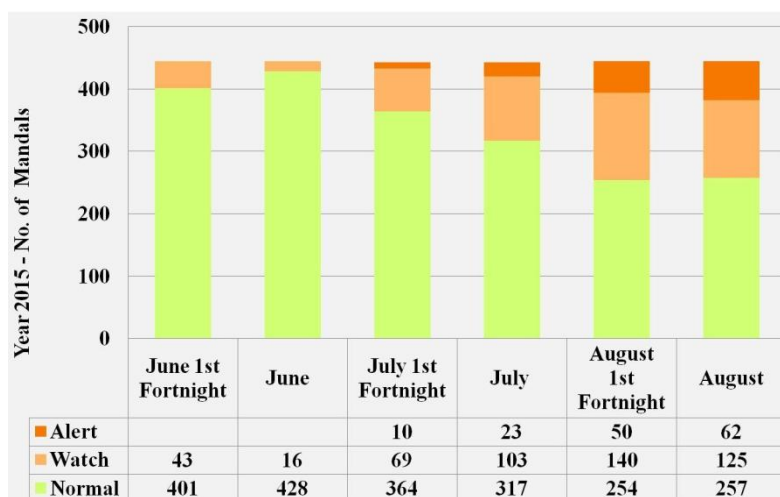
- Seasonal condition is categorised as **“Normal”** in **257** Mandals as on date 31st August, 2015
- Seasonal condition is categorised as **“Watch”** in **125** Mandals as on date 31st August, 2015
- Seasonal condition is categorised as **“Alert”** in **62** Mandals as on date 31st August, 2015



Seasonal Condition up to Month of August, 2015



Rainfall from 1st June to 31st August, 2015



Monthly Seasonal condition of Telangana up to 31st August 2015

Rainfall 01st June to 31st August, 2015

- 21** Mandals, out of 443 (**5%**) of state received **scanty rainfall**.
- 253** Mandals (**57%**) of the state received **deficit rainfall**.
- 136** Mandals (**31%**) and **33** Mandals (**7%**) have received **Normal** and **Excess rainfall** respectively.
- In Telangana state **one dry spell** is observed in 131 Mandals - Adilabad (5), Karimnagar (13), Khammam (03), Mahabubnagar (40), Medak (19), Nalgonda (18), Nizamabad (08), Rangareddy (15) and Warangal (10).
- Two dry spells** are observed in 8 mandals - Mahabubnagar (02), Nalgonda (01), Nizamabad (01) and Rangareddy (04).

- **No Rainfall (-100%)**
- **Scanty (-60 % to -90%)**
- **Deficient (-59% to -20%)**
- **Normal (-19% to +19%)**
- **Excess (>19%)**

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1. Background and Rationale

Agricultural Drought Assessment is essential for taking appropriate remedial measures for improvement of drought situation. Satellite based remote sensing data has been shown to be highly useful for crop condition assessment and drought monitoring. A project called National Agricultural Drought Assessment and Monitoring System (NADAMS) had been developed by National Remote Sensing Centre (NRSC), ISRO, which envisaged use of remote sensing and meteorological data for drought assessment of 13 agriculturally important states of India. The technology was transferred to Mahalanobis National Crop Forecast Centre (MNCFC), Department of Agriculture & Cooperation, by NRSC for carrying out drought assessment at national level.

The Department of Agriculture & Cooperation, Government of India published a drought manual in 2009 which suggested parameters like Rainfall deficiency, Area under sowing, NDVI, Moisture Adequacy Index (MAI) and some other indicators to declare drought. The Government of Telangana (GoTS) uses the following criterion for declaration of Drought.

1. Mandatory Condition - Rainfall deficiency of 25% (>1000 mm rainfall area) and 20% (999 to 750 mm rainfall area) and 15% (<750 mm rainfall area)
2. Minimum of two condition to be fulfilled out of following three
 - a) Reduction in cropped areas of 50% and above under all principal crops.
 - b) Reduction in yields(50% and above), in case of high input oriented crops ground nut, Bengal gram, hybrid sunflower yields may 40% reduction or above.
 - c) Dry spells and its impact on crop damages.

Telangana State Development Planning Society (TSDPS) and CRIDA have developed software that assists in monitoring the all three agricultural, meteorological and hydrological drought situation. Telangana State Remote Sensing Applications Centre (TRAC) has established a protocol ***Integrated Seasonal Condition Monitoring System (ISMS)***. The objectives of the ISMS are

- Concurrent monitoring of seasonal conditions using remote sensing, extensive weather network data and continuous ground truth.
- Develop an early warning (monitoring and forecasting) of drought using suite of indicators, which will help to increase drought preparedness, and identify and implement appropriate Disaster Risk Reduction (DRR) measures.
- Early Warning to the Districts/Mandals.

ISMS uses the rainfall data provided by Directorate of Economics & Statistics (DES), weekly progress of crop area sowings, ground water level and its fluctuation, command and non-command area, water releases data, reservoir levels in addition to the Normalized Difference Vegetation Index (NDVI) and Normalized Difference Water Index (NDWI) based methodology of MNCFC. This

output is verified through ground truth, additionally in context of the state specific drought declaration criteria. The agricultural situation is classified in three to four categories as per the NRSC i.e. Normal, Watch, Alert for June to August and Normal, Mild, Moderate and Severe for September to October. The details of the classification of agricultural situation are given in Table.1.

Table 1: Classification of Agricultural situation

June - August	Normal	<ul style="list-style-type: none"> Agricultural situation is normal
	Watch	<ul style="list-style-type: none"> Progress of Agricultural situation is slow Ample scope for recovery No external intervention needed
	Alert	<ul style="list-style-type: none"> Very slow progress of agricultural situation Need for intervention. Develop and implement contingency plans to minimise loss
September - October	Mild drought	<ul style="list-style-type: none"> Crops have suffered stress slightly
	Moderate drought	<ul style="list-style-type: none"> Considerable loss in production. Take measures to alleviate suffering
	Severe	<ul style="list-style-type: none"> High risk Significant reduction in crop yield Management measures to provide relief

2. Data used, Indicators and Methodology

2.1. Data used

The details of data used under project is discussed in Table-2

Table 2: Data source and indicators

Data source	Product	Indicators
MODIS (250/500m)	Surface reflectance	NDVI & NDWI
AWiFS	Surface reflectance	NDVI & NDWI
AWS/ DES	<ul style="list-style-type: none"> Daily rainfall & soil moisture Crop sown area Crop cutting experiments 	<ul style="list-style-type: none"> Rainfall deviation Dry spells Soil moisture status % deviation of crop sown area Crop Yield
Agriculture Department	Weekly sowing progress	District wise sown areas deviation from normal
Irrigation Department	Reservoir levels/ Water release data	Command area Mandals under canal irrigation

2.2. Indicators and Index

2.2.1. Rainfall data

In Telangana, South-West Monsoon is crucial for agriculture sector. ISMS use mandal wise rainfall data provided by Directorate of Economics & Statistics (DES). This data is used for computation of meteorological drought situations and the conditions of the GoAP criteria.

2.2.2. Reservoir Water Levels, Water Release and Command, Non-Command areas

A scheme having Culturable Command Area (CCA) up to 2,000 hectares individually is classified as minor irrigation scheme. A scheme having CCA more than 2,000 hectares and up to 10,000 hectares individually is a medium irrigation scheme. A scheme having CCA more than 10,000 hectares is major irrigation scheme. In Telangana, Water is released during Kharif season to major and medium command areas.

2.2.3. Crop Sowing Progress

Weekly crop sowing progress reports are taken from 'Season and Crop Coverage Report-Kharif 2014' of Commissionerate of Agriculture, Telangana. The report includes current status of Weather condition, Water level, Crop sowing and Agricultural Operations.

2.2.4. Vegetation Index

The crop/vegetation reflects high energy in the near infrared band due its canopy geometry and health of the standing crops/vegetation and absorbs high in the red band due to its biomass and photosynthesis. Uses of these contrast characteristics of vegetation in near infrared and red bands indicate both the health and condition of the crops/vegetation. Normalised Difference Vegetation Index (NDVI) is widely used for operational drought assessment because of its simplicity in calculation, easy to interpret and its ability to partially compensate for the effects of atmosphere, illumination geometry etc., (Malingreau 1986, Tucker and Chowdhary 1987, Jhonson, et al., 1993, Kogan 1995). NDVI is derived by the difference of these measurements and divided by their sum.

$$NDVI = \frac{(NIR - Red)}{(NIR + Red)}$$

The vegetation index is generated from each of the available satellite data irrespective of the cloud cover present. To minimize the cloud, monthly time composite vegetation index is generated.

2.2.5. Surface Wetness Indicators

Shortwave Infrared (SWIR) band is sensitive to moisture available in soil as well as in crop canopy. In the beginning of the cropping season, soil back ground is dominant hence SWIR is

sensitive to soil moisture in the top 1-2 cm. As the crop progresses, SWIR becomes sensitive to leaf moisture content. SWIR band provides only surface wetness information. When the crop is grown-up, SWIR response is only from canopy and not from the underlying soil. NDWI using SWIR can complement NDVI for drought assessment particularly in the beginning of the cropping season. NDWI is derived as under;

$$NDWI = \frac{(NIR - SWIR)}{(NIR + SWIR)}$$

Where, Near Infra Red and SWIR are the reflected energy in these two spectral bands. Higher values of NDWI signify more surface wetness.

2.2.6. Vegetation Condition Index

Kogan (1995) developed Vegetation Condition Index (VCI) using the range of NDVI as under,

$$VCI = \frac{(NDVI - NDVI \min)}{(NDVI \max - NDVI \min)} * 100$$

The current drought assessment expressed as percentage of deviation of NDVI and NDWI based on 10 year NDVI and NDWI index values. The minimum and maximum value of NDVI and NDWI, the VCI discriminated between the weather components.

2.3 Methodology

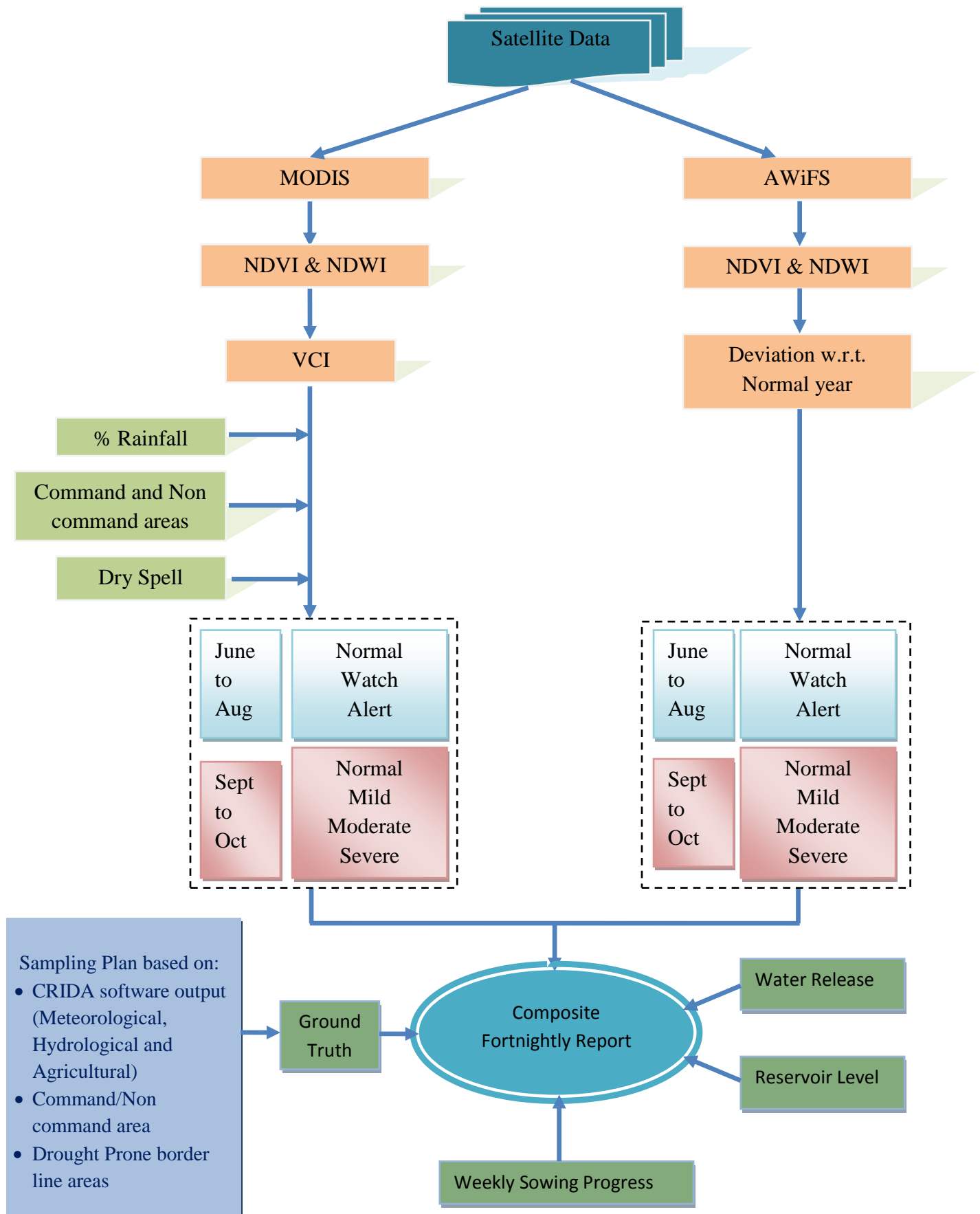


Figure 1: Flow chart of drought assessment methodology

The methodology used by TRAC to assess, monitor the agricultural conditions and situation in the state at district and Mandal level uses IRS Resourcesat-2 AWiFS data. The Indian Remote Sensing satellite (IRS) Resourcesat-2 having AWiFS (Advanced Wide Imaging Field Sensor) collects data in four spectral bands 0.52-0.59 μm (green), 0.62-0.68 μm (red), 0.77-0.86 μm (near infrared) and 1.55-1.70 μm (SWIR) with spatial resolution of 56 m and ground swath of 740 Km with a revisit period of 5 days. Along with this MODIS 250m derived NDVI and NDWI data are also interpreted for better monitoring of the agriculture condition in the State.

The different activities carried out through ISMS commence with acquisition of MODIS (250m) and AWiFS (56m) satellite data. The satellite data being processed and NDVI and NDWI indices are developed. Based on these indices deviation with respect to normal year (2013), VCI is calculated and mandal wise statistics are derived. The agricultural situation is assessed incorporating rainfall deviation, command and non command areas, dry spell, CRIDA software outputs, drought prone border line areas, crop sown area progress and ground truth along with satellite derived indices. The flow chart of methodology is shown in Figure 1.

3. Present status up to 31st August 2015

3.1. Rainfall data

The status of rainfall as on 31st August 2015 is shown in Table 3. Nearly Five percent (21 out of 443) mandals of the Telangana state received Scanty rainfall (-60% to -90%), Fifty Seven Percent (253 mandals) are deficit (-20% to -59%), 136 mandals Normal (+19% to -19%) and 33 mandals received Excess (+19% or more) rainfall respectively up to 31st August, 2015.

Table 3: Rainfall status as on 31st August 2015

Sl. No	District Name	No. of Mandals	No Rain -100%	Scanty -60% to -99%	Deficient -20% to -59%	Normal -19% to +19%	Excess >19%
1	Adilabad	52	--	--	36	16	--
2	Nizamabad	36	--	2	34	--	--
3	Karimnagar	57	--	1	46	9	1
4	Medak	46	--	5	40	1	--
6	Ranga reddy	37	--	4	28	4	1
7	Mahabubnagar	64	--	8	40	15	1
8	Nalgonda	59	--	1	20	27	11
9	Warangal	51	--	--	6	35	10
10	Khammam	41	--	--	3	29	9
	State Total	443	--	21	253	136	33

SOURCE: DES, HYDERABAD

The % deviation of Actual & Normal rainfall received up to 31st August 2015 is shown in Fig. 2, 3, 4, 5 & 6 respectively.

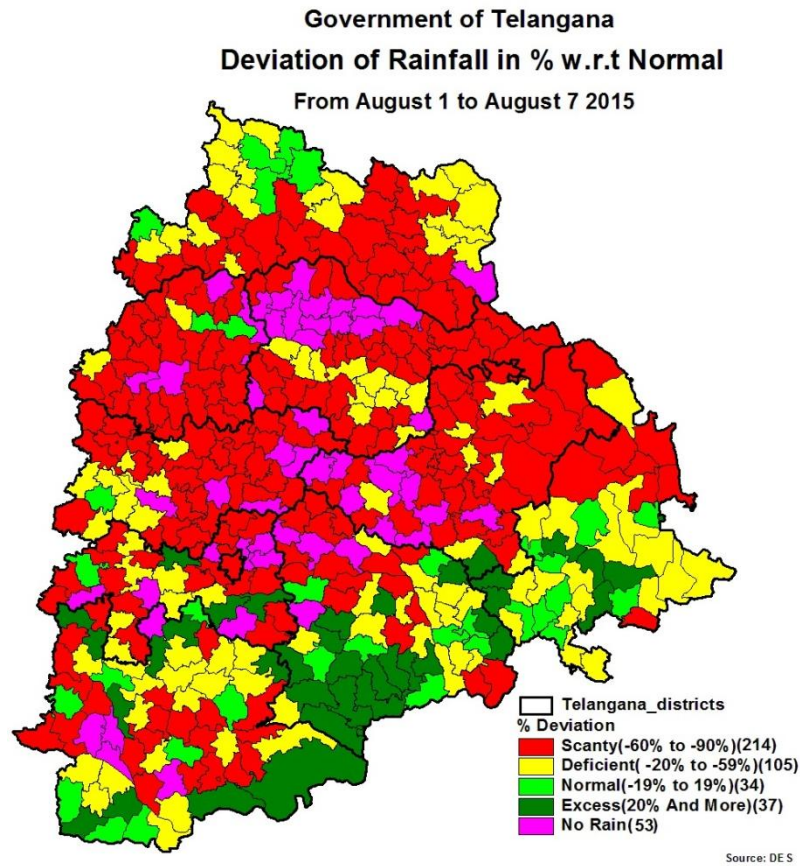


Figure 2: Deviation of Rainfall in percent w.r.t. Normal from August 01st to August 07th, 2015

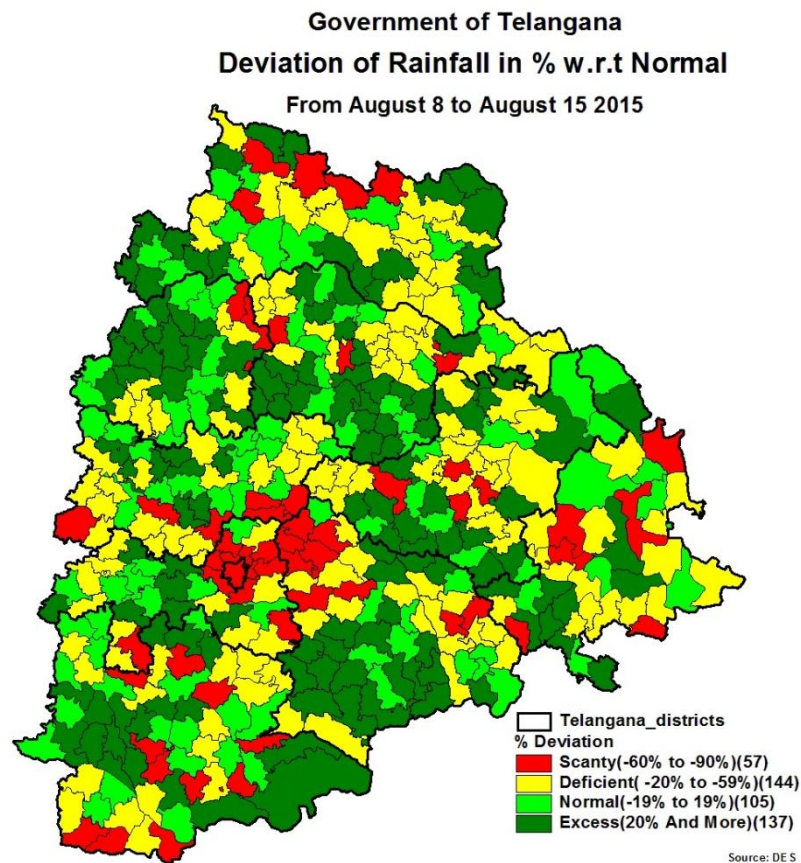


Figure 3: Deviation of Rainfall in percent w.r.t. Normal from August 08th to August 15th, 2015

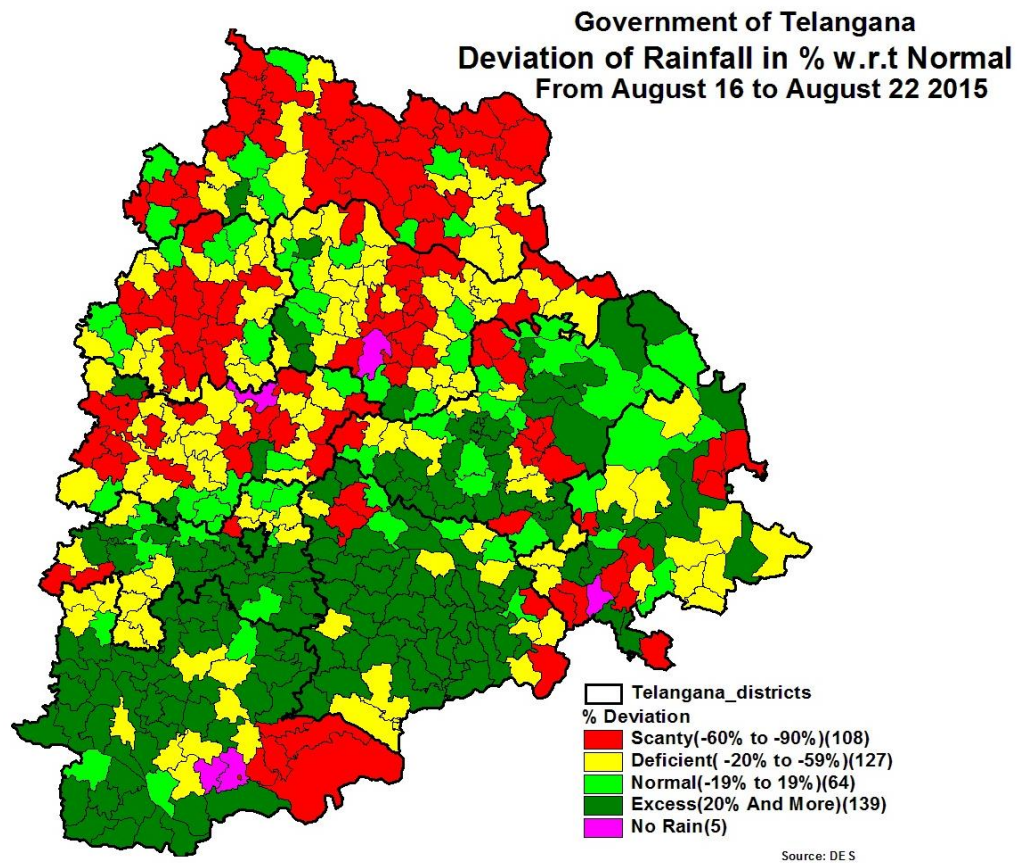


Figure 4: Deviation of Rainfall in percent w.r.t. Normal from August 16th to August 22nd, 2015

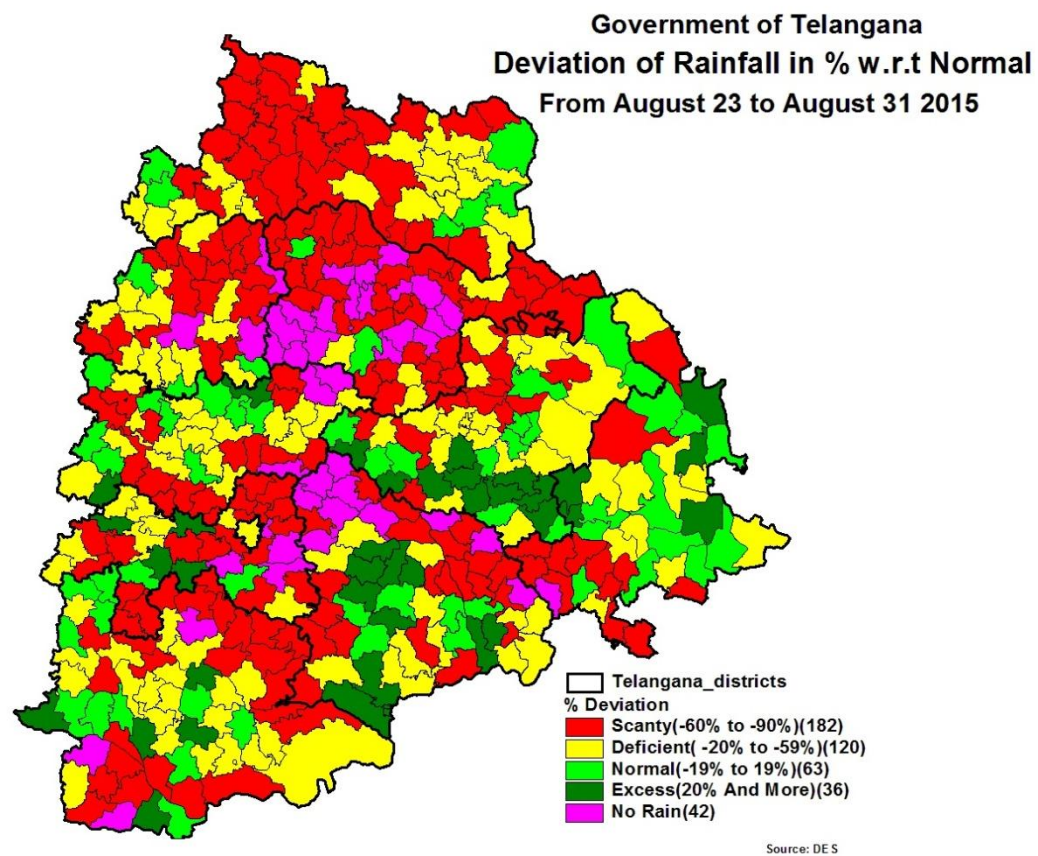
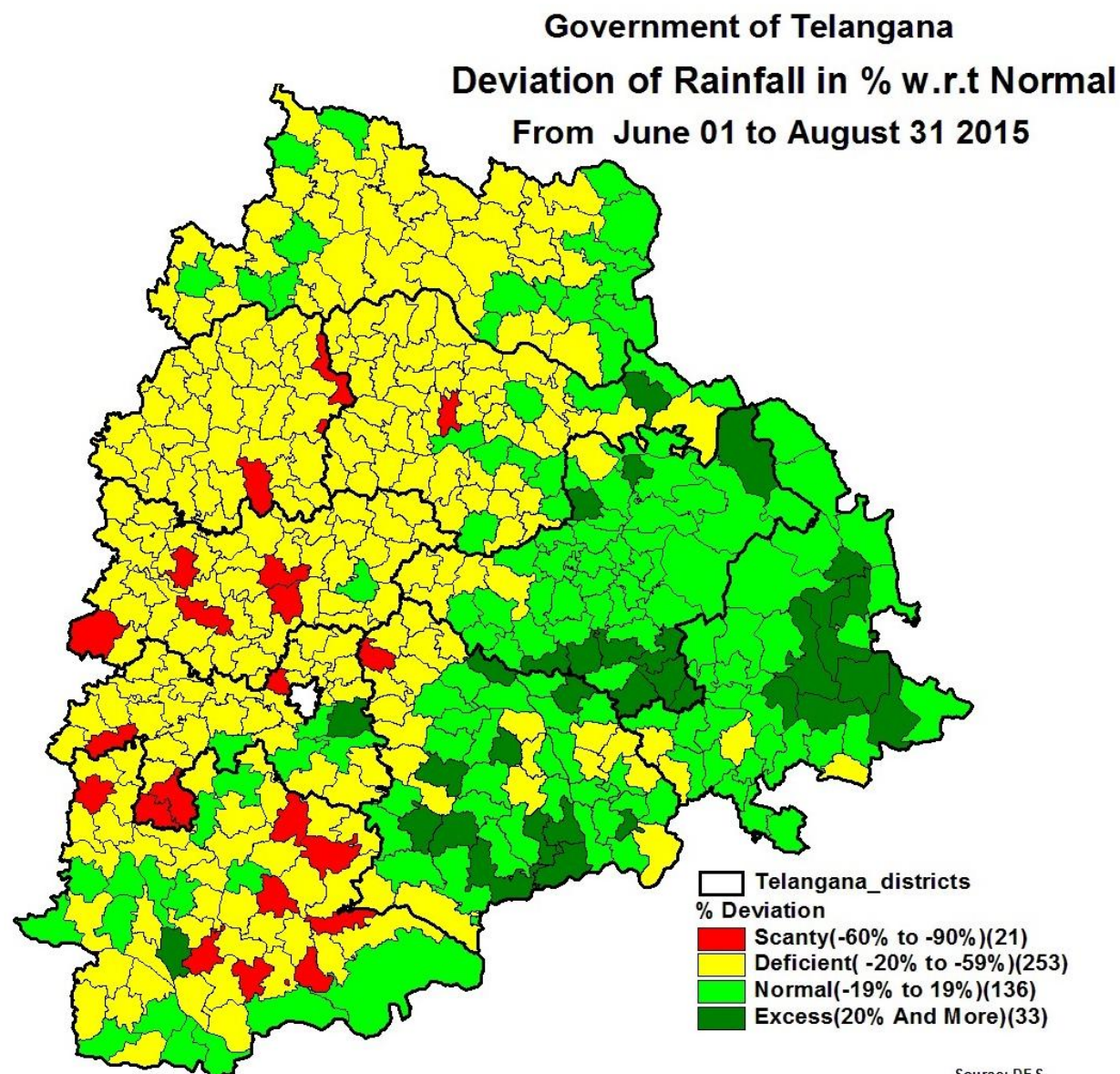


Figure 5: Deviation of Rainfall in percent w.r.t. Normal from August 23rd to August 31st, 2015



Source: DE S

Figure 6: Deviation of Rainfall in percent w.r.t. Normal from June 01st to August 31st, 2015

3.2. Reservoir Water Levels

All the major reservoirs are holding **452.13 TMC** as on 15-08-2015, and as on date last year the level had stood at **899.47 TMC**. The details of water levels of all major reservoirs as on 15-08-2015 are furnished hereunder in Table 4.

Table 4: Reservoir Water Levels

PARTICULARS OF MAJOR RESERVOIRS AS ON 31/August/2015										
Sl No	Reservoir Name	Time	FRL	Gross Capacity	THIS YEAR				LAST YEAR	
			(feet)	(TMC)	As on 31/August/2015				As on 31/ August /2014	
					Level	Gross Storage	Inflow	Outflow	Level	Gross Storage
					(in feet)	(TMC)	(Cusecs)	(Cusecs)	(in feet)	(TMC)
Krishna Basin										
1	Almatti	10:09	1705	129.721	1690.62	67.96	5074	10675	1704.72	128.2
2	Jurala	08:41	1045	11.941	1036.42	6.76	2006	50	1043.47	10.87
3	Nagarjuna Sagar	08:43	590	312.045	509.9	131.5	4749	2792	551	211.99
4	Narayanapur	10:09	1615	37.646	1610.99	32.23	10655	10003	1613.62	36.09
5	Srisaillam	08:42	885	215.807	799.2	28.61	0	4359	883.7	208.28
6	Tungabhadra	08:56	1633	100.86	1626.01	76.15	5129	8551	1633	100.86
7	Ujjaini	09:05	1630	117.24	1608.78	59.12	0	241	1626.89	106.39
Godavari Basin										
8	Jaikwad	10:16	1522	102.732	1496.37	29.3	0	1025	1503.75	43.93
9	Kaddam	08:47	700	7.6	691.9	5.663	235	674	685.375	4.37
10	Lower Manair Dam	08:48	920	24.074	883.8	4.03	0	103	897.55	9.09
11	Nizam Sagar	08:44	1405	17.803	1372.42	0.45	0	16	1391.92	4.94
12	Singur	08:43	1717.93	29.91	1682.71	2.09	0	193	1702.52	11.7
13	Sri Ram Sagar	08:44	1091	90.313	1053.6	8.27	0	116	1066.5	22.76

SOURCE: IRRIGATION DEPARTMENT, HYDERABAD

*Reading as on 31-08.2015

3.3. Crop Sowing Progress

For the weekend 26th August 2015 the districts of Adilabad, Karimnagar, Khammam, Warangal, Nalgonda, Rangareddy and Mahabubnagar are showing Negative deviation of $> -25\%$ to $< 0\%$. Medak is showing Negative deviation of $> -50\%$ to $< -25\%$. Nizamabad district is showing ($> 0\%$) positive deviation. The total area sown in the state is **3212083** ha as against the normal sown area of **3678521** ha as on date. The details are shown in Figure 7 and the deviation graph is shown in Figure 8.

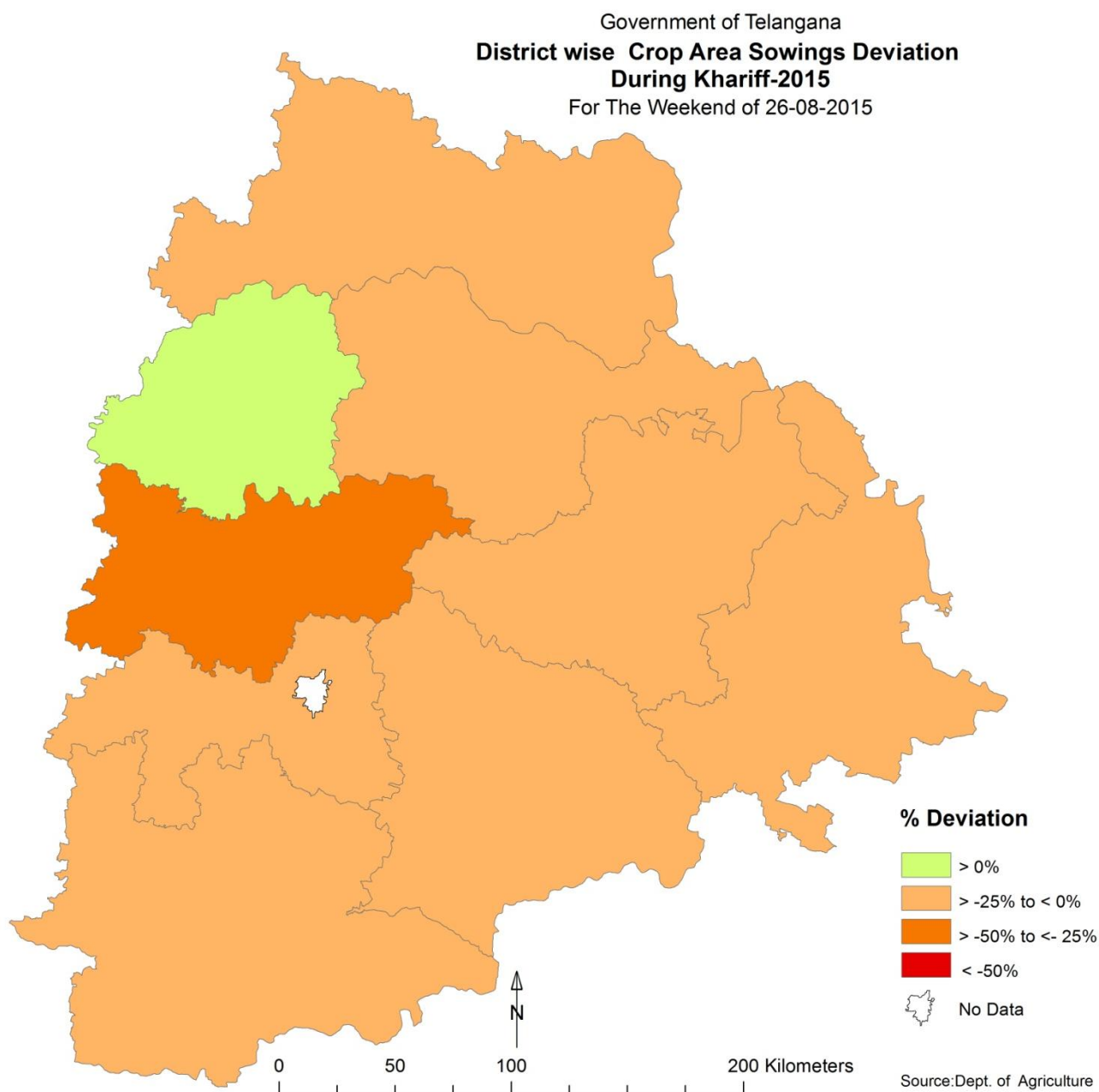


Figure 7: District wise deviation from normal crop sown area as on date 26-08-2015

Table 5: District Wise Crop Sowing Area - Up to the week ending 12-08-2015

S.No	District Name	Normal (ha)	Actual (ha)	Deviation%
1	Medak	395075	287852	-27.14
2	Mahabubnagar	668798	526916	-21.21
3	Warangal	451100	376830	-16.46
4	Karimnagar	459196	389278	-15.23
5	Rangareddy	163464	148436	-9.19
6	Khammam	277534	262118	-5.55
7	Nalgonda	429341	405923	-5.45
8	Adilabad	531024	506406	-4.64
9	Hyderabad	0	0	0.00
10	Nizamabad	302989	308324	1.76
	Total	3678521	3212083	

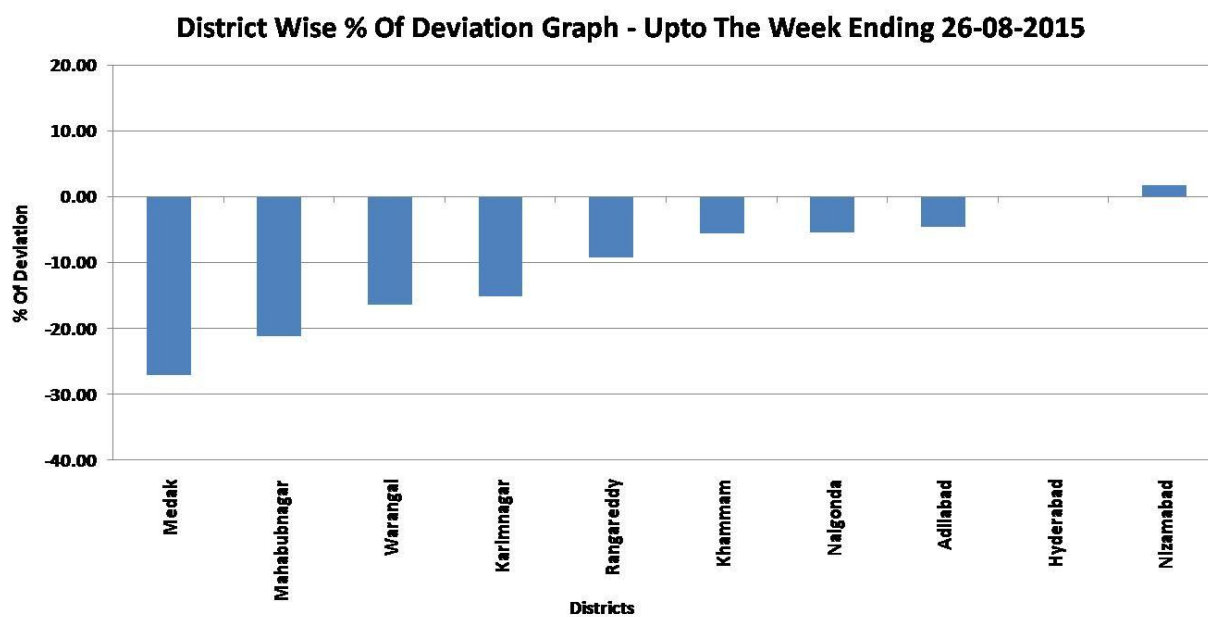


Figure 8: District wise deviation (graph) from normal crop sown area as on date 26-08-2015

3.4. Vegetation Index

The NDVI (Normalized Difference of Vegetation Index) for the Month of August 2015 is shown in the figures and also compared with 2013 and 2014. The year 2013 is treated as a normal year. The Mandal wise NDVI, fortnightly agricultural Situation for the year 2015, 2014 & 2013, deviation of NDVI w.r.t. 2013 are shown in the Figures 9, 10, 11, 12 and 13 respectively. The NDVI deviations with respect to Month of August 2013 indicate stress due to low NDVI values in districts of Mahabubnagar, Western part of Nalgonda, South Western parts of Warangal and eastern part of Ranga Reddy districts. As per rainfall distribution the progress of agricultural situation is slow and the vegetation condition of the state is under stress.

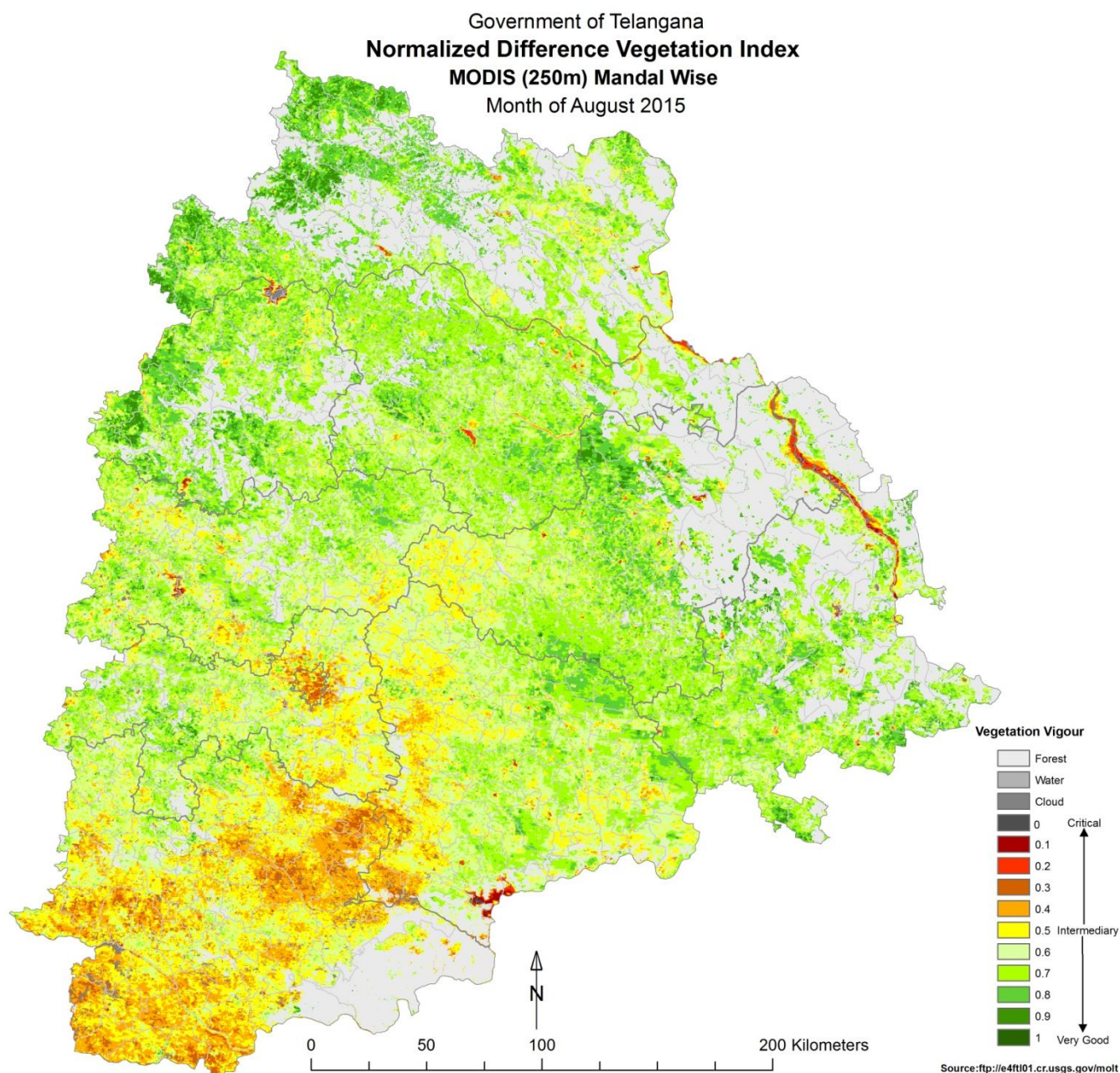


Figure 9: NDVI- MODIS (250m): Month of August 2015

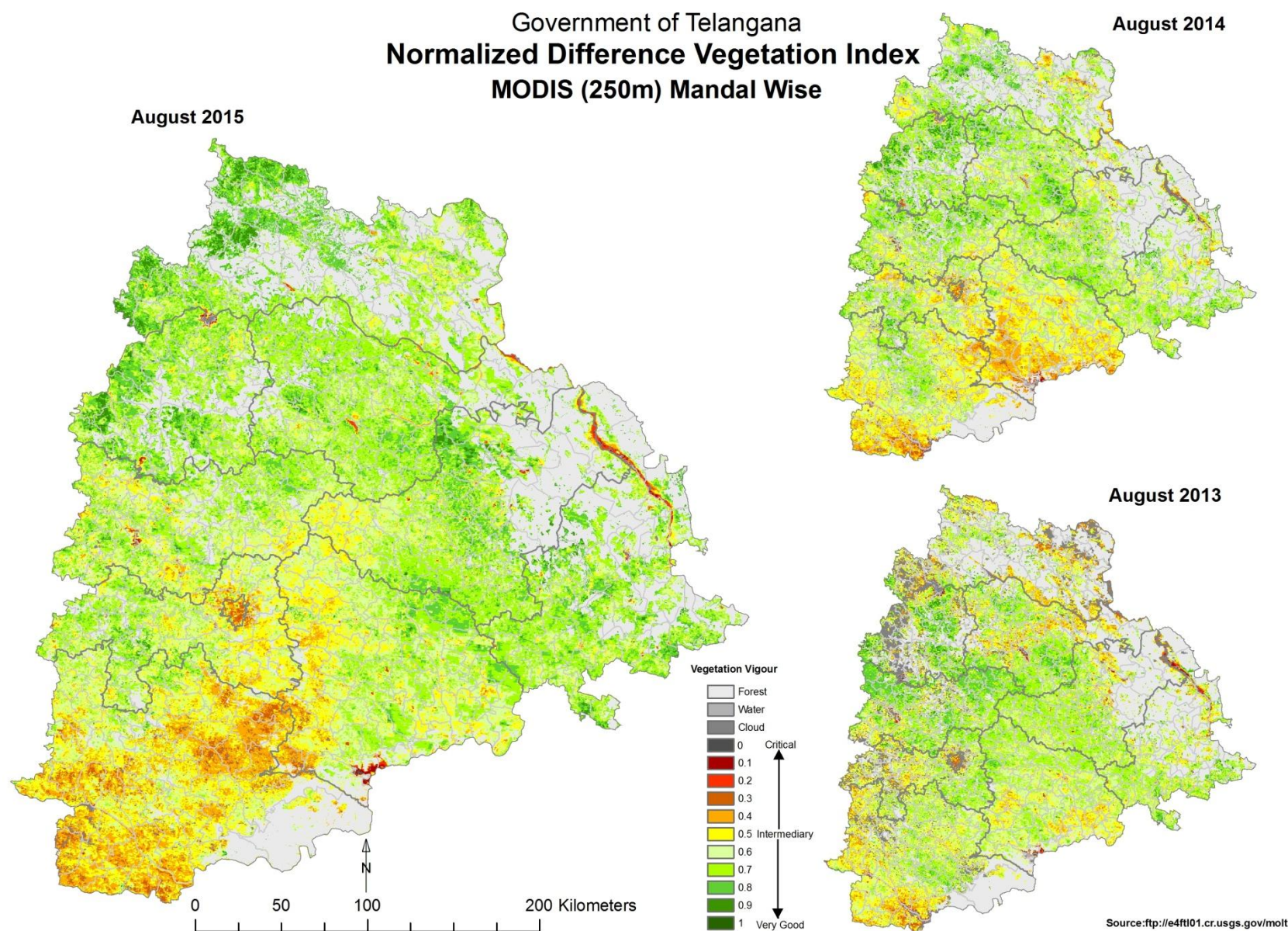


Figure 10: NDVI - MODIS (250m): Monthly Agricultural situation from August 2015, 2014 and 2013

Government of Telangana
MODIS (250m) Mandal Wise NDVI
 Agricultural Situation for the Year 2015 & 2013

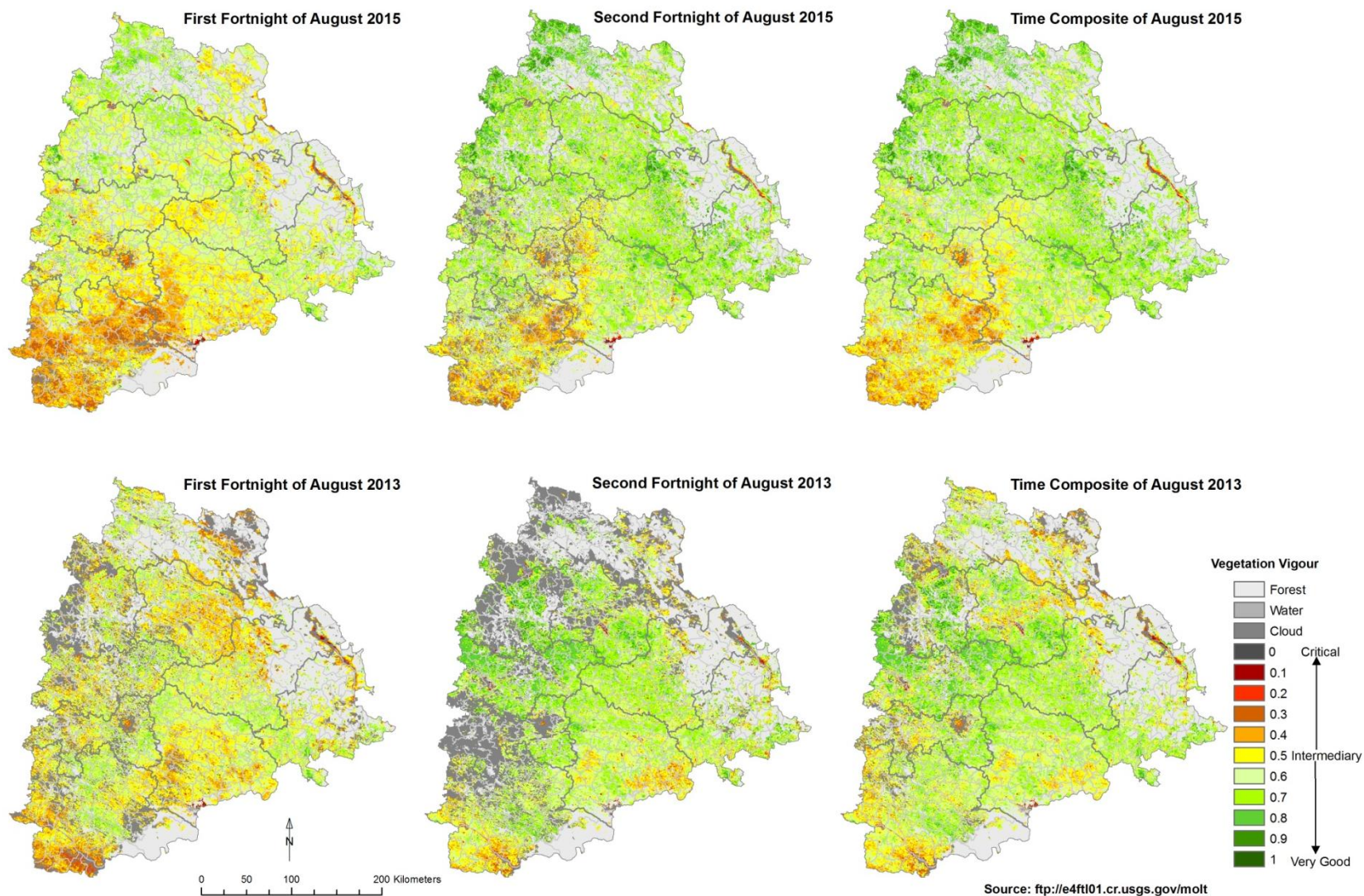


Figure 11: NDVI - MODIS (250m): Fortnightly Agricultural situation from August 2015 and 2013

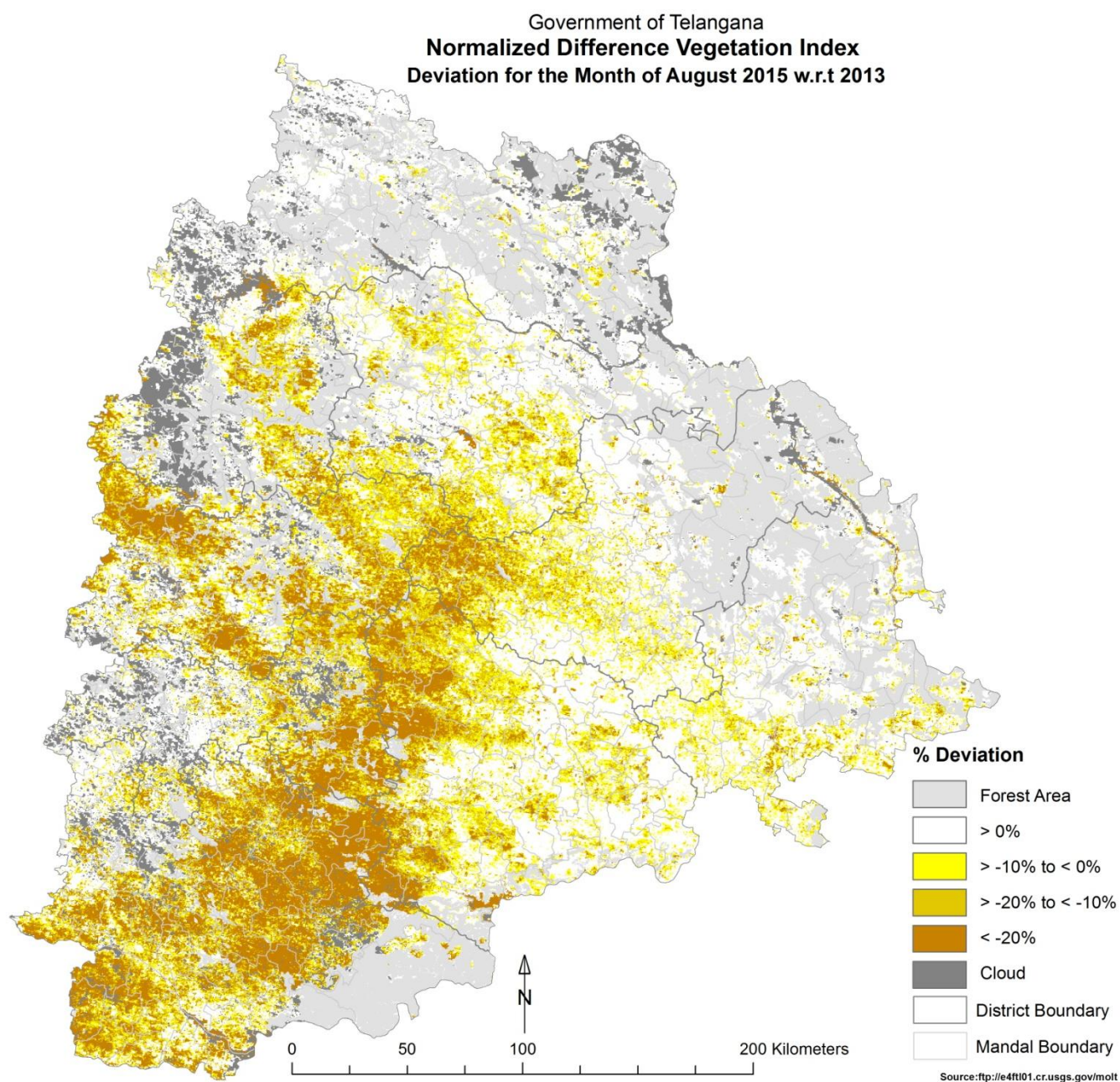


Figure 12: NDVI deviation (MODIS - 250m): Month of August 2015 w.r.t. 2013

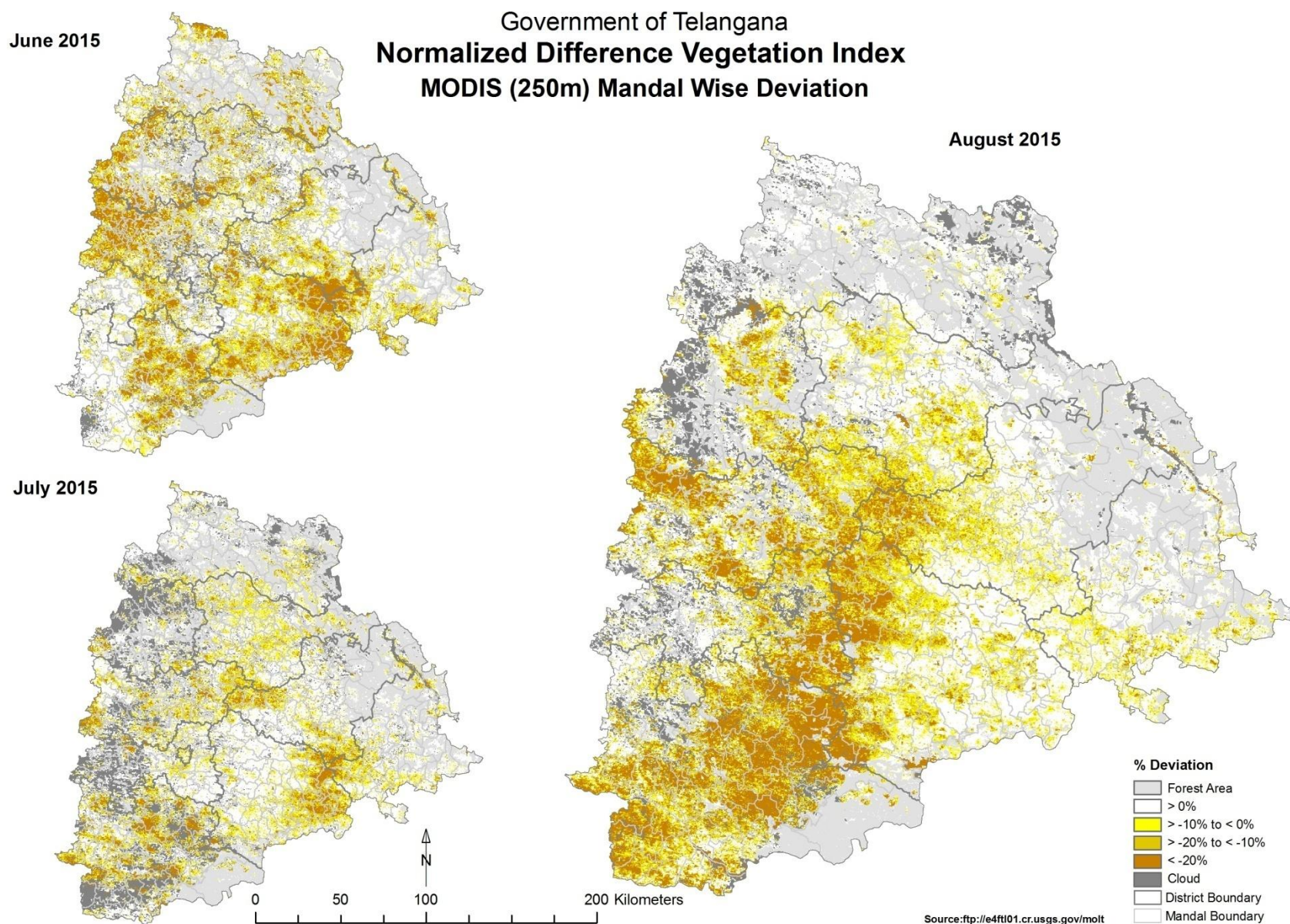


Figure 13: NDVI deviation (MODIS - 250m): Month of June, July and August 2015 w.r.t. 2013

3.5. Surface Wetness Indicators

The map indicates status of moisture availability in soil as well as in crop canopy for the month of August 2015. The year 2013 is treated as a normal year. The Mandal wise NDWI situation from the year 2013, 2014 & 2015, Monthly agricultural situation deviation of NDWI w.r.t. 2013 are shown in the Figures 14, 15, 16, 17 and 18 respectively. The NDWI deviations with respect to Month of August 2013 indicate moisture stress in parts of Mahabubnagar, Rangareddy, Nalgonda, Medak and Warangal districts.

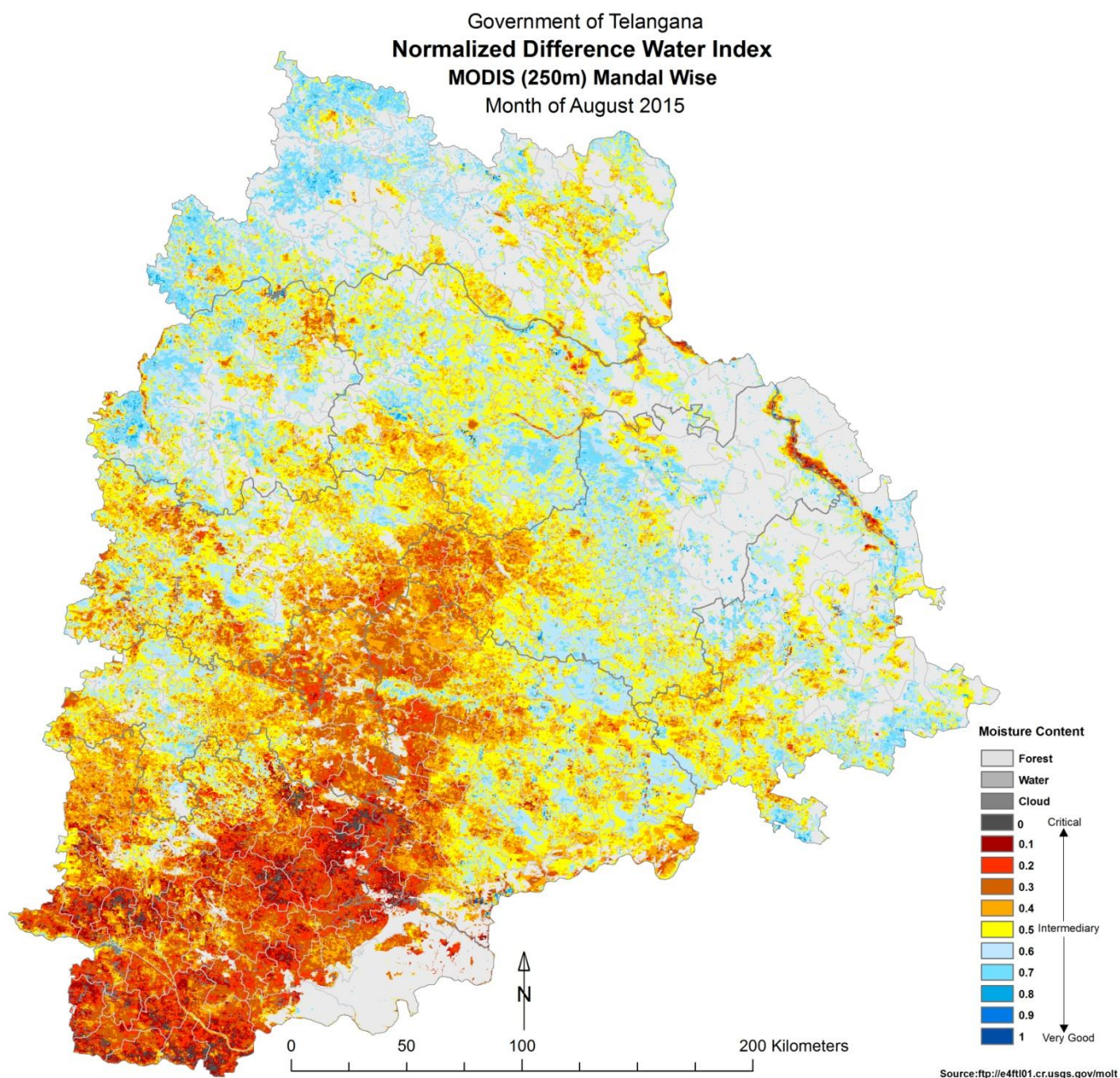


Figure 14: NDWI-MODIS (250m): Month of August 2015

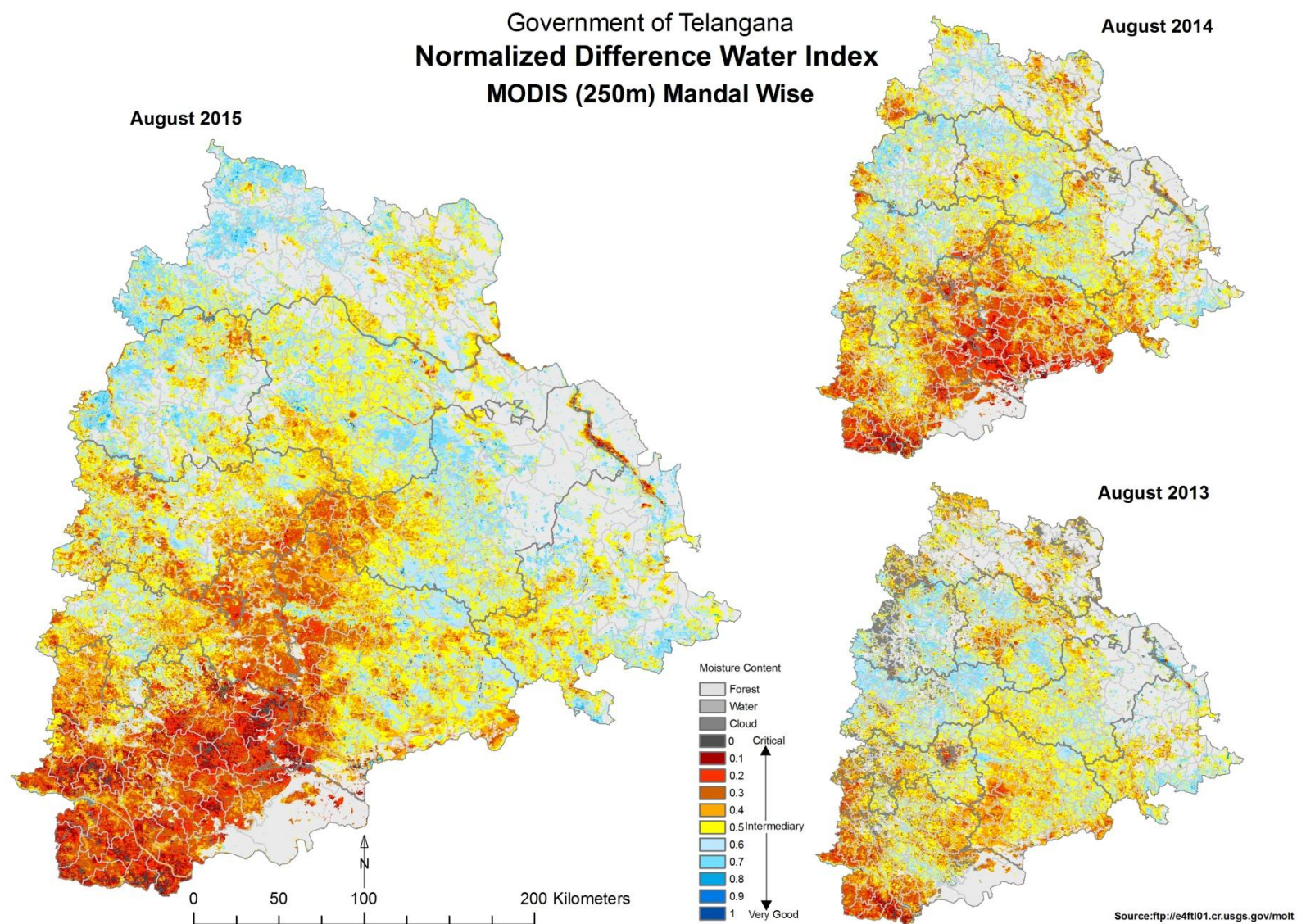


Figure 15: NDWI - MODIS (250m): Monthly Agricultural situation from August 2015, 2014 and 2013

Government of Telangana
MODIS (250m) Mandal Wise NDWI
 Agricultural Situation for the Year 2015 & 2013

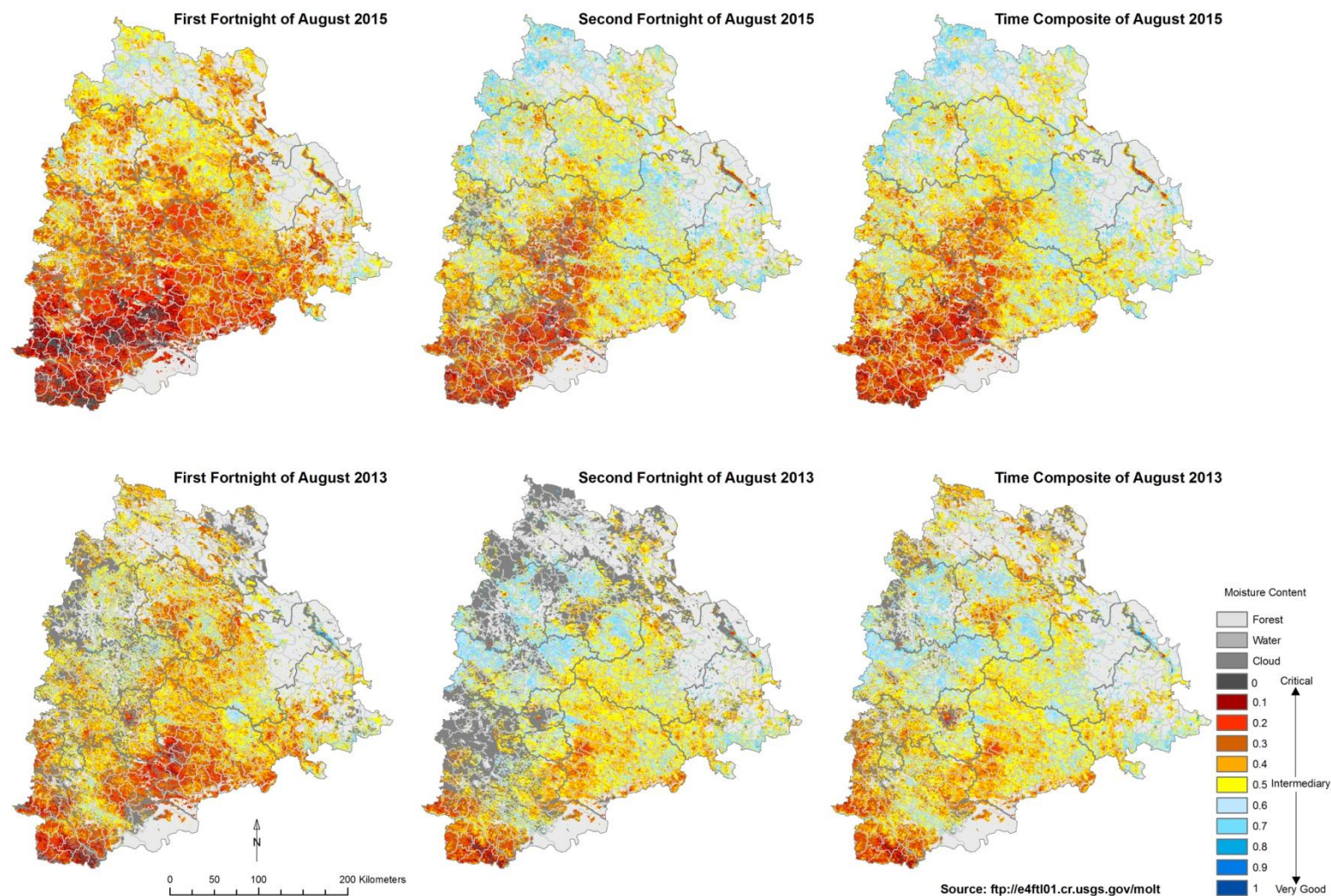


Figure 16: NDWI - MODIS (250m): Fortnightly Agricultural situation from August 2015 and 2013

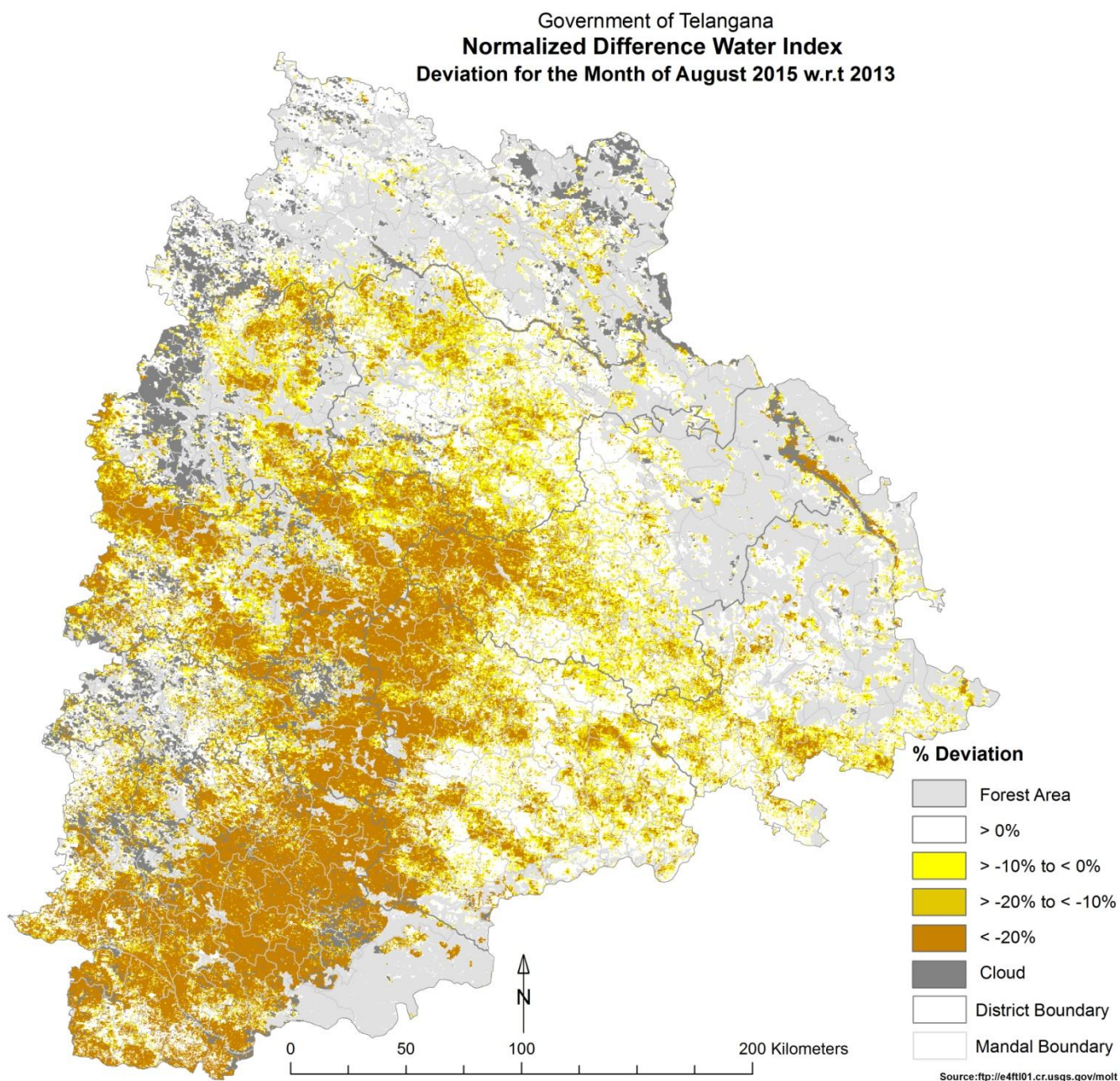


Figure 17: NDWI deviation (MODIS - 250m): Month of August 2015 w.r.t. 2013

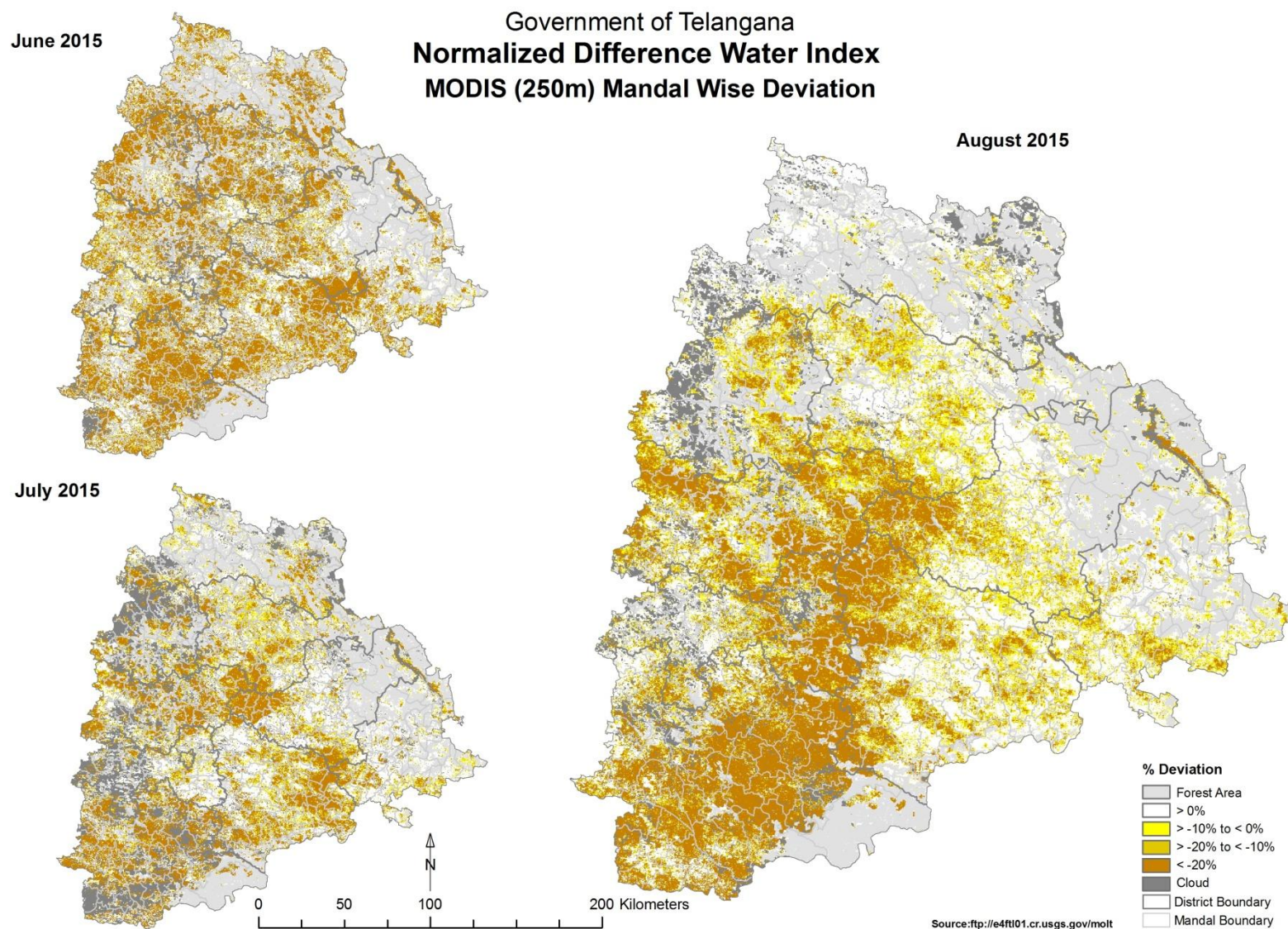


Figure 18: NDWI deviation (MODIS - 250m): Month of June, July and August 2015 w.r.t. 2013

3.6. Drought situation of Mandals:

3.6.1. Composite Criteria

The drought situation in the state is assessed using different indicators viz. mandal wise NDVI & NDWI deviation, Rainfall deviation and Dry spells. Compositing all indicators, mandals were categorised into Normal, and Watch. Mandal-wise analysis for the month of August 2015 indicated “Normal” agricultural situation in **257** Mandals. The agricultural situation is categorized as “Watch” in **125** and "Alert" in **62** mandals respectively. The Mandals under Normal, Watch and Alert categories are given in the Table-6 and their spatial distribution is shown in Figure 19.

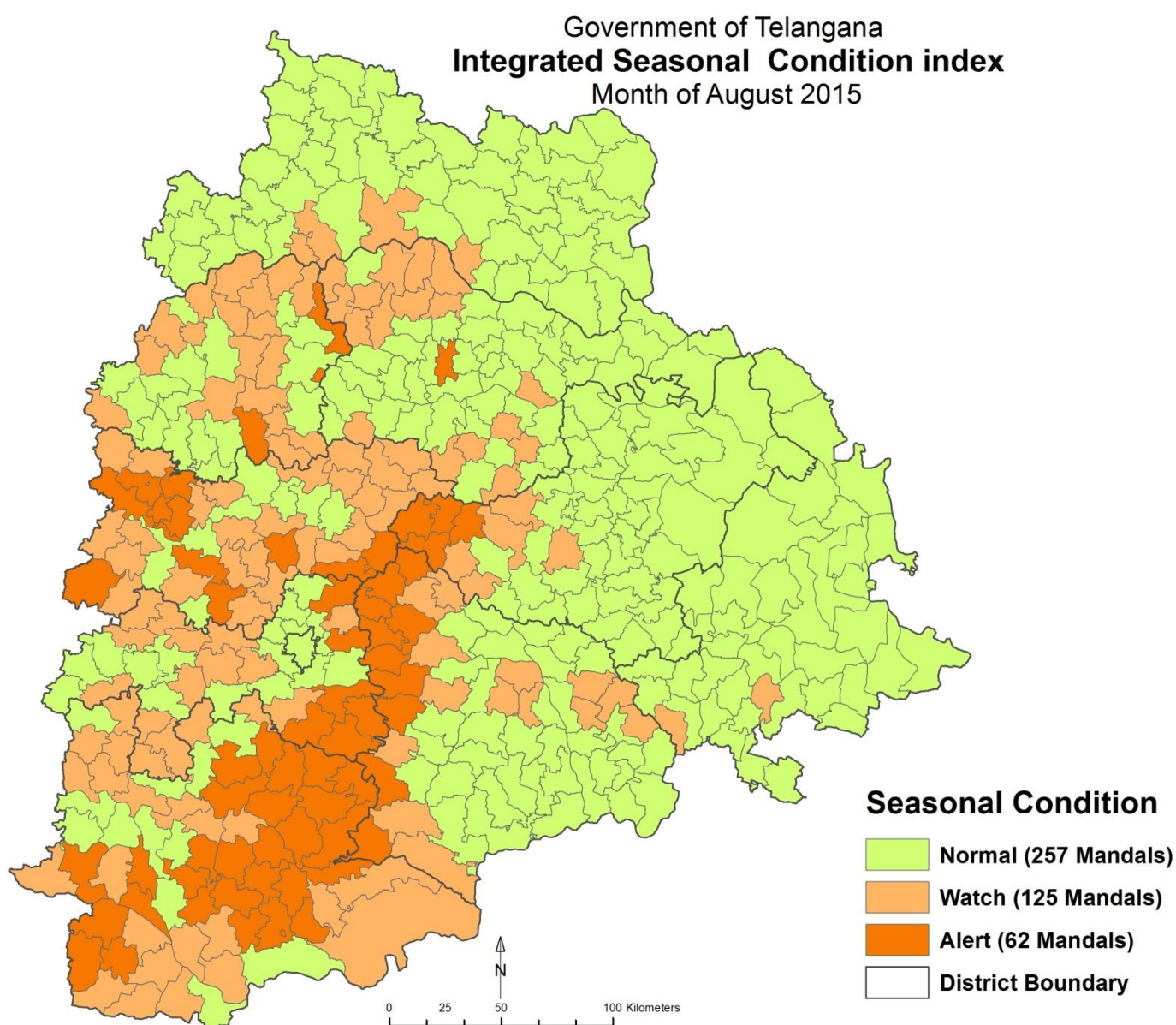


Figure 19: Mandal wise Drought Assessment based on ISMS Criterion

Table 6: Mandals under Normal, Watch and Alert categories based on ISMS criteria

District Name	Normal	Watch	Alert
Adilabad	Total: 48 Adilabad, Asifabad, Bazarhathnoor, Bejjur, Bela, Bellampalle, Bhainsa, Bhimini, Boath, Chennur, Dahegaon, Dilawarpur, Gudihathnoor, Ichoda, Inderavelly, Jainad, Jainoor, Jaipur, Jannaram, Kagaznagar, Kasipet, Kerameri, Khanapur, Kotapalle, Kouthala, Kubeer, Kuntala, Lokeswaram, Luxettipet, Mancheri, Mandamarri, Mudhole, Narnoor, Nennal, Neradigonda, Nirmal, Rebbana, Sarangapur, Sirpur, Sirpur (T), Talamadugu, Tamsi, Tandur, Tanoor, Tiryani, Utanoor, Vemanpalle, Wankdi.	Total: 4 Dandepalle, Kaddam (Peddur), Laxmanchanda, Mamda.	Total: 0
Karimnagar	Total: 39 Bejjanki, Boinpalle, Chandurthi, Choppadandi, Dharmaram, Eligedu, Elkathurthi, Ellanthakunta, Gambhiraopet, Gangadhara, Husnabad, Jammikunta, Julapalle, Kamalapur, Kamanpur, Karimnagar, Kataram, Kodimial, Konaraopeta, Mahadevpur, Malharrao, Mallapur, Mallial, Manakondur, Manthani, Mutharam (Mahadevpur), Mutharam (Manthani), Peddapalle, Pegadapalle, Ramagundam, Saidapur, Sircilla, Srirampur, Sultanabad, Timmapur (Lmdcolony), Veenavanka, Velgatoor, Vemulawada, Yellareddipet.	Total: 17 Bheemadevarpalle, Chigurumamidi, Dharmapuri, Gollapalle, Huzurabad, Ibrahimpatnam, Jagtial, Kathlapur, Koheda, Koratla, Medipalle, Metpalle, Mustabad, Odela, Raikal, Sarangapur, Shankarapatnam.	Total:01 Ramadugu.
Khammam	Total: 39 Aswapuram, Aswaraopeta, Bayyaram, Bhadrachalam, Bonakal, Burgampahad, Chandrugonda, Cherla, Chinthakani, Dammapeta, Dummugudem, Enkuru, Garla, Gundala, Julurpad, Kallur, Kamepalle, Khammam (Rural), Khammam (Urban), Konijerla, Kothagudem, Kusumanchi, Madhira, Manuguru, Mudigonda, Mulkalapalle, Palwancha, Penuballi, Pinapaka, Sathupalle, Singareni, Tekulapalle, Thirumalayapalem, Vemsoor, Venkatapuram, Wazeed, Wyra, Yellandu, Yerrupalem.	Total: 02 Nelakondapalle, Tallada.	Total: 0

Mahabubnagar	Total: 12 Addakal, Alampur, Devarkadra, Dhanwada, Farooqnagar, Hanwada, Kodangal, Kollapur, Kothakota, Narayanpet, Nawabpet, Utkoor.	Total: 24 Achampet, Amrabad, Balmoor, Bhoothpur, Bomraspet, Damaragidda, Doulatabad, Gadwal, Ieej, Itikyal, Koilkonda, Kondurg, Kosgi, Kothur, Maddur, Maganoor, Mahbubnagar, Manopad, Narva, Pangal, Pebbair, Thimmajipet, Veepangandla, Waddepalle.	Total: 28 Amangal, Atmakur, Balanagar, Bijinapalle, Chinnachintakunta, Dharur, Ghanpur, Ghattu, Gopalpeta, Jadcherla, Kalwakurthy, Keshampet, Kodair, Lingal, Madgul, Makthal, Maldakal, Midjil, Nagarkurnool, Peddakothapalle, Peddamandadi, Tadoor, Talakondapalle, Telkapalle, Uppununthala, Vangoor, Veldanda, Wanaparthi.
Medak	Total: 08 Andole, Chegunta, Doultabad, Kondapur, Kulcharam, Medak, Munpalle, Shankarampet (R).	Total: 27 Chinnakodur, Dubbak, Gajwel, Hathnoora, Jharasangam, Jinnaram, Kalher, Kangti, Kohir, Kondapak, Kowdipalle, Mirdoddi, Nangnoor, Narsapur, Nyalkal, Papannapet, Patancheru, Raikode, Ramayampet, Ramchandrapuram, Sadasivpet, Siddipet, Tekmal, Thoguta, Tupran, Wargal, Yeldurthy.	Total: 11 Alladurg, Jagdevpur, Manoor, Mulug, Narayankhed, Pulkal, Regode, Sangareddy, Shankarampet[A], Shivampet, Zahirabad.
Nalgonda	Total: 35 Anumula, Atmakur (M), Chandur, Chilkur, Dameracherla, Garidepalle, Gundala, Gurrampode, Huzurnagar, Jajireddi Gudem, Kangal, Kethepalle,	Total:14 Alair, Atmakur (S), Chandam Pet, Chityala, Chivvemla, Devarakonda,	Total: 10 Bhongir, Bibinagar, Bommalararamam, Chintha

	Kodad, Mattam Palle, Mella Cheruvu, Miryalaguda, Mothkur, Munagala, Munugode, Nalgonda, Nampalle, Narketpalle, Neredcherla, Nidamanur, Nuthankal, Peddaderla Palle, Peddavoora, Penpahad, Ramannapeta, Suryapet, Thipparthi, Thirumalgiri, Thripuraram, Thungathurthi, Vemulapalle.	Kattangoor, Marriguda, Mothey, Nadigudem, Nakrekal, Sali Gouraram, Valigonda, Yadagirigutta.	Palle, Choutuppal, Gundla Palle, M.Turkapalle, Narayanapur, Pochampalle, Rajapet.
Nizamabad	Total: 16 Banswada, Bheemgal, Bichkunda, Birkoor, Lingampet, Machareddy, Madnoor, Nagareddipet, Nizamabad, Nizamsagar, Pitlam, Ranjal, Sirkonda, Varni, Velpur, Yellareddy.	Total: 18 Armur, Balkonda, Bhiknoor, Bodhan, Dharpalle, Dichpalle, Domakonda, Gandhari, Jakranpalle, Jukkal, Kamareddy, Kotgiri, Makloor, Mortad, Nandipet, Navipet, Sadasivanagar, Yedpalle.	Total: 2 Kammarpalle, Tadwai.
Rangareddy	Total: 17 Balanagar, Basheerabad, Dharur, Hayathnagar, Malkajgiri, Medchal, Pargi, Peddemul, Qutubullapur, Rajendranagar, Sarooranagar, Serilingampally, Shabad, Shamshabad, Tandur, Uppal, Vicarabad.	Total: 14 Bantwaram, Chevella, Doma, Gandeed, Keesara, Kulkacharla, Maheswaram, Marpalle, Moinabad, Mominpet, Nawabpet, Pudur, Shankarpalle, Yelal.	Total: 06 Ghatkesar, Ibrahimpatnam, Kandukur, Manchal, Shamirpet, Yacharam.
Warangal	Total: 42 Atmakur, Bhupalpalle, Chennaraopet, Chityal, Devaruppula, Dornakal, Duggondi, Eturnagaram, Geesugonda, Ghanpur (Mulug), Govindaraopet, Gudur, Hanamkonda, Hasanparthy, Kesamudram, Khanapur, Kodakandla, Kothagudem, Kuravi, Mahabubabad, Mangapet, Maripeda, Mogullapalle, Mulug, Nallabelly, Narsampet, Narsimhulapet, Nekkonda, Nellikudur, Palakurthi, Parkal, Parvathagiri, Raghunathpalle, Raiparthy, Regonda, Sangam, Shayampet, Tadvai, Thorur, Venkatapur, Warangal(Fullyurban), Zaffergadh.	Total: 05 Dharmasagar, Ghanpur (Station), Jangaon, Lingalaghanpur, Wardhannapet.	Total: 04 Bachannapet, Cherial, Maddur, Narmetta.

3.6.2. Dry Spell

Total 131 Mandals of state experienced one dry spell and two dry spells are observed in 8 mandals up to Month of August. Based on rainfall deficiency & dry spell **117** Mandals are under watch condition. The distribution of the Mandals under watch category are shown in figures 20 and 21, respectively

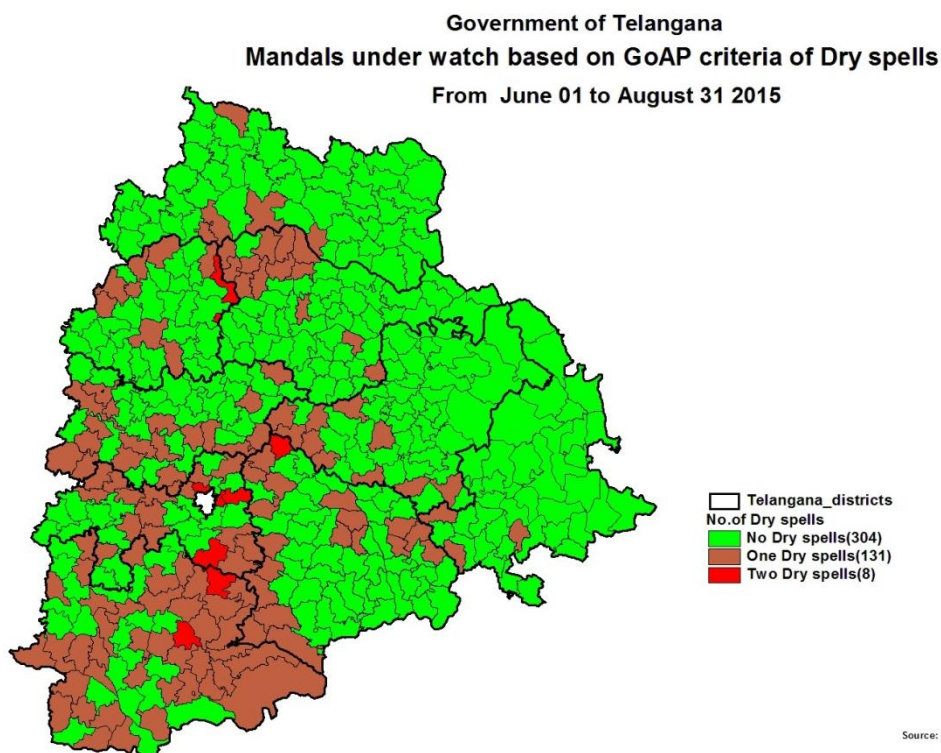


Figure 20: Drought Assessment based on GoAP Criterion of Dry spells

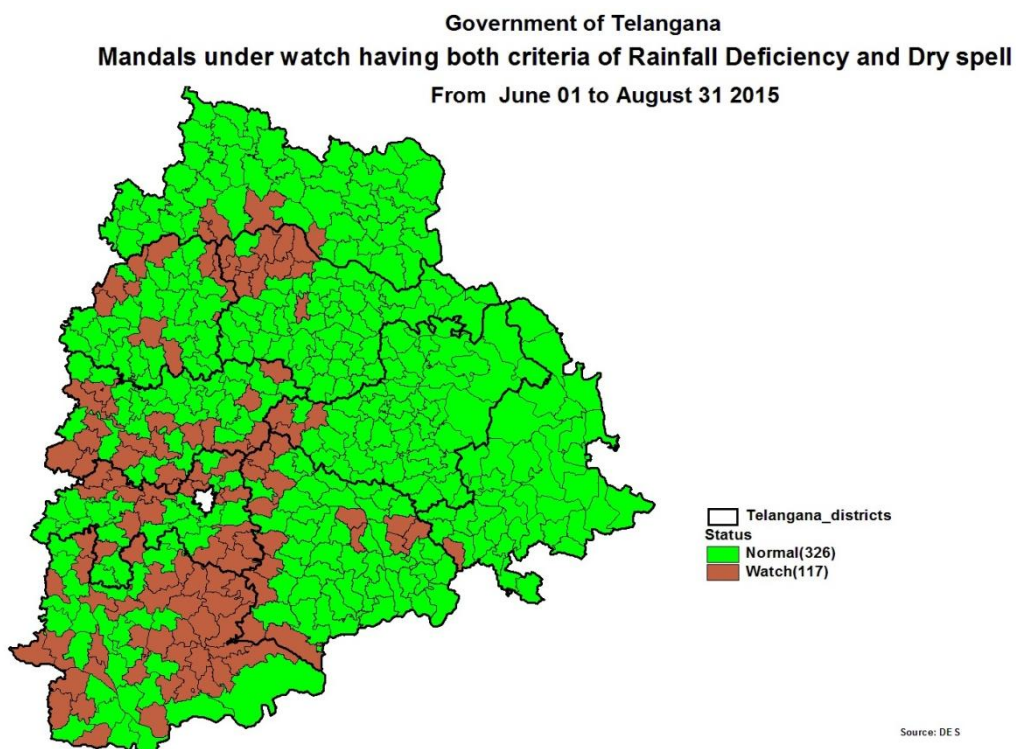


Figure 21: Drought Assessment based on GoAP Criterion of Rainfall deficiency and Dry spell

Table 7: Mandals under Watch based on GoAP criteria of Dry spells

District Name	One Dry Spell Total:131	Two Dry Spell Total:8
Adilabad	Total: 5 Jainad, Laxmanchanda, Mamda, Kaddampeddur and Dandepalle	
Karimnagar	Total: 13 Ibrahimpattam, Raikal, Sarangapur, Dharmapuri, Gollapalle, Jagtial, Medipalle, Koratla, Metpalle, Kathlapur, Veenavanka, Ramadugu and Kamalapur	
Khammam	Total: 3 Thollada, Thirumalayapalem and Nelakondapalle	
Mahabubnagar	Total: 40 Bomraspetta, Kosgi, Damaragidda, Koilkonda, Balanagar, Kondurg, Keshampeta, Talakondapalle, Madgul, Vangoor, Veldanda, Kalwakurthy, Midjil, Jadcherla, Mahbubnagar, Devarkadara, Maganoor, Makthal, Narva, Chinna Chinta Kunt, Atmakur, Ghanpur, Bijinapalle, Nagar Kurnool, Telkapalle, Uppununthala, Achampeta, Amrabad, Balmoor, Lingal, Peddakothapalle, Kodair, Wanaparthi, Dharur, Maldakal, Ghattu, Waddepalle, Itikyal, Manopadu and Veepangandla	Total: 2 Amangal and Tadoor
Medak	Total: 19 Manoor, Narayankhed, Regode, Chinna Kodur, Jagdevpur, Kowdipalle, Raikode, Jharasangam, Zahirabad, Kohir, Pulkal, Sadasivpet, Patancheru, Ramachandrapuram, Hathnoora, Shivampet, Tupran, Mulug and Thogutta	
Nalgonda	Total: 18 Bommaramaram, M Turkapalle, Atmakur (S), Saligouraram, Mothkur, Bhuvanagiri, Pochampalle, Kattangoor, Nakrekal, Chivvemla, Mothey, Nadigudem, Narayanapur, MarriGuda, Chinthapalle, Devarakonda, Gundlapalle and Chandampet	Total: 1 Rajapet
Nizamabad	Total: 8 Navipet, Nandipet, Mortad, Yedapalle, Bodhan, Kotgiri, Gandhari and Tadwai	Total: 1 Kammar palle
Rangareddy	Total: 15 Marpalle, Mominpet, Nawabpet, Shankarpalle, Serilingampalle, Quthbullapur, Shamirpet, Chevella, Bantaram, Doma, Pudur, Shabad, Ibrahimpattam, Manchal and Yacharam	Total: 4 Balanagar, Ghatkesar, Uppal And Kandukur
Warangal	Total: 10 Cheriyal, Narmetta, Bachannapeta, Jangaon, Lingalaghanpur, Dharmasagar, Wardhannapet, Kodakandla, Narsimhulapet and Kuravi	

4. Conclusions

Highlights of seasonal conditions at the Month of August 2015 are as follows:

- Total **21 Mandals** received **scanty** rainfall in State. Scanty rainfall was recorded in Nizamabad (02), Karimnagar (01), Mahabubnagar (08), Medak (05), Nalgonda (01) and Rangareddy (04) districts.
- **253 Mandals** of state received **Deficient** rainfall. Deficient rainfall was recorded in districts of Adilabad (36), Karimnagar (46), Khammam (03), Mahabubnagar (40), Medak (40), Nalgonda (20), Nizamabad (34), Ranga Reddy (28) and Warangal (06).
- **136 Mandals** received **Normal** rainfall in State. Normal rainfall was recorded in Adilabad (16), Karimnagar (09), Khammam (29), Mahabubnagar (15), Medak (01), Nalgonda (27), Rangareddy (04) and Warangal (35) districts.
- **33 Mandals** of state received **Excess** rainfall in districts of Karimnagar (01), Khammam (09), Mahabubnagar (01), Nalgonda (11), Rangareddy (01) and Warangal (10).
- Total One dry spell is recorded in **131** mandals and two dry spells in **8** mandals of the state respectively till the month end of August.
- Mandal wise analysis up to first fortnight of August, 2015 indicated “Normal” agricultural situation in **257** Mandals, "Watch" in **125** Mandals and **62** Mandals are in "Alert" category.

References

GoI Drought Manual,

<http://drought.unl.edu/portals/0/docs/international/GovtIndiaDroughtManual.pdf>

GoAP Drought Criterion, http://www.seri.ap.gov.in/gos/09012013DM_MS1.PDF

Kogan FN, 1995, Droughts of late 1980s in the USA as derived from NOAA polar orbiting satellite data, Bulletin of American Meteorological Society, 76: 655-668

Malingreau JP, 1986, Global vegetation dynamics: Satellite observations over Asia, International Journal of Remote Sensing, 7: 1121-1146

Season and Crop Coverage Report, Kharif - 2014 Department of Agriculture, Telangana

Tucker CJ and Chowdhary BJ, 1987, Satellite remote sensing of drought conditions, Remote Sensing of Environment, 23: 243-251

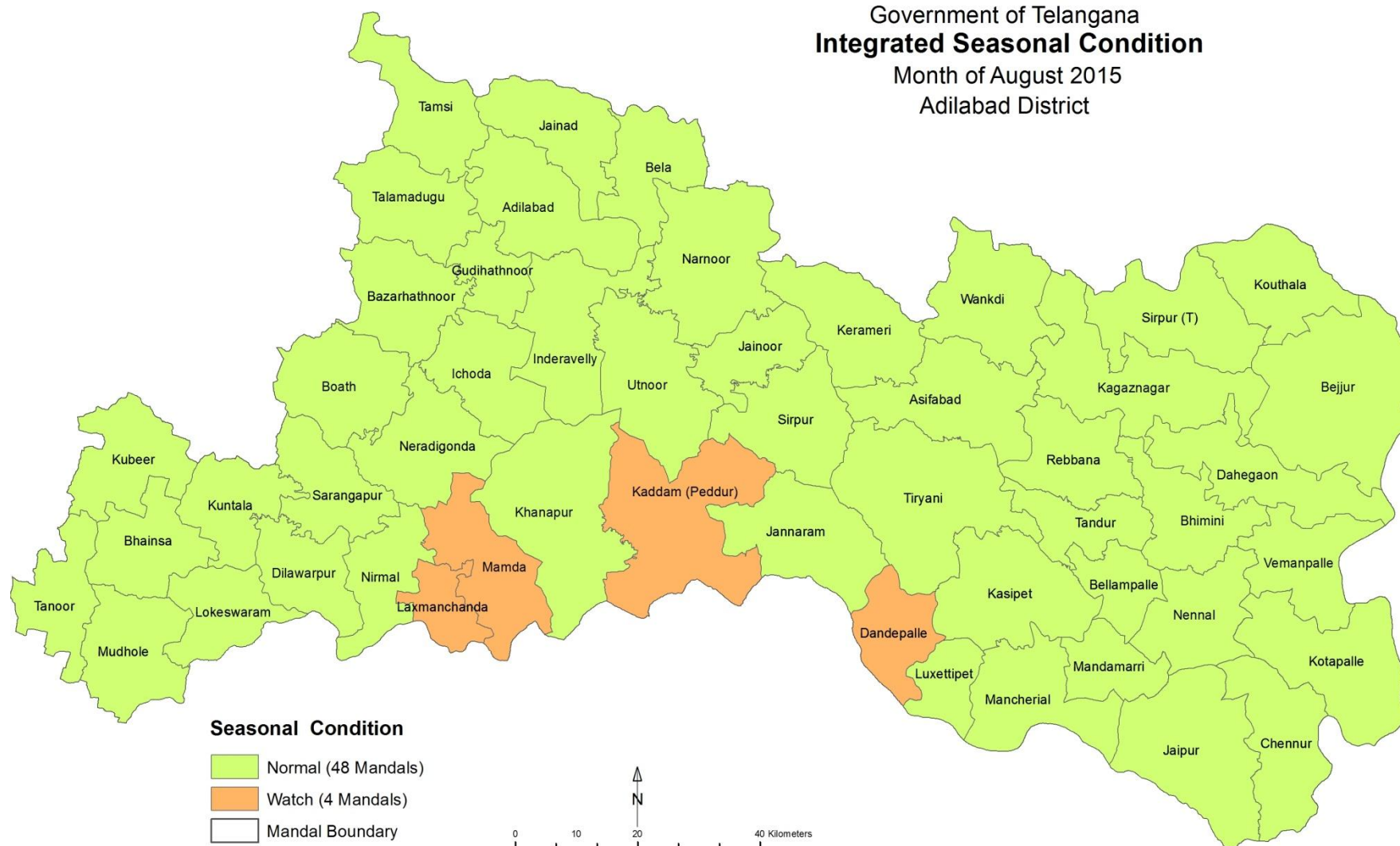
Report Download link

<http://tracgis.telangana.gov.in/agsd/isms/report/default.aspx>

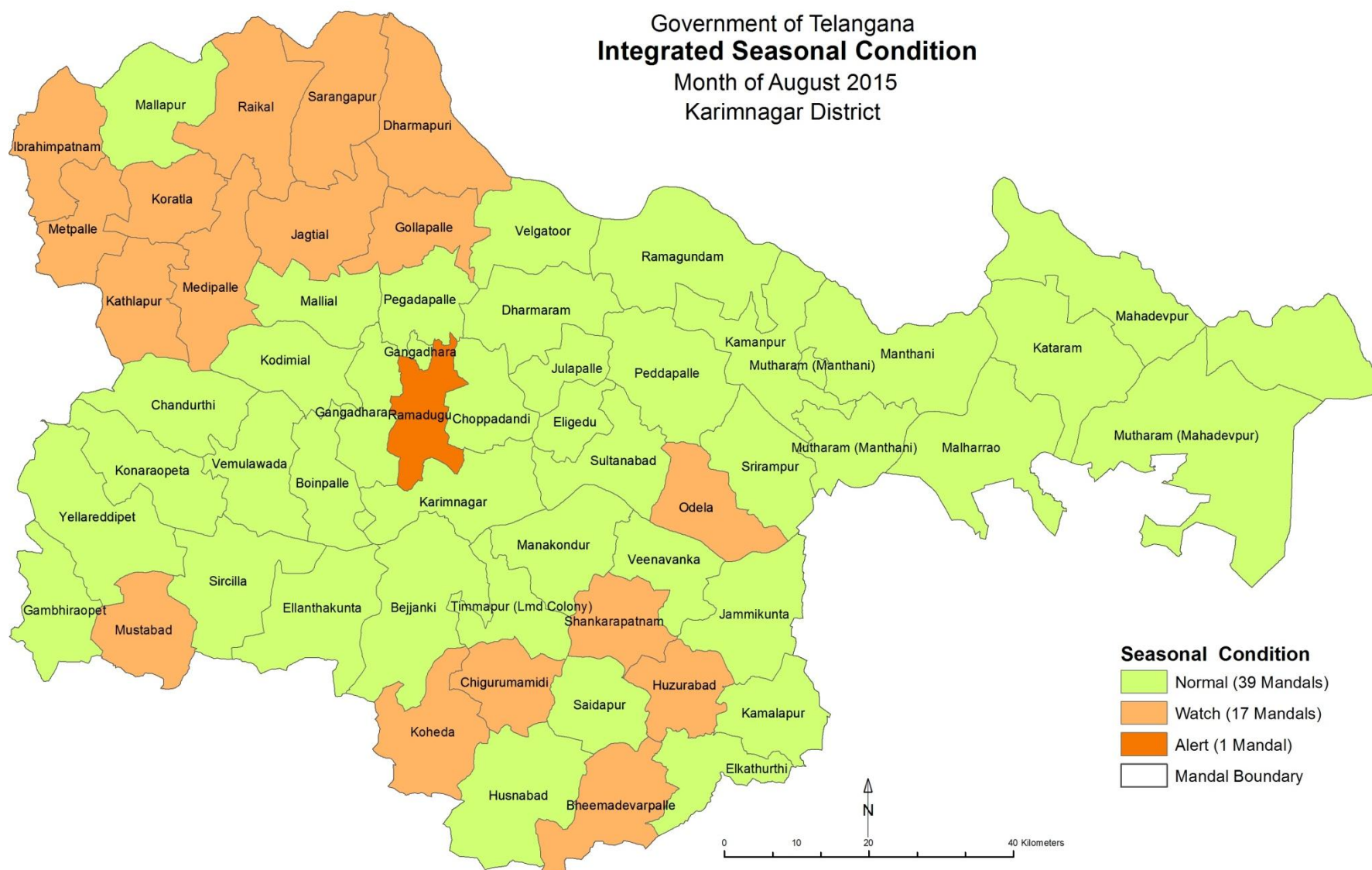
ANNEXURE I

District Wise Maps Showing Normal, Watch and Alert Mandals

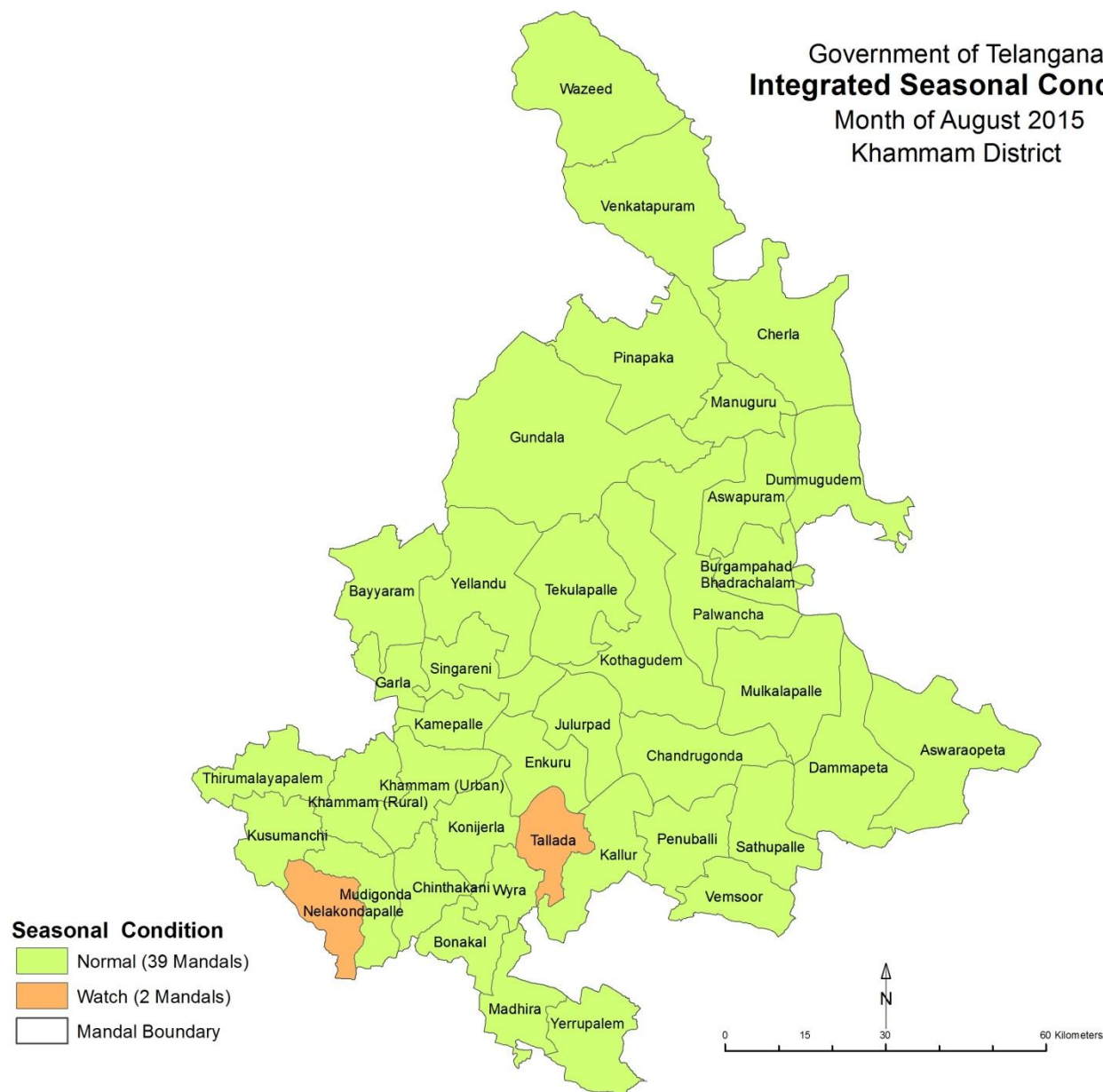
Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Adilabad District



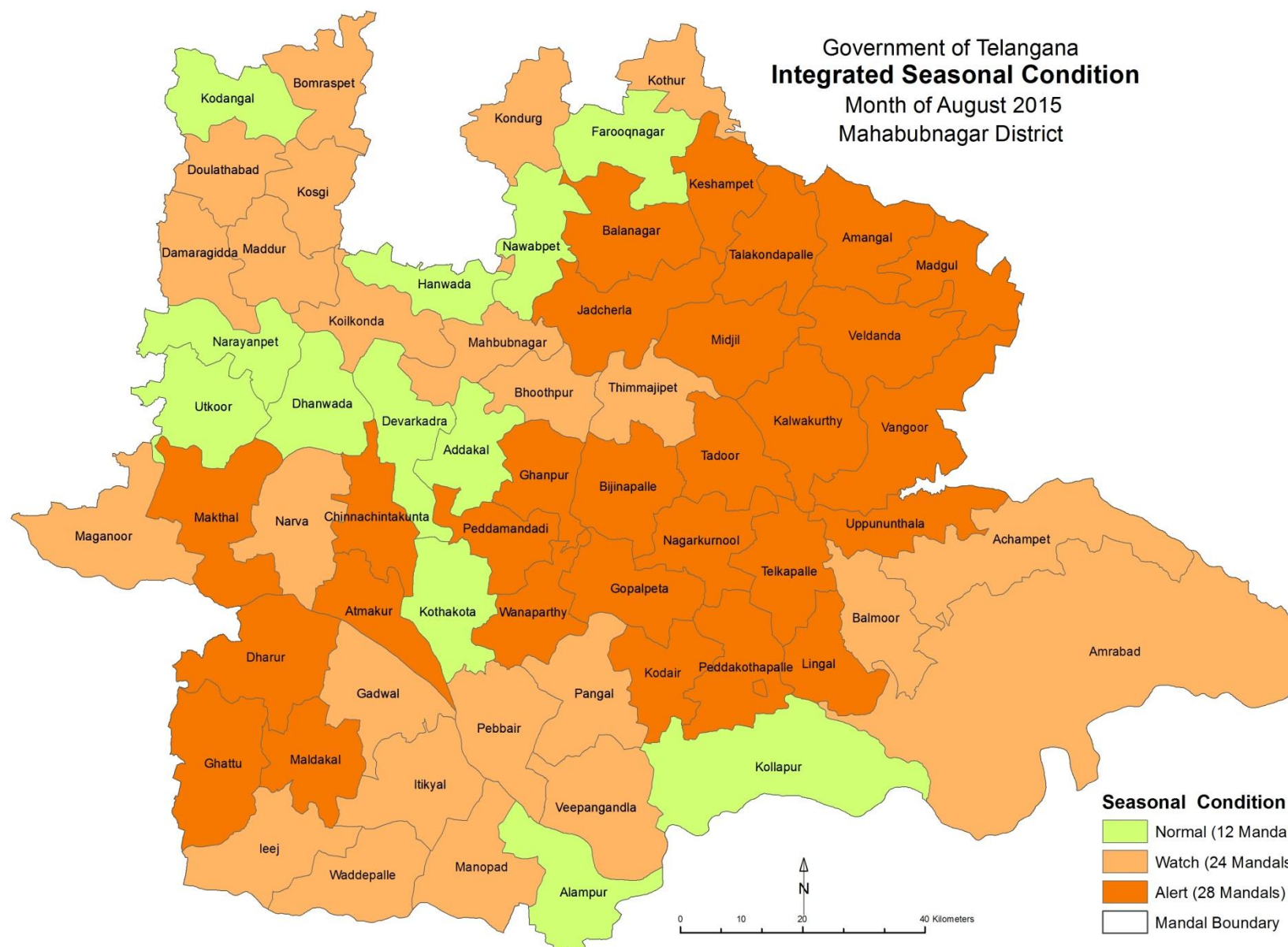
Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Karimnagar District



Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Khammam District



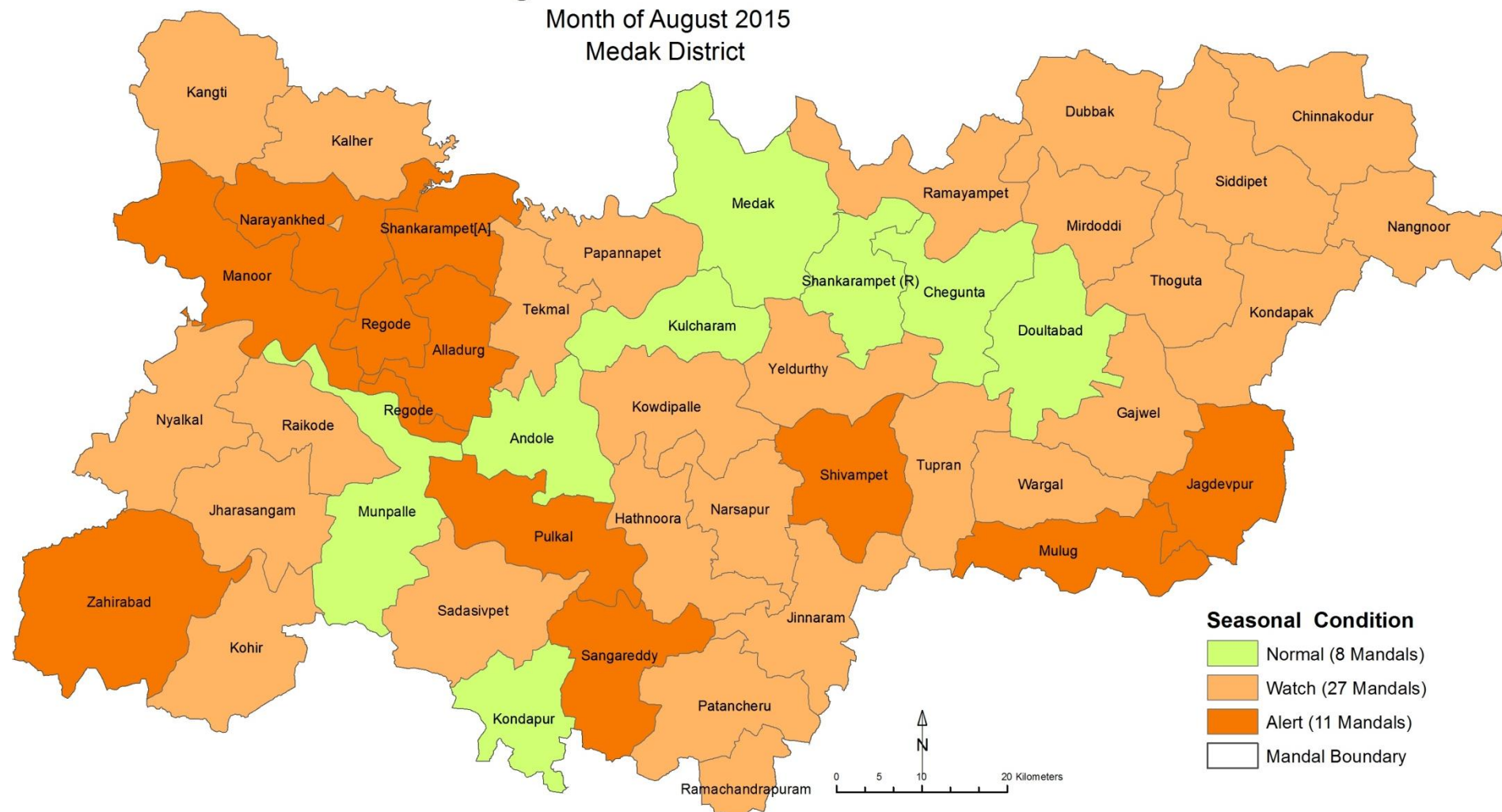
Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Mahabubnagar District



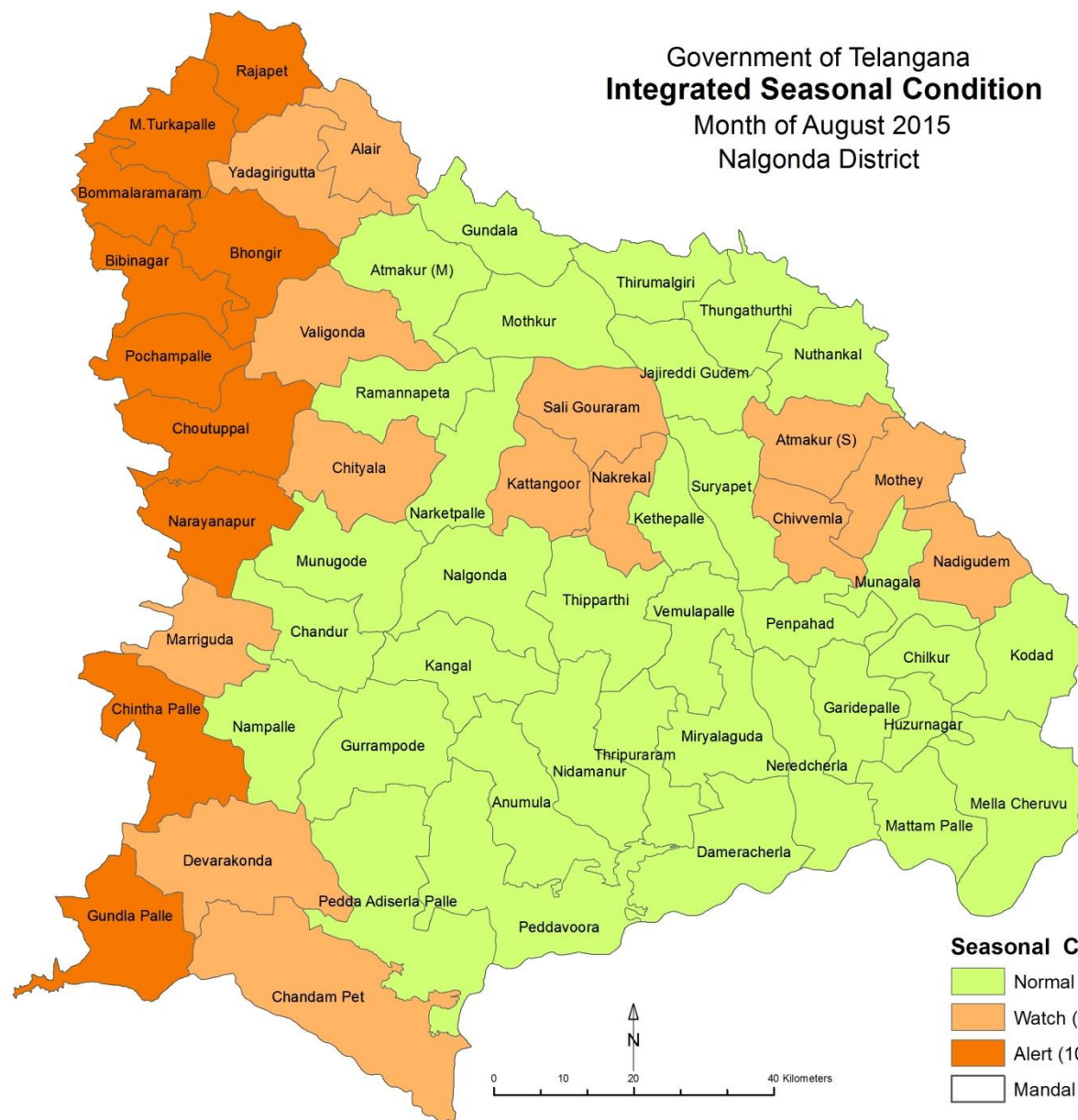
Government of Telangana Integrated Seasonal Condition

Month of August 2015

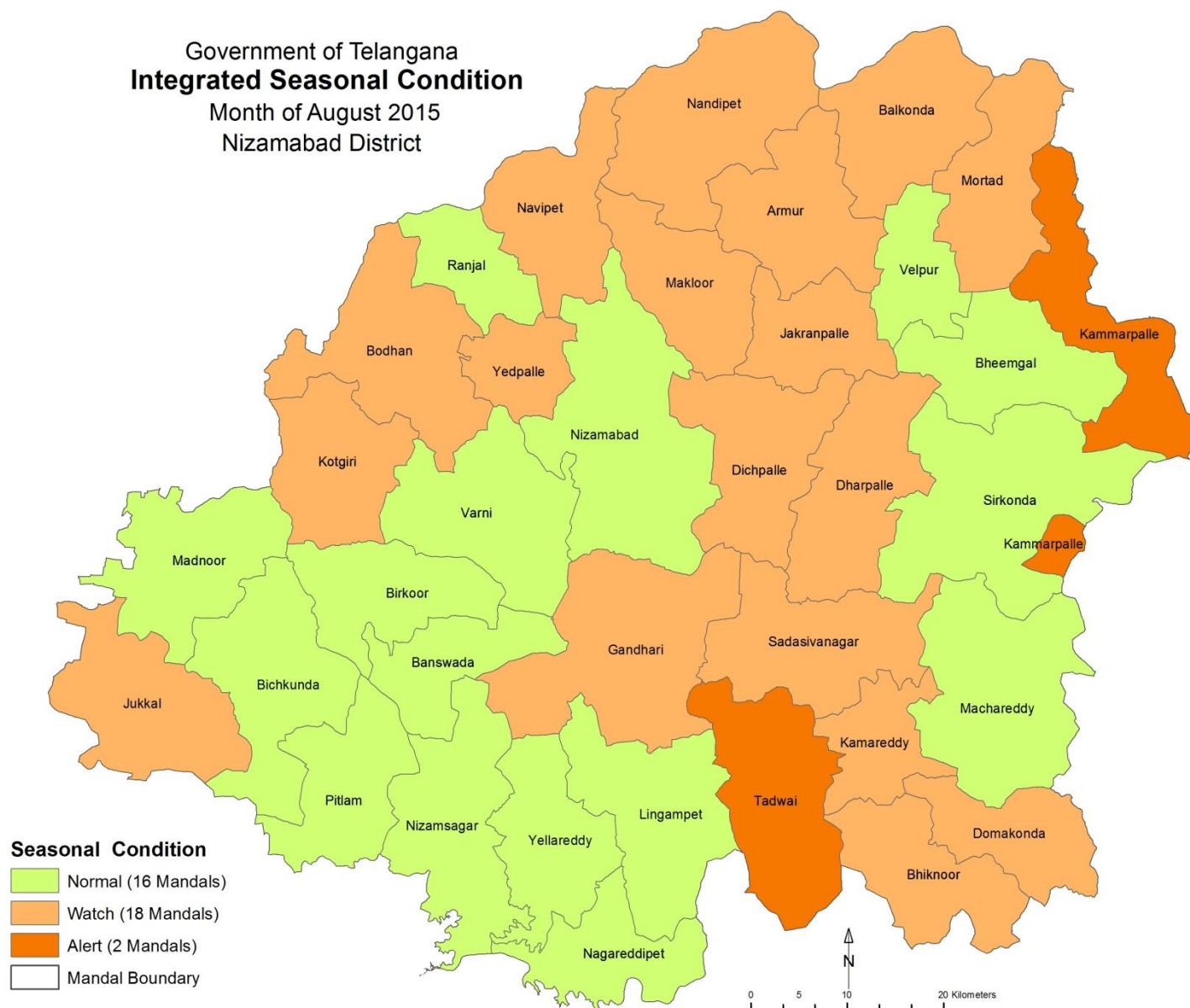
Medak District



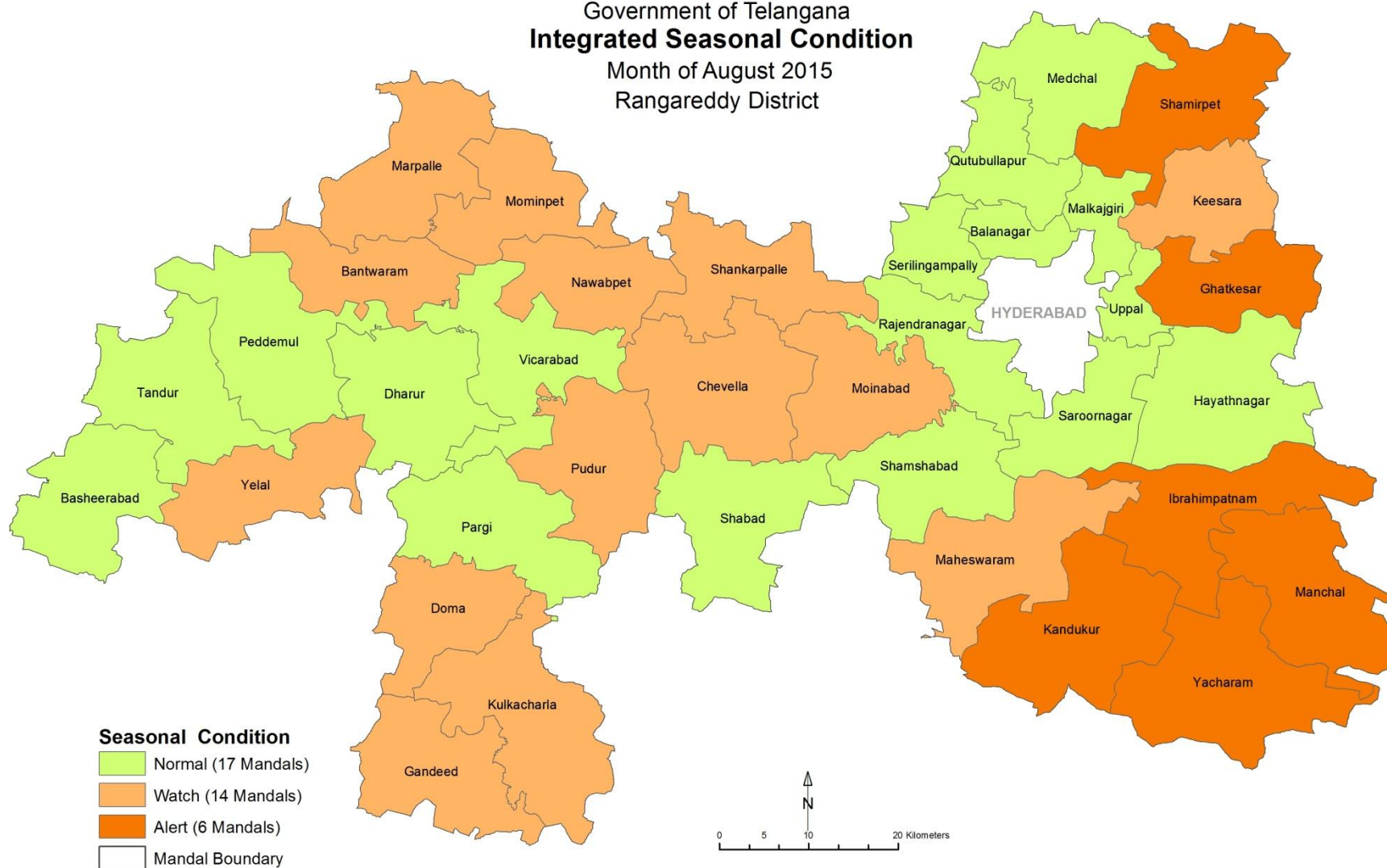
Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Nalgonda District



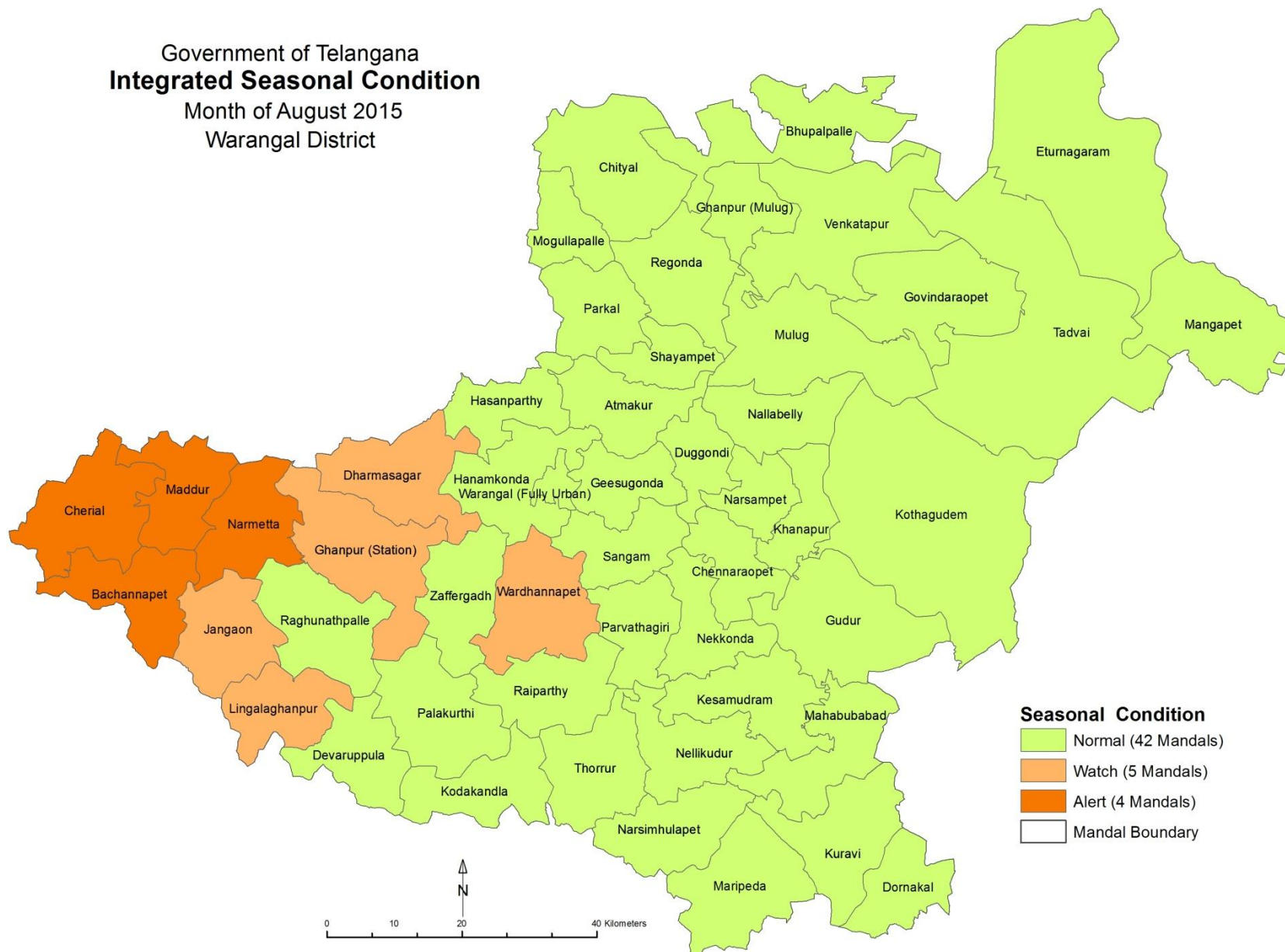
Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Nizamabad District



Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Rangareddy District



Government of Telangana
Integrated Seasonal Condition
 Month of August 2015
 Warangal District



ANNEXURE II

Integrated Seasonal Condition Monitoring System (ISMS)

Ground Truth Report for 11 to 16 August, 2015

TRAC is carrying out drought assessment under the project Integrated Seasonal condition Monitoring System (ISMS). The drought assessment report on end the month of July showed that Rangareddy and Mahabubnagar districts came under Watch and Alert situation. As per developed methodology under ISMS to observe actual situation of the districts joint Ground truth was carried out along with the Agriculture Department and Directorate of Economics and Statistics (DES). The main finding during the field visit are summarised here under

RangaReddy

In Rangareddy district total 6 mandals were visited. *Ibrhimpatnam, Manchal, Yacharam, Doma, Pargi and Pudur* mandals were visited for ground truth data collection.

Mahabubnagar

In Mahabubnagar district total 31 mandals were visited. *Madgul, Veldanda, Kalwakurty, Vangor, Tadoor, Uppunuthala, Balmoor, Lingal, Pedda kothapalle, Kodair, Pangal, Wanaparthi, Veepangandla, Alampur,manopad,, Waddepalle, Itikyal, Gadwal Atmakur, Narva, Makthal, Dhanwada, Chinnachintakunta, Devarakadra,, Mahabubnagar, Narayanpet, Damaragidda,, Maddur, Doulatabad, Kosgi and Bomaraspet* mandals were visited for ground truth data collection

Rangareddy District mandal wise Ground truth Details

1. Ibrahimpatnam

Mandal Name	Ibrahimpatnam		Remarks
Visited Village Name	(Bagath, Khalsa)	Naganpalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall .
Crops observed in the village	Maize, Paddy, Redgram and Cotton		
Date of Sowing / Transplanting	June First Week and Second week of June	Second week of June	
Farmers Opinion on Crop	Severe Condition of all crops	Severe Condition	
Crop Status	Cotton and maize having Stunted Growth. Rice is in tillering stage & soil moisture condition of the fields is in very bad condition.	Stunted Growth is observed in Cotton and maize. Rice is in tillering stage with very low soil moisture.	Crop growth condition is affected due to this and the situation is under Watch category.
Sources of Irrigation	Bore Wells and Rainfed		According to farmers opinion crop growth condition is not satisfactory.
Present water situation	No water, Bore wells Dried		
Rainfall as on 15 08 2015	Normal		
Rainfall as on 31 07 2015	Deficient		
Any aid from Government	50% subsidy for selected villages		

True ground situation in Ranga Reddy District, Ibrahimpatnam mandal image showing



Figure 1: Flowering stage of Maize Crop but Stunted growth



Figure 2: Tillering stage of Paddy Crop with low soil moisture



Figure 3: Stunted growth of Redgram



Figure 4: Stunted growth of Cotton Crop



Figure 5: : Stunted growth of two months old Cotton Crop



Figure6: : Stunted growth of Cotton Crop

2. Manchal

Mandal Name	Manchal		Remarks
Visited Village Name	Japala	Rangapur	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall .
Crops observed in the village	Maize, Paddy, Castor, Jowar and Cotton	Maize, Paddy, Redgram, Jowar and Cotton	
Date of Sowing / Transplanting	First week of July	Second week of June	
Farmers Opinion on Crop	Severe Condition of all crops	Severe Condition of all crops	
Crop Status	Cotton and maize having Stunted Growth. Rice is in tillering stage with low soil moisture content.	Stunted Growth observed in Cotton and maize. Rice crop is tillering stage.	Crop growth condition is affected due to this and the situation is under Watch category.
Sources of Irrigation	Bore Wells and Rainfed irrigation		According to farmers opinion crop growth condition is not satisfactory.
Present water situation	No water, Bore wells Dried		
Rainfall as on 15082015	Deficient		
Rainfall as on 31072015	Deficient		
Any aid from Government	Subsidy given for maize crop.		Cotton and maize crops are sown for second time.

True ground situation in Ranga Reddy District, Manchal mandal image showing



Figure 7: Dry condition of Maize Crop



Figure 8: Dry condition of Maize Crop (Interaction with farmers)

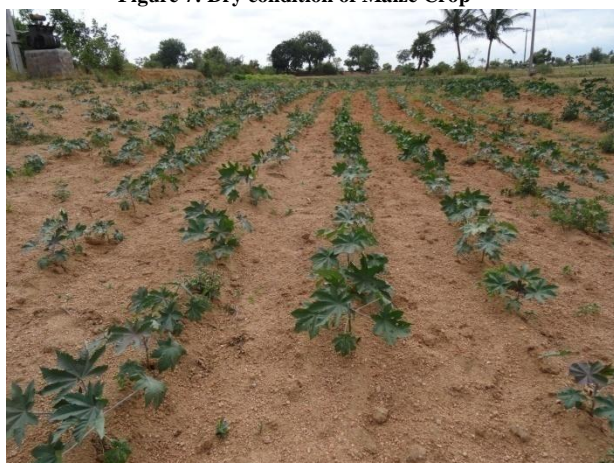


Figure 9: Stunted growth of Castor Crop



Figure 10: Stunted growth of Maize Crop

3. Yacharam

Mandal Name	Yacharam	Remarks
Visited Village Name	Yacharam	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is not satisfactory. Maize crop is dried & fields are left for grazing of cattle.</p>
Crops observed in the village	Maize and Cotton	
Date of Sowing	First week of July	
Farmers Opinion on Crop	Dried Condition of all crops	
Crop Status	Stunted Growth is seen in Cotton and maize.	
Sources of Irrigation	Bore Wells and Rainfed	
Present water situation	No water, Bore wells Dried	
Rainfall as on 15 082015	Deficient	
Rainfall as on 31 072015	Deficient	
Any aid from Government	Subsidy given for Castor and maize crops.	

True ground situation in Ranga Reddy District, Yacharam mandal image showing

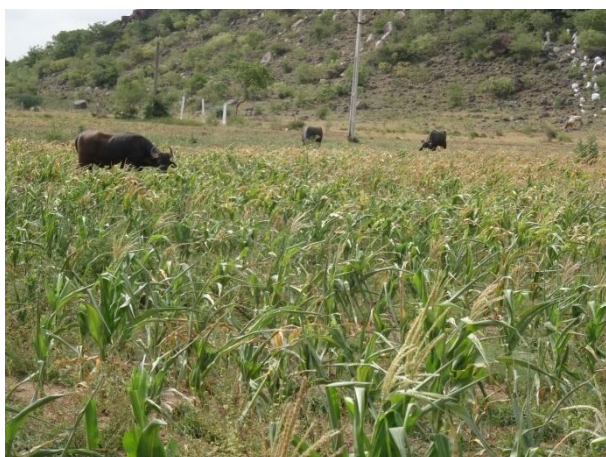


Figure 11: Dry field of Maize Crop left for cattle grazing



Figure12: Dry condition of Cotton Crop (Inter Crop Redgram)



Figure 13: Stunted growth of Cotton Crop



Figure 14: Stunted growth of Cotton Crop (2 Months old Crop)

4. Doma

Mandal Name	Doma			Remarks
Visited Village Name	Mallepalli	Polepalle	Doma	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Redgram, Maize, Cotton and Paddy			
Date of Sowing / Transplanting	Second week of June and First week of July & August			
Farmers Opinion on Crop	Average Condition of all crops			
Crop Status	Good condition			
Sources of Irrigation	Bore Wells and Rainfed			
Present water situation	Very low levels of Bore water & low soil moisture			
Rainfall as on 15 082015	Deficient			
Rainfall as on 31 072015	Scanty			
Any aid from Government	Subsidy given for maize crop.			

True ground situation in Ranga Reddy District, Doma mandal image showing



Figure 15: Medium condition of Redgram Crop



Figure16: Average condition of Redgram Crop

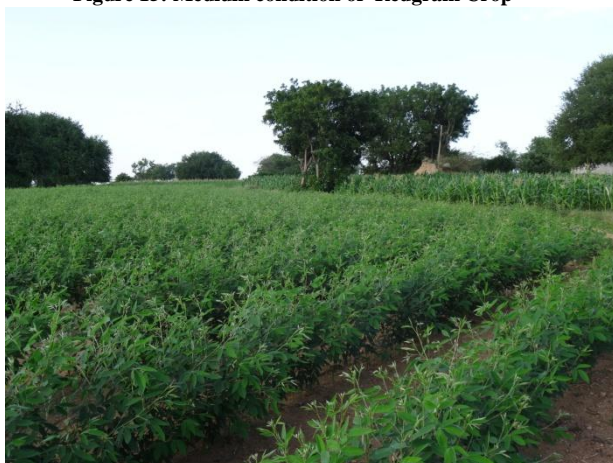


Figure 17: Average condition of Redgram Crop



Figure 18: Transplanting of Paddy crop (15 days old)

5. Pargi

Mandal Name	Pargi			Remarks
Visited Village Name	Ramreddypalle	Pargi	Nazeerabad	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall. According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Cotton, Redgram, Maize and Paddy			
Date of Sowing / Transplanting	Second week of June and First week of July, August			
Farmers Opinion on Crop	Medium Condition of all crops			
Crop Status	Good condition			
Sources of Irrigation	Bore Wells and Rainfed agriculture			
Present water situation	Ground water levels are low			
Rainfall as on 15082015	Deficient			
Rainfall as on 31072015	Deficient			
Any aid from Government	Subsidy given for maize crop.			

True ground situation in Ranga Reddy District, Pargi mandal image showing



Figure 19: Average condition of Cotton Crop



Figure 20: Boll formation of Cotton Crop

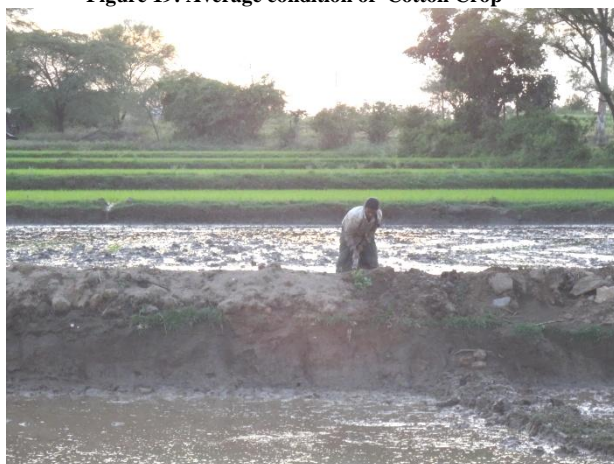


Figure 21: Field preparation for paddy cultivation

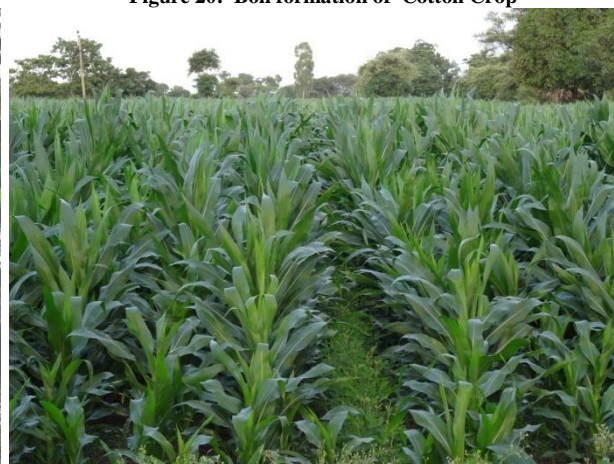


Figure 22: Average condition of Maize crop

6. Pudur

Mandal Name	Pudur			Remarks
Visited Village Name	Somagurthy	Pudur	Kandlapalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall .
Crops observed in the village	Cotton, Redgram, Maize and Paddy			
Date of Sowing / Transplanting	Second week of June and First week of July, August			
Farmers Opinion on Crop	Medium Condition of all crops			
Crop Status	Good condition			Crop growth condition is affected due to this and the situation is under Watch category.
Sources of Irrigation	Bore Wells and Rainfed			
Present water situation	Very low levels of Bore water			
Rainfall as on 15082015	Deficient			
Rainfall as on 31072015	Deficient			According to farmers opinion crop growth condition is not satisfactory.
Any aid from Government	Subsidy given for maize crop.			

True ground situation in Ranga Reddy District, Pudur mandal image showing



Figure 23: Medium condition of Cotton Crop (Beside Maize crop)



Figure 24: Bad condition of two months old Maize Crop



Figure 25: Medium condition of Cotton Crop

Mahabubnagar District mandal wise Ground truth Details

1. Madgul

Mandal Name	Madgul		Remarks
Visited Village Name	Kulkalpalle	Madgul	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall .
Crops observed in the village	Cotton and Maize		
Date of Sowing	First week of June		
Farmers Opinion on Crop	Severe condition of all crops		
Crop Status	Stunted Growth in Cotton and maize crops.		Crop growth condition is affected due to this and the situation is under Alert category.
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Ground water condition is very poor.		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Scanty		According to farmers opinion crop growth condition is not satisfactory.
Any aid from Government	Subsidy given for maize crop.		

True ground situation in Mahabubnagar District, Madgul mandal image showing



Figure 1: Dry condition of Cotton Crop in Kulkalpalle village



Figure 2: Bad condition of Cotton Crop (2 Months old Crop)



Figure 3: Stunted growth of Cotton Crop in Madgul village



Figure 4: Bad condition of Cotton Crop in Madgul village

2. Veldanda

Mandal Name	Veldanda	Remarks
Visited Village Name	Veldanda	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall.
Crops observed in the village	Cotton and Maize	
Date of Sowing	First week of June	
Farmers Opinion on Crop	Bad Condition of all crops	Crop growth condition is affected due to this and the situation is under Alert category.
Crop Status	Stunted Growth in Cotton and maize is observed.	
Sources of Irrigation	Bore Wells and Rainfed	
Present water situation	No water, Bore wells Dried	
Rainfall as on 15 082015	Scanty	
Rainfall as on 31 072015	Scanty	
Any aid from Government	Subsidy given for maize crop.	

True ground situation in Mahabubnagar District, Veldanda mandal image showing



Figure 5: Dry condition of Cotton Crop



Figure 6: Bad condition of Cotton Crop



Figure 7: Bad condition of Maize Crop



Figure 8: Bad condition of Maize Crop
(AO Showing Damaged leaf)

3. Kalwakurthy

Mandal Name	Kalwakurthy		Remarks
Visited Village Name	Kalwakurthy	Turkapalle (Gundur)	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall .
Crops observed in the village	Cotton, paddy and Maize		
Date of Sowing	Second week of June	First week of June	
Farmers Opinion on Crop	Severe stress condition of all crops		Crop growth condition is affected due to this and the situation is under Alert category.
Crop Status	Stunted Growth in Cotton and maize		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells are dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Scanty		Horticulture crops like Tomato are also cultivated in the mandal.
Any aid from Government	50% subsidy given for maize crop		

True ground situation in Mahabubnagar District, Kalwakurthy mandal image showing



Figure 9: Bad condition of Cotton Crop



Figure 10: Average condition of Maize Crop



Figure 11: Bad condition of Cotton Crop



Figure 12: Bad condition of Cotton Crop

4. Tadoor

Mandal Name	Tadoor		Remarks
Visited Village Name	Tadoor	Yadireddypally	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is not satisfactory. Cotton crop is sown for third time in Yadireddypally village.
Crops observed in the village	Cotton and Maize		
Date of Sowing	Second week of July	First week of July, August and July	
Farmers Opinion on Crop	Severe stress ondition of all crops		
Crop Status	Cotton and maize having stunted growth		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	No water, Bore wells Dried		
Rainfall as on 15 082015	Scanty		
Rainfall as on 31 072015	Scanty		
Any aid from Government	50% subsidy given for maize crop		

True ground situation in Mahabubnagar District, Tadoor mandal image showing



Figure 13: Average condition of Cotton Crop



Figure 14: Average condition of Cotton Crop



Figure 14: Bad condition of Cotton Crop (Resowing)



Figure 15: Bad condition of Cotton Crop (Resowing)

5. Vangoor

Mandal Name	Vangoor		Remarks
Visited Village Name	Vangoor	Kondareddipally	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Cotton and Maize		
Date of Sowing	First and Second week of June	Second week of June	
Farmers Opinion on Crop	Severe Condition of all crops		
Crop Status	Cotton and maize are facing Stunted Growth		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Scanty		
Rainfall as on 31 072015	Scanty		
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.		

True ground situation in Mahabubnagar District, Vangoor mandal image showing



Figure 16: Medium condition of Cotton Crop



Figure 17: Bad condition of Cotton Crop



Figure 18: Dry condition of Maize Crop



Figure 19: Dry condition of Maize Crop

6. Uppununthala

Mandal Name	Uppununthala		Remarks
Visited Village Name	Uppununthala	Kamsanpally	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall .
Crops observed in the village	Cotton and Maize		
Date of Sowing	June	First week of June	
Farmers Opinion on Crop	Severe Condition of all crops		Crop growth condition is affected due to this and the situation is under Alert category.
Crop Status	Stunted Growth observed in Cotton and maize		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		According to farmers opinion crop growth condition is not satisfactory. Groundnut is cultivated in Rabi Season.
Rainfall as on 15 08 2015	Scanty		
Rainfall as on 31 07 2015	Scanty		

True ground situation in Mahabubnagar District, Uppununthala mandal image showing



Figure 20: Bad condition of Cotton Crop



Figure 21: Bad condition of Maize Crop



Figure 22: Dry condition of Maize Crop

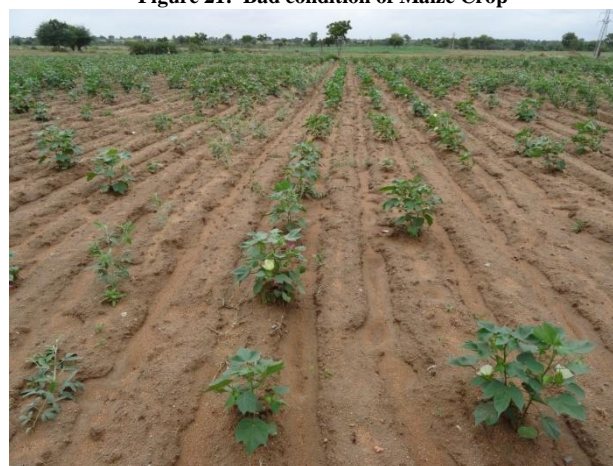


Figure 23: Stunted growth of Cotton Crop

7. Balmoor

Mandal Name	Balmoor		Remarks
Visited Village Name	Balmoor	Setarampuram (Polesettipalle)	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall.
Crops observed in the village	Cotton and Maize		
Date of Sowing	First week of June		
Farmers Opinion on Crop	Severe Condition of all crops		
Crop Status	Stunted Growth observed in Cotton and maize		Crop growth condition is affected due to this and the situation is under Watch category.
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 08 2015	Deficient		According to farmers opinion crop growth condition is not satisfactory.
Rainfall as on 31 07 2015	Deficient		
Any aid from Government	Seed		

True ground situation in Mahabubnagar District, Balmoor mandal image showing



Figure 24: Medium condition of Maize Crop



Figure 25: Medium condition of Maize Crop



Figure 26: Stunted growth of Cotton Crop



Figure 27: Bad condition of Maize Crop

8. Lingal

Mandal Name	Lingal		Remarks
Visited Village Name	Lingal	Kothakuntapalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall .
Crops observed in the village	Paddy, Cotton, Groundnut and Maize		
Date of Sowing	First week of June		
Farmers Opinion on Crop	Severe Condition of all crops		
Crop Status	Stunted Growth observed in Cotton and maize		Crop growth condition is affected due to this and the situation is under Watch category.
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Scanty		
Rainfall as on 31 072015	Deficient		According to farmers opinion crop growth condition is not satisfactory.
Any aid from Government	Seed		

True ground situation in Mahabubnagar District, Lingal mandal image showing



Figure 28: Medium condition of Maize Crop



Figure 29: Stunted growth of Maize Crop



Figure 30: Medium condition of Maize Crop

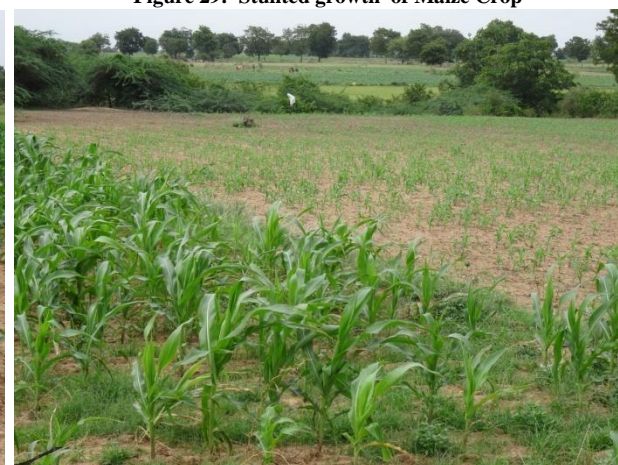


Figure 31: Medium condition of Maize Crop

9. Peddakothapalle

Mandal Name	Peddakothapalle		Remarks
Visited Village Name	Peddakothapalle	Kothakuntapalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall . Crop growth condition is affected due to this and the situation is under Watch category. According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Cotton, Maize and Groundnut		
Date of Sowing	First week of June		
Farmers Opinion on Crop	Severe Condition of all crops		
Crop Status	Stunted Growth in Cotton and maize		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Deficient		
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.		

True ground situation in Mahabubnagar District, Peddakothapalle mandal image showing



Figure 32: Medium condition of Maize Crop



Figure 33: Stunted growth of Maize Crop



Figure 34: Stunted growth of Maize Crop



Figure 35: Medium condition of Maize Crop

10. Kodair

Mandal Name	Kodair			Remarks
Visited Village Name	Paspula	Kodair	Mailaram	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Cotton, Maize and Groundnut			
Date of Sowing	Second week of June			
Farmers Opinion on Crop	Severe Condition of all crops			
Crop Status	Stunted Growth in Cotton and maize			
Sources of Irrigation	Bore Wells and Rainfed			
Present water situation	Bore wells Dried			
Rainfall as on 15 082015	Scanty			
Rainfall as on 31 072015	Scanty			
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.			

True ground situation in Mahabubnagar District, Kodair mandal image showing



Figure 36: Medium condition of Maize Crop



Figure 37: Medium condition of Maize Crop



Figure 38: Paddy field preparation

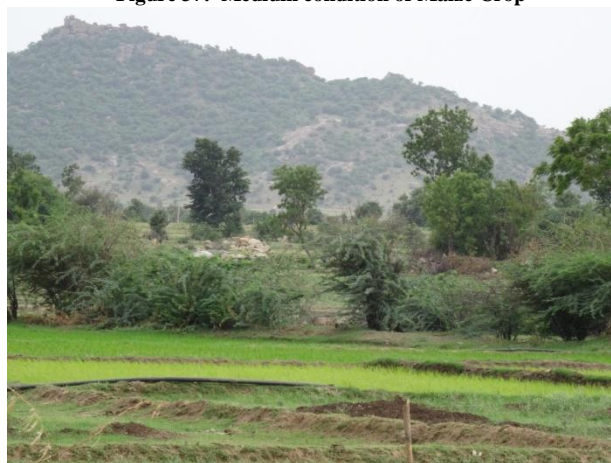


Figure 39: Nursery beds of Paddy Crop

11. Wanaparthy

Mandal Name	Wanaparthy		Remarks
Visited Village Name	Wanaparthy	Anjangiri	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is not satisfactory.</p>
Crops observed in the village	Cotton, Castor, Maize and Paddy		
Date of Sowing	Second week of June, July First week		
Farmers Opinion on Crop	Severe Condition of all crops		
Crop Status	Stunted Growth in Cotton, maize and Castor		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Scanty		
Rainfall as on 31 072015	Scanty		
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.		

True ground situation in Mahabubnagar District, Wanaparthy mandal image showing



Figure 40: Medium condition of Paddy Crop under borewell



Figure 41: Medium condition of Paddy Crop under borewell



Figure 42: Stunted growth of Castor Crop



Figure 43: Stunted growth of Castor Crop

12. Pangal

Mandal Name	Pangal			Remarks
Visited Village Name	Pangal	Annaram	Kalvarala	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall .
Crops observed in the village	Cotton, Maize, Jowar, Castor, Redgram, Paddy and Groundnut			
Date of Sowing	Second week of June, August First week			
Farmers Opinion on Crop	Severe Condition of all crops			
Crop Status	Stunted Growth in Cotton and maize			
Sources of Irrigation	Bore Wells and Rainfed			Crop growth condition is affected due to this and the situation is under Watch category. Grain filling not taken place in Jowar crop.
Present water situation	Bore wells Dried			
Rainfall as on 15 082015	Scanty			
Rainfall as on 31 072015	Scanty			
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.			

True ground situation in Mahabubnagar District, Pangal mandal image showing



Figure 44: Medium condition of Maize Crop



Figure 45: Medium condition of Jowar Crop



Figure 46: Medium condition of Jowar Crop (Grains not filled)



Figure 47: Field prepared for paddy cultivation



Figure 48: Field preparation for paddy cultivation



Figure 49: Transplanted Paddy Crop



Figure 50: Transplanted Paddy crop

13. Veepangandla

Mandal Name	Veepangandla		Remarks
Visited Village Name	Veepangandla	Govardanagiri	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is not satisfactory.</p> <p>Most of the paddy cultivated lands are under fallow situation due to insufficient water and Mango Plantations Noticed.</p>
Crops observed in the village	Cotton, Maize, Castor, Redgram, Paddy and Groundnut		
Date of Sowing	Second week of June, August First week		
Farmers Opinion on Crop	Severe Condition of all crops		
Crop Status	Cotton crop having Stunted Growth		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 08 2015	Deficient		
Rainfall as on 31 07 2015	Deficient		
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.		

True ground situation in Mahabubnagar District, Veepangandla mandal image showing



Figure 51: Preparation for Paddy field



Figure 52: Paddy field (Raising Nursery beds)



Figure 53: Medium condition of Groundnut crop



Figure 54: Medium condition of Groundnut crop

14. Itikyal

Mandal Name	Itikyal			Remarks
Visited Village Name	Putandoddi	Itikyal	Chagapur	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is not satisfactory.</p> <p>Jurala Reservoir water is not released yet.</p>
Crops observed in the village	Cotton, Maize, Redgram, Paddy and Groundnut			
Date of Sowing	Second week of June, August First week			
Farmers Opinion on Crop	Severe Condition of all crops			
Crop Status	Cotton and maize are facing Stunted Growth			
Sources of Irrigation	Open wells, Bore Wells and Rainfed			
Present water situation	Bore wells Dried			
Rainfall as on 15 082015	Deficient			
Rainfall as on 31 072015	Deficient			
Any aid from Government	Maize - Rs25 per 1kg, total 5kg Subsidy is given to farmers.			

True ground situation in Mahabubnagar District, Itikyal mandal image showing



Figure 55: Medium condition of Cotton Crop



Figure 56: Interaction with farmer about Cotton Seeding crop



Figure 57: Bad condition of Cotton Crop



Figure 58: Stunted growth of Cotton crop

15. Waddepalli

Mandal Name	Waddepalli		Remarks
Visited Village Name	Rampuram	Paipadu (Shanthinagar)	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is not satisfactory.</p>
Crops observed in the village	Cotton, Maize and Paddy		
Date of Sowing	Second week of June and July		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Cotton and maize was Stunted Growth		
Sources of Irrigation	Open wells, Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Deficient		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Waddepalli mandal image showing



Figure 58: Medium condition of Cotton Crop (Drip)



Figure 60: Medium condition of Cotton Crop

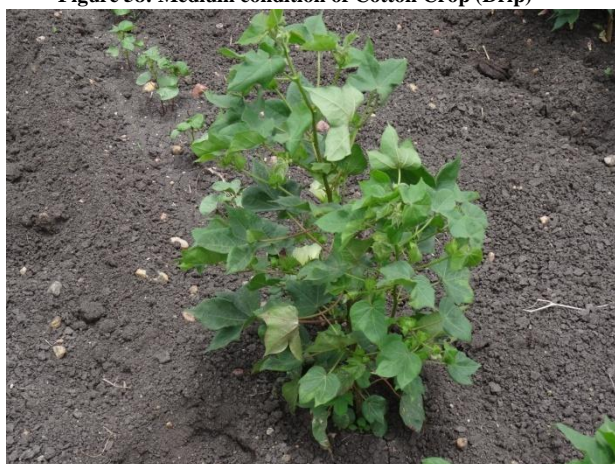


Figure 61: Medium condition of Cotton Crop

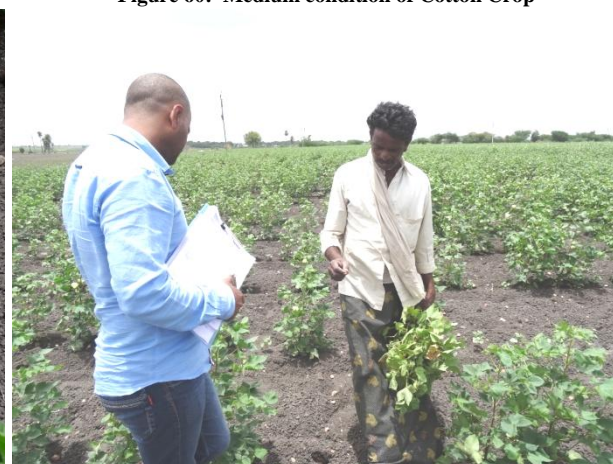


Figure 62: Medium condition of Cotton Crop (Some Plants Dried)

16. Manopadu

Mandal Name	Manopadu		Remarks
Visited Village Name	Bonkur	Burdipadu	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Normal rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Normal category.</p> <p>According to farmers opinion crop growth condition is not satisfactory.</p>
Crops observed in the village	Cotton, Maize and Paddy		
Date of Sowing	Second week of July		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Cotton and maize observed Stunted Growth		
Sources of Irrigation	Open wells, Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Normal		
Rainfall as on 31 072015	Normal		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Manopadu mandal image showing



Figure 63: Average condition of Cotton Crop



Figure 64: Bad condition of Cotton Crop



Figure 65: Average condition of Cotton Crop



Figure 66: Average condition of Cotton Crop

17. Alampur

Mandal Name	Alampur		Remarks
Visited Village Name	Bhairapur	Baswapur	Crop growth condition is affected According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Cotton, Maize, Groundnut, Jowar and Onion		
Date of Sowing	Second week of July		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Cotton and maize was Stunted Growth		
Sources of Irrigation	Open wells, Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Normal		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Alampur mandal image showing



Figure 67: Average condition of Cotton Crop



Figure 68: Average condition of Maize Crop



Figure 69: Good condition of Cotton Crop



Figure 70: bad condition of Onion Crop

18. Gadwal

Mandal Name	Gadwal		Remarks
Visited Village Name	Jammiched	Gadwal	Crop growth condition is affected According to farmers opinion crop growth condition is not satisfactory.
Crops observed in the village	Cotton, Maize, Groundnut and Castor		
Date of Sowing	Second week of June		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Cotton and maize having Stunted Growth		
Sources of Irrigation	Open wells, Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Deficient		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Gadwal mandal image showing



Figure 71: Medium condition of Cotton crop



Figure 72: Medium condition of Cotton crop



Figure 73: Medium condition of Castor Crop

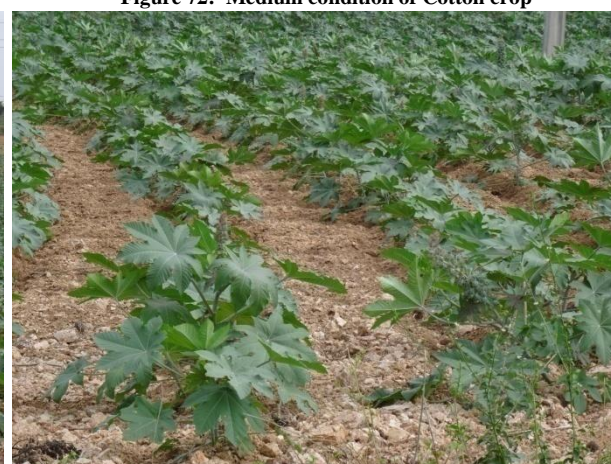


Figure 74: Medium condition of Castor Crop

19. Dharur

Mandal Name	Dharur	Remarks
Visited Village Name	Chintharevula	<p>Crop growth condition is affected</p> <p>According to farmers opinion crop growth condition is not satisfactory.</p>
Crops observed in the village	Cotton, Maize, Groundnut and Castor	
Date of Sowing	First week of July	
Farmers Opinion on Crop	Medium Condition of all crops	
Crop Status	Stunted Growth in Cotton and maize	
Sources of Irrigation	Open wells, Bore Wells and Rainfed	
Present water situation	Bore wells Dried	
Rainfall as on 15 082015	Deficient	
Rainfall as on 31 072015	Scanty	
Any aid from Government	Yes	

True ground situation in Mahabubnagar District, Dharur mandal image showing



Figure 75: Medium condition of Cotton Crop



Figure 76: Medium condition of Cotton Crop

20. Atmakur

Mandal Name	Atmakur			Remarks
Visited Village Name	Nandimalla	Mastipuram	Amarchinta	<p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is Good</p>
Crops observed in the village	Cotton, Maize, Sugacane, Redgram and Paddy			
Date of Sowing	December 2014 and January 2015 - Sugarcane August First Week - Paddy			
Farmers Opinion on Crop	Medium Condition of all crops			
Crop Status	Stunted Growth in Cotton and maize			
Sources of Irrigation	Open wells, Bore Wells and Rainfed			
Present water situation	Bore wells Dried			
Rainfall as on 15082015	Deficient			
Rainfall as on 31072015	Deficient			
Any aid from Government	Yes			

True ground situation in Mahabubnagar District, Atmakur mandal image showing



Figure 77: Good condition of Sugarcane Crop



Figure 78: Medium condition of Sugarcane Crop



Figure 79: Bad condition of Redgram Crop



Figure 80: Transplanting of Paddy Crop

21. ChinnaChintaKunta

Mandal Name	ChinnaChintaKunta			Remarks
Visited Village Name	Maddur	Edulapur	Waddemanu	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall. Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is Good.</p>
Crops observed in the village	Cotton, Maize, Castor, Mirchi, Redgram and Paddy			
Date of Sowing	First week of July and First Week of August			
Farmers Opinion on Crop	Medium Condition of all crops			
Crop Status	Cotton crop is having Stunted Growth			
Sources of Irrigation	Open wells, Bore Wells and Rainfed			
Present water situation	Bore wells Dried			
Rainfall as on 15 082015	Deficient			
Rainfall as on 31 072015	Scanty			
Any aid from Government	Yes			

True ground situation in Mahabubnagar District, ChinnaChintaKunta mandal image showing



Figure 81: Transplanted Paddy field



Figure 82: Good condition of Paddy field



Figure 83: Good condition of Cotton field (Late sowing)



Figure 84: Good condition of Paddy field

22. Narva

Mandal Name	Narva				Remarks
Visited Village Name	Komarilingampalle	Lankal	Narva	Patherched	According to farmers opinion crop growth condition is Medium
Crops observed in the village	Cotton, Maize, Castor, Redgram and Paddy				
Date of Sowing	First week of June, July and First Week of August				
Farmers Opinion on Crop	Medium Condition of all crops				
Crop Status	Cotton and castor was Stunted Growth				
Sources of Irrigation	Bore Wells and Rainfed				
Present water situation	Bore wells Dried				
Rainfall as on 15 082015	Normal				
Rainfall as on 31 072015	Normal				
Any aid from Government	Yes				

True ground situation in Mahabubnagar District, Narva mandal image showing



Figure 85: Medium condition of Maize field



Figure 86: Average condition of Castor field



Figure 87: Bad condition of Redgram crop



Figure 88: Transplanted Paddy field



Figure 89: Medium condition of Redgram crop



Figure90: Medium condition of Cotton field



Figure 91: Stunted growth of Cotton field



Figure 92: Transplanted Paddy field

23. Makthal

Mandal Name	Makthal					Remarks
Visited Village Name	Manthangoud	Makthal	Tekupalle	Jaklair	Gudigandla	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is Good
Crops observed in the village	Cotton, Sunflower, Castor, Redgram and Paddy					
Date of Sowing	First week of June, July and First Week of August					
Farmers Opinion on Crop	Medium Condition of all crops					
Crop Status	Cotton and Castor having Stunted Growth.					
Sources of Irrigation	Tanks, Bore Wells and Rainfed					
Present water situation	Bore wells Dried					
Rainfall as on 15 082015	Deficient					
Rainfall as on 31 072015	Scanty					
Any aid from Government	Yes					

True ground situation in Mahabubnagar District, Makthal mandal image showing



Figure 93: Medium condition of Cotton field



Figure 94: Stunted growth of Cotton field



Figure 95: Medium condition of Redgram



Figure 96: Stunted growth of Castor field

24. Dhanwada

Mandal Name	Dhanwada			Remarks
Visited Village Name	Yeligandla	Marikal	Dhanwada	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall.
Crops observed in the village	Cotton, Sunflower, Castor, Redgram and Paddy			
Date of Sowing	First week of June, July			
Farmers Opinion on Crop	Medium Condition of all crops			Crop growth condition is affected due to this and the situation is under Watch category.
Crop Status	Cotton and Castor having Stunted Growth.			
Sources of Irrigation	Tanks, Bore Wells and Rainfed			
Present water situation	Bore wells Dried			According to farmers opinion crop growth condition is bad
Rainfall as on 15 082015	Normal			
Rainfall as on 31 072015	Deficient			
Any aid from Government	Yes			

True ground situation in Mahabubnagar District, Dhanwada mandal image showing



Figure 97: Medium condition of Castor field



Figure 98: Stunted growth of Cotton field



Figure 99: Boll formation of Cotton field (Stunted growth, 20-25cm Plant height)



Figure 100: Stunted growth of Cotton field



Figure 101: Transplanted paddy field



Figure 102: Tillering Stage of paddy field

25. Devarkadara

Mandal Name	Devarkadara		Remarks
Visited Village Name	Goplapurkalan	Chowdarpalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Deficient rainfall . Crop growth condition is affected due to this and the situation is under Watch category. According to farmers opinion crop growth condition is bad
Crops observed in the village	Cotton, Castor, Jowar and Paddy		
Date of Sowing	First week of June, July		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Cotton and Castor having Stunted Growth.		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 08 2015	Normal		
Rainfall as on 31 07 2015	Deficient		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Devarkadara mandal image showing



Figure 103: Stunted growth of Castor field



Figure 104: Field preparation for paddy transplantation



Figure 105: Field preparation for paddy transplantation



Figure 106: Field preparation for paddy transplantation



Figure 107: Interaction with farmer



Figure 108: Tillering Stage of paddy field

26. Mahabubnagar

Mandal Name	Mahabubnagar	Remarks
Visited Village Name	Kodur	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Alert category.</p> <p>According to farmers opinion crop growth condition is bad</p>
Crops observed in the village	Cotton, Maize, Jowar and Paddy	
Date of Sowing	First week of June, July, August	
Farmers Opinion on Crop	Medium Condition of all crops	
Sources of Irrigation	Bore Wells and Rainfed	
Present water situation	Bore wells Dried	
Rainfall as on 15 082015	Deficient	
Rainfall as on 31 072015	Scanty	
Any aid from Government	Yes	

True ground situation in Mahabubnagar District, Mahabubnagar mandal image showing



Figure 109: Field preparation for paddy transplantation



Figure 110: Interaction with farmer

27. Narayanpet

Mandal Name	Narayanpet		Remarks
Visited Village Name	Appakapalle	Perapalla	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall. Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is bad</p>
Crops observed in the village	Cotton, Groundnut, Castor, Redgram and Paddy		
Date of Sowing	First week of June, July		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Cotton and Castor having Stunted Growth.		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Scanty		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Narayanpet mandal image showing



Figure 111: Average condition of Castor field



Figure 112: Harvesting Stage of Paddy field



Figure 113: Boll formation of Cotton field



Figure 114: Interaction with farmers

28. Damaragidda

Mandal Name	Damaragidda			Remarks
Visited Village Name	Bapanpalle	Kyatanpalle	Ayyawaripalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is bad Rabi crops are Sunflower and Groundnut in this area.
Crops observed in the village	Cotton, Groundnut, Jowar, Redgram and Paddy			
Date of Sowing	First week of June, July			
Farmers Opinion on Crop	Medium Condition of all crops			
Crop Status	Redgram having Stunted Growth.			
Sources of Irrigation	Bore Wells and Rainfed			
Present water situation	Bore wells Dried			
Rainfall as on 15 082015	Deficient			
Rainfall as on 31 072015	Scanty			
Any aid from Government	Yes			

True ground situation in Mahabubnagar District, Damaragidda mandal image showing



Figure 115: Medium condition of Castor field



Figure 116: Interaction with Farmer and Mandal ASO



Figure 117: Tillering stage of Paddy field



Figure 118: Medium condition of Redgram field

29. Maddur

Mandal Name	Maddur		Remarks
Visited Village Name	Maddur	Nagireddypalle	<p>Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall.</p> <p>Crop growth condition is affected due to this and the situation is under Watch category.</p> <p>According to farmers opinion crop growth condition is bad</p>
Crops observed in the village	Jowar and Redgram		
Date of Sowing	First week of June, June last Week		
Farmers Opinion on Crop	Medium Condition of all crops		
Crop Status	Redgram having Stunted Growth.		
Sources of Irrigation	Bore Wells and Rainfed		
Present water situation	Bore wells Dried		
Rainfall as on 15 082015	Deficient		
Rainfall as on 31 072015	Scanty		
Any aid from Government	Yes		

True ground situation in Mahabubnagar District, Maddur mandal image showing



Figure 119: Average condition of Redgram field



Figure 120: Average condition of Redgram field



Figure 121: Average condition of Redgram field

30. Doulothabad

Mandal Name	Doulathabad				Remarks
Visited Village Name	Devarfasalwad	Polkampalle	Gokafasalwad	Challapur	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is bad
Crops observed in the village	Jowar, Redgram and Paddy				
Date of Sowing	First week of June				
Farmers Opinion on Crop	Medium Condition of all crops				
Crop Status	Redgram having Stunted Growth.				
Sources of Irrigation	Bore Wells and Rainfed				
Present water situation	Bore wells Dried				
Rainfall as on 15 082015	Scanty				
Rainfall as on 31 072015	Scanty				
Any aid from Government	Yes				

True ground situation in Mahabubnagar District, Doulothabad mandal image showing



Figure 122: Medium condition of Redgram field



Figure 123: Medium condition of Redgram field



Figure 124: Good condition of Jowar field



Figure 125: Medium condition of Redgram and Jowar field

31. Kosgi

Mandal Name	Kosgi			Remarks
Visited Village Name	Mushrifa	Kosgi	Sarjakhpet	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category. According to farmers opinion crop growth condition is bad
Crops observed in the village	Jowar, Maize, Redgram and Paddy			
Date of Sowing	First week of June			
Farmers Opinion on Crop	Medium Condition of all crops			
Crop Status	Redgram having Stunted Growth.			
Sources of Irrigation	Bore Wells and Rainfed			
Present water situation	Bore wells Dried			
Rainfall as on 15 082015	Deficient			
Rainfall as on 31 072015	Scanty			
Any aid from Government	Yes			

True ground situation in Mahabubnagar District, Kosgi mandal image showing



Figure 126: Medium condition of Redgram field



Figure 127: Tillering Stage of Paddy field



Figure 128: Interaction with farmers



Figure 129: Tillering Stage of Paddy field

32. Bomraspeta

Mandal Name	Bomraspeta	Remarks
Visited Village Name	Polepalle	Ground water levels are low because sufficient recharge of ground water has not taken place due to Scanty rainfall . Crop growth condition is affected due to this and the situation is under Alert category.
Crops observed in the village	Jowar and Redgram	
Date of Sowing	First week of June	
Farmers Opinion on Crop	Medium Condition of all crops	
Crop Status	Redgram having Stunted Growth.	
Sources of Irrigation	Bore Wells and Rainfed	
Present water situation	Bore wells Dried	
Rainfall as on 15 082015	Deficient	
Rainfall as on 31 072015	Scanty	
Any aid from Government	Yes	

True ground situation in Mahabubnagar District, Bomraspeta mandal image showing



Figure 130: Medium condition of Redgram field



Figure 131: Average condition of Maize crop