

F. No. 3-1/ 2016-17-CFCC-E&S
GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE, COOPERATION AND FARMERS WELFARE
(CROP FORECAST COORDINATION CENTRE)

Room No. 344-A, Krishi Bhawan, New Delhi
Dated: 06.12.2016

SUBJECT: MINUTES OF THE MEETING OF THE CROP WEATHER WATCH GROUP HELD ON 02.12.2016.

Summary observations of the Group on Agenda Items

- Details of the mean maximum and minimum temperature during the week 24th November, 2016 to 30th November, 2016 were as under:-

Maximum Temperature

- *Above normal by 4⁰C over some parts of Jammu & Kashmir, Uttarakhand, Gujarat, Himachal Pradesh, Madhya Pradesh, Rayalaseema, Tamil Nadu, South Interior Karnataka and isolated pockets of West Rajasthan and West Uttar Pradesh.*
- *Above normal by 2 to 4⁰C over Haryana & Delhi, East Rajasthan, Marathwada, many parts of West Rajasthan, Punjab, West Uttar Pradesh, Madhya Pradesh, Madhya Maharashtra, Vidarbha, Gujarat, Interior Karnataka, Rayalaseema, Telangana, Tamil Nadu, some parts of Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Chhattisgarh, Sikkim, Arunachal Pradesh, Assam & Meghalaya, Coastal Andhra Pradesh and isolated pockets of Jammu & Kashmir, Sub-Himalayan West Bengal, Jharkhand.*
- *Normal to near normal over rest of the country.*

Minimum Temperature

- *Above normal by 2 to 4⁰C over many parts of Andaman & Nicobar Islands.*
- *Normal to near normal over rest of the country except Sikkim, many parts of East Madhya Pradesh, Punjab, Lakshadweep, some parts of Jammu & Kashmir, East Uttar Pradesh, Chhattisgarh, Sub-Himalayan West Bengal, Assam and isolated pockets of Kutch where it was below normal by -2to -4⁰C.*
- *In the post monsoon season, at All-India level, the rainfall during the week (24th – 30th November, 2016) has been 98% lower than the Long Period Average (LPA). Rainfall in the four broad geographical divisions of the country during the above period has been lower than LPA by 100% in Central India, by 99% in North-West India and East & North East India each and 95% in South Peninsula.*

- *The cumulative rainfall in the country during the post monsoon season i.e. 01st October to 30th November, 2016 has been 44% lower than the Long Period Average (LPA). Rainfall in the four broad geographical divisions of the country during the above period has been lower than LPA by 70% in South Peninsula, 65% in North West India, 22% in East & North East India and 7% in Central India.*
- *Out of 36 met sub-divisions, 03 met subdivisions constituting 12% of the total area of the country has received large excess rainfall, 11 met sub-divisions constituting 30% of the total area of the country has received excess/normal rainfall, 08 met sub-divisions constituting 26% of the total area of the country has received deficient and 14 met sub-divisions constituting 32% of the total area of the country has received large deficient rainfall.*
- *Central Water Commission monitors 91 major reservoirs in the country which have total live capacity of 157.80 Billion Cubic Meter (BCM) at Full Reservoir Level (FRL). Out of these, 76 reservoirs with FRL capacity of 116.25 BCM have irrigation potential. Live storage in the 91 major reservoirs as on 01st December, 2016 has been 102.84 BCM as against 81.33 BCM on 01.12.2015 (last year) and 105.17 BCM of normal (average of the last 10 years) storage. Current year's storage is 126% of last year's storage and 98% of the average of last 10 year's storage.*
- *As per latest information available on sowing of crops, around 66% of the normal area under Rabi crops has been sown upto 02.12.2016. Total area sown under Rabi crops in the country as on 02.12.2016 has been reported to be 415.53 lakh hectares as compared to 382.84 lakh hectares in the corresponding period of last year. This year's area coverage so far is higher by 32.7 lakh ha. than the last year but lower by 1.1 lakh ha. than normal area coverage during the same period.*
- *Area coverage under Wheat is higher by 21.4 lakh ha. than the last year.*
- *Area coverage under Rabi Pulses is higher by 13.11 lakh ha. than the last year and by 9.01 lakh ha. than normal as on date. This is due to higher coverage in Gram, Pea and Lentil.*
- *Area coverage under total Rabi Oilseeds is higher by 6.49 lakh ha. than the last year and by 1.38 lakh ha. than normal as on date. This is due to higher coverage in Rapeseed & Mustard.*
- *Area coverage under total Rabi Coarse Cereals is lower by 6.81 lakh ha. than the last year. This is due to lower coverage in Jowar.*
- *Availability position of seeds and fertilizers has been found satisfactory.*

1. Post Monsoon Season (October – December) during the week ending on 30th November, 2016

➤ Sub-division-wise weekly rainfall & minimum temperature is shown in Table-1.1

- Rainfall during the week (24th November, 2016 to 30th November, 2016) Rainfall was normal in 01, large deficient in 07 and no rain in 28 out of 36 meteorological sub-divisions.
- Cumulative rainfall (01st October, 2016 to 30th November, 2016) Rainfall was large excess in 03, excess/normal in 11, deficient in 08 and large deficient in 14 out of 36 meteorological sub-divisions.

Table - 1.2: Weekly and Cumulative Rainfall in four regions of the country¹

Region	Week Ending (30.11.2016)				Cumulative (01.10.16 to 30.11.16)			
	(in mm)		Devi- ation (%)	Cat.	(in mm)		Devi- ation (%)	Cate- gory
	Actual	Normal			Actual	Normal		
North-West India	0.0	3.6	-99	LD	14.9	42.4	-65	LD
Central India	0.0	3.1	-100	NR	68.3	73.5	-7	N
South Peninsular India	0.6	11.8	-95	LD	72.3	241.0	-70	LD
East & North-East India	0.0	5.4	-99	LD	123.0	157.9	-22	D
Country as a whole	0.1	5.3	-98	LD	61.4	110.6	-44	D

E: Excess, N: Normal, D: Deficient, S: Scanty, NR: No Rain.

Source: India Meteorological Department, New Delhi

Table - 1.3: Category wise comparative distribution of Sub-division (cumulative rainfall) and All-India Percentage Rainfall Departure for the last five years since: 1st October to

No. of Sub-Divisions with rainfall	<i>For the period from 1st October to</i>					
	30 NOV 2011	28 NOV 2012	27 NOV 2013	03 DEC 2014	02 DEC 2015	30 NOV 2016
Large Excess	-	-	-	-	-	03
Excess	01	03	18	01	06	01
Normal	06	12	08	10	05	10
Total	07	15	26	11	11	14
Large Deficient	-	-	-	-	-	14
Deficient	05	08	10	10	07	08
Scanty	22	13	00	15	18	-
No rain	02	00	00	00	00	00
Total	29	21	10	25	25	22
Data Inadequate	00	00	00	00	00	00
TOTAL	36	36	36	36	36	36
All-India % Rainfall Deviation	(-) 47%	(-) 19%	32%	(-) 34%	(-) 23%	(-) 44%

Source: IMD

➤ Sub-division-wise 5 days rainfall forecast from 05th Dec., 2016 to 09th Dec., 2016 is shown in Table 1.4

1. North-west India - Uttar Pradesh, Rajasthan, Haryana, Chandigarh and Delhi, Punjab, Uttaranchal, Himachal Pradesh, and Jammu and Kashmir.
Central India - Madhya Pradesh, Chhattisgarh, Maharashtra and Gujarat

South Peninsula - Andhra Pradesh, Karnataka, Tamil Nadu & Pondicherry, Kerala and Lakshadweep.

North-east India - Bihar, Jharkhand, Orissa, West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, Nagaland, Manipur, Mizoram, Tripura, and Andaman and Nicobar Islands.

Table: 1.1

METEOROLOGICAL SUB-DIVISIONWISE DAILY DISTRIBUTION OF RAINFALL & MINIMUM TEMPERATURE-2016															
S.No.	SUB-DIVISIONS	RAINFALL							MINIMUM TEMPERATURE						
		24 NOV	25 NOV	26 NOV	27 NOV	28 NOV	29 NOV	30 NOV	24 NOV	25 NOV	26 NOV	27 NOV	28 NOV	29 NOV	30 NOV
1	ANDAMAN & NICOBAR ISLANDS	ISOL	ISOL	ISOL	ISOL	SCT	WS	WS	N	N	AN	N	N	N	AN
2	ARUNACHAL PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
3	ASSAM & MEGHALAYA	DRY	DRY	ISOL	DRY	ISOL	ISOL	ISOL	N	BN	BN	N	N	N	N
4	NAGA.MANI.MIZO.TRIPURA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
5	SUB-HIMA.WEST BEN. & SIKKIM	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	AN	N	N	N
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	BN	N	N	N	N	N
7	ODISHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	BN	N	N	N	N
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	N	N	N	N	N	N
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	AN	N	N	N
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	AN
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	AAN	AN	N	N	N
12	UTTARAKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	AN	N	AN	AN
13	HARYANA CHAND. & DELHI	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	AAN	AN	N	N
14	PUNJAB	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	AAN	MAN	AAN	AN	N	N
15	HIMACHAL PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
16	JAMMU & KASHMIR	DRY	DRY	DRY	ISOL	DRY	DRY	DRY	N	N	N	MAN	N	N	N
17	WEST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	AN	N	N	N
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	N	N	N	N	N	N
21	GUJARAT REGION D.D. & N.H.	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
22	SAURASTRA KUTCH & DIU	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
23	KONKAN & GOA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	N	BN	BN	BN	N	N
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	BN	N	N	BN	N	N
25	MARATHAWADA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	N
26	VIDARBHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	ABN	ABN	ABN	N	N	BN
27	CHHATTISGARH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	ABN	ABN	ABN	N	N	N	BN
28	COASTAL ANDHRA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	BN	BN	N	N	N	N
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	BN	ABN	BN	N	N	BN
30	RAYALASEEMA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	N	ABN	BN	N	N	N
31	TAMILNADU & PUDUCHERRY	ISOL	DRY	DRY	ISOL	DRY	DRY	DRY	N	N	N	N	N	N	N
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	N	BN	N	N	N	N
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	BN	N	ABN	N	N	N	BN
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY	N	N	N	N	N	N	ABN
35	KERALA	ISOL	DRY	DRY	ISOL	DRY	DRY	DRY	N	N	N	N	N	N	N
36	LAKSHADWEEP	ISOL	DRY	ISOL	ISOL	DRY	DRY	DRY	N	N	N	N	N	N	N

LEGENDS FOR RAINFALL:									
WDS	WIDE SPREAD / MOST PLACES (76-100%)	FWS	FAIRLY WIDE SPREAD / MANY PLACES (51-75%)	SCT	SCATTERED / FEW PLACES (26-50%)	ISOL	ISOLATED (UP TO 25 %)		
DRY	NO STATION REPORTED RAINFALL	RAINFALL ACTIVITY			*	ACTIVE (R/F 1 st - 4 times the normal)	**	VIGOROUS (R/F More than 4 times the normal)	
LEGENDS FOR TEMPERATURE:									
N	NORMAL (N,N+1,N-1) ^o C	BN	BELOW NORMAL (N-2) ^o C	ABN	APRECIABLY BELOW NORMAL (N-3, -4) ^o C	MBN	MARKEDLY BELOW NORMAL (N-5 AND BELOW) ^o C		
AN	ABOVE NORMAL (N+2) ^o C	AAN	APRECIABLY ABOVE NORMAL (N+3,+4) ^o C	MAN	MARKEDLY ABOVE NORMAL (N+5 AND ABOVE) ^o C				
*	Cold wave conditions (Departure from Normal is/ -4 ^o C to -5 ^o C and -5 ^o C to -6 ^o C)				**	Severe Cold wave conditions (Departure from Normal is/ -6 ^o C or less and -7 ^o C or less)			

Table: 1.4

Met-Sub-Division	05-Dec Today	06Dec Tue	07Dec Wed	08Dec Thu	09Dec Fri
1. Andaman & Nicobar Islands	WS	WS	FWS	SCT	SCT
2. Arunachal Pradesh	DRY	DRY	DRY	DRY	DRY
3. Assam & Meghalaya	DRY	DRY	DRY	DRY	DRY
4. N. M. M. & T.	DRY	DRY	DRY	DRY	DRY
5. S.H. West Bengal & Sikkim	DRY	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	ISOL
7. Odisha	DRY	DRY	DRY	ISOL	SCT
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	DRY	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	DRY	DRY	DRY	DRY	ISOL
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	DRY	DRY
25. Marathawada	DRY	DRY	DRY	DRY	DRY
26. Vidharbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	DRY	DRY	DRY	DRY	DRY
28. Coastal Andhra Pradesh	ISOL	DRY	DRY	DRY	SCT
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	ISOL	DRY	DRY	DRY	DRY
31. Tamilnadu & Puducherry	ISOL	ISOL	ISOL	ISOL	DRY
32. Coastal Karnataka	ISOL	ISOL	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	DRY	DRY
35. Kerala	ISOL	ISOL	DRY	DRY	DRY
36. Lakshadweep	SCT	DRY	DRY	DRY	DRY

% Station Reporting Rainfall			
% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

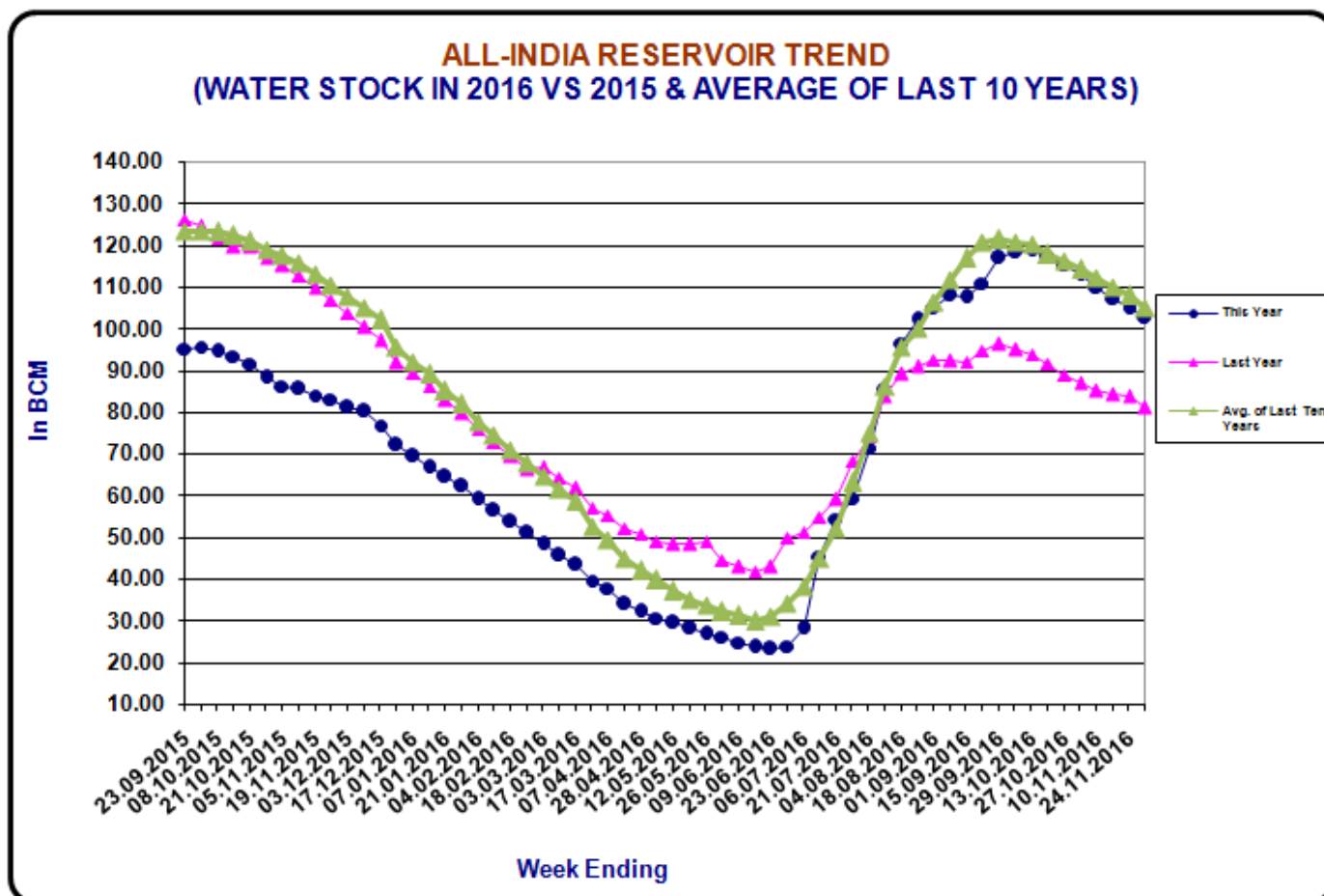
2. Reservoir Status (For the week ending on 01.12.2016)

- **The Central Water Commission** monitors the live storage of **91** important/major reservoirs, having capacity at Full Reservoir Level (FRL) of **157.80** billion cubic meters (BCM), which is about 62% of total reservoir capacity in the country.
- Water stock in 91 major reservoirs **decreased** to 102.84 BCM from the previous week's level of 105.21 BCM. Current storage is higher than the last year's position of 81.33 BCM and lower than the average of last 10 year's storage of 105.17 BCM.

Table – 2.1 : For 91 major reservoirs of the country

Period	Storage as % of FRL	Storage as % of last year	Storage as % of 10 year's average level
Current Week	65	126	98
Last Week	67	125	97
The percentage to live capacity at FRL was 52% on 01/12/2015, 66% on 01/12/2014, 78% on 01/12/2013 and 65% on 01/12/2012.			
<i>Source: CWC</i>			

There were 57 reservoirs having storage more than 80% of normal storage, 17 reservoirs having storage between 50% to 80%, 04 reservoir having storage between 30% to 50%, 13 reservoir having storage upto 30% of Normal Storage and 01 reservoir having no live storage.



Source: Central Water Commission

3. Fertilizer Position:

Table – 3.1: Requirement, Availability, Sales and Stock position of Major Fertilizers Urea, DAP, MOP, Complex and SSP during Rabi 2016-17 (As on 30.11.2016)

(in '000 Tonnes)

Availability / Sale / Closing Stock	Urea	DAP	MOP	Complex	SSP
Opening Stock as on 01.10.2016	1509	1308	231	1056	212
Requirement for Rabi, 2016-17	15067	5110	1835	5320	3357
Requirement upto November, 2016	3276	1245	408	1116	733
Availability upto 30.11.2016	6539	3234	856	2497	949
Sales upto 30.11.2016	3982	2083	626	1211	657
Closing Stock upto 30.11.2016	2557	1151	230	1286	292

Source: Fertilizer Division (DAC) / Deptt. of Fertilizer

4. Pest & Diseases:

- Incidence of Cut worm on Wheat and Mustard crops has been reported in **Low to moderate** intensity in Shahjanpur and Maksudpur villages of Daniyawan block of Patna district of Bihar and farmers are preparing for re-sowing of wheat area of affected 75 hectares. The crop is seedling stage.
- Incidence of White woolly aphid on sugarcane crop has been reported in **low to moderate** intensity in some villages of Kolhapur district of Maharashtra State. The crop is in maturity stage.
- Incidence of new exotic, invasive and destructive pest, Rugose spiralling whitefly (RSW), *Aleurodicus rugioperculatus* Martin, on Coconut palm ICAR-NBARI, Bangalore, in Pollachi, Coimbatore, Tamil Nadu, India. The infection and severity of this pest has been reached to alarming situation causing extensive damage in most of coconut farms in the said areas.
- No shortage of Chemical / Bio-pesticides was reported from any State / UT.

5. All India Crop Situation

Table: 5.1

All India Crop Situation - Rabi (2016-17) as on 02.12.2016									
Crop Name	Normal Area	Average Area as on date	Area sown			Absolute Change over (+/-)		(Area in lakh hectares)	
			This Year	% of Normal	Last Year	Average as on date	Last Year	% Change over	
								Average as on date	Last Year
Wheat	301.74	189.58	173.93	57.6	152.56	-15.7	21.4	-8.3	14.0
Rice	43.07	9.44	13.37	31.0	14.84	3.9	-1.5	41.6	-9.9
Jowar	38.26	32.82	27.67	72.3	35.13	-5.2	-7.5	-15.7	-21.2
Maize	15.02	5.94	10.15	67.6	9.54	4.2	0.6	70.9	6.4
Barley	6.85	4.89	5.65	82.5	5.15	0.8	0.5	15.7	9.8
Total Coarse Cereals	60.13	44.38	44.59	74.2	51.40	0.2	-6.8	0.5	-13.2
Total Cereals	404.94	243.40	231.89	57.3	218.80	-11.5	13.1	-4.7	6.0
Gram	88.37	71.31	76.69	86.8	68.57	5.4	8.1	7.5	11.9
Lentil	14.79	11.20	12.38	83.7	9.37	1.2	3.0	10.6	32.1
Peas	8.37	6.98	8.45	101.0	5.52	1.5	2.9	21.1	53.2
Kulthi(Horse Gram)	2.22	3.52	2.79	126.1	3.36	-0.7	-0.6	-20.5	-16.8
Urad	7.54	2.77	3.73	49.4	3.84	1.0	-0.1	34.7	-3.1
Moong	8.65	1.30	1.54	17.8	1.82	0.2	-0.3	18.5	-15.5
Lathyrus	4.95	3.12	3.39	68.5	3.01	0.3	0.4	8.7	12.7
Others	3.32	3.76	3.97	119.5	4.34	0.2	-0.4	5.6	-8.7
Total Pulses	138.19	103.94	112.95	81.7	99.83	9.0	13.1	8.7	13.1
Total Foodgrains	543.13	347.34	344.83	63.5	318.63	-2.5	26.2	-0.7	8.2
Rapeseed & Mustard	63.20	59.34	61.73	97.7	54.32	2.4	7.4	4.0	13.6
Groundnut	8.46	2.97	4.64	54.8	4.13	1.7	0.5	56.2	12.3
Safflower	2.06	1.20	0.60	29.3	0.90	-0.6	-0.3	-49.6	-32.8
Sunflower	4.90	2.68	1.07	21.8	2.24	-1.6	-1.2	-60.1	-52.2
Sesamum	3.01	0.36	0.17	5.5	0.18	-0.2	0.0	-53.4	-6.2
Linseed	3.11	2.37	2.08	66.8	1.90	-0.3	0.2	-12.2	9.5
Others		0.40	0.41	#DIV/0!	0.54	0.0	-0.1	2.5	-24.1
Total Oilseeds (Nine)	84.74	69.32	70.70	83.4	64.21	1.4	6.5	2.0	10.1
All- Crops	627.87	416.66	415.53	66.2	382.84	-1.1	32.7	-0.3	8.5

Source: Crops & TMOP Divisions, DAC&FW