

Significant rainfall occurred over all the districts in Coastal Karnataka, South Interior Karnataka, Coastal Andhra Pradesh and Rayalaseema, many districts in Orissa, Kerala, Jharkhand, Gangetic West Bengal, North Interior Karnataka, Tamil Nadu and Telangana and a few districts in Chattisgarh and Vidarbha during last week.

Due to cyclone 'NILAM', rainfall occurred at most of the places in north Coastal Andhra Pradesh causing submergence of crop fields. This also damaged the crops like rice, sugarcane, cotton, groundnut etc. at harvesting stage.

Rain/thundershowers would occur at many places over Kerala during next 48 hours and decrease thereafter. Heavy rainfall would occur at one or two places over Kerala during next 24 hours. Rain is likely to occur at a few places over Tamil Nadu and Coastal Karnataka and at isolated places over Rayalaseema and North Interior Karnataka during the period. Isolated rain is also likely to occur at isolated places in Sub Himalayan West Bengal and Sikkim and north eastern States.

1. **Tamil Nadu:** Due to heavy rain during end of October, harvesting of late *kuruvai* rice was affected. Samba rice (direct sown / transplanted) was mostly flooded in the Cauvery Delta Zone. Farmers are advised to drain out excess water to avoid crop damage.
2. **Coastal Andhra Pradesh:** Due to cyclone "Nilam" heavy rainfall occurred in the North Coastal Zone of Andhra Pradesh during last week. Crop fields were submerged due to heavy rain. Lodging of rice, sugarcane, banana was noticed in certain pockets and sizeable extent of cotton and maize were also affected.

Crop situation and advisories for the sub-divisions in the southern peninsula are given below:

Farmers are advised to drain out excess water from the fields as early as possible. They are also advised to undertake crop management practices to prevent further damage.

3. **Kerala:** Monitor *mundakan* rice for rice bug incidence and undertake plant protection measures.
4. **Coastal Karnataka:** Harvest the already matured rice crop.
5. **South Interior Karnataka:** Significant rainfall occurred in all the districts during last week. Farmers are advised to take up intercultural operation and top dressing with urea in the standing crops.
6. **North Interior Karnataka:** Significant rainfall occurred in most of the districts during last week. In North Dry Zone, sowing of sunflower, safflower, *rabi* jowar, chickpea and wheat may be undertaken utilizing the rainfall. In North East Dry Zone, farmers may undertake sowing of *rabi* sorghum.
7. **Rayalaseema:** Farmers in the Cuddapah district are advised to undertake sowing of *rabi* Bengal gram and *rabi* groundnut utilizing the recent rainfall.
8. **Telangana:** Farmers in the Karimnagar district of Northern Telangana zone of Andhra Pradesh are advised to drain out water from the rice field and spray 5 per cent salt solution on the panicles to avoid germination as crop is at maturity stage.

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Executive Summary

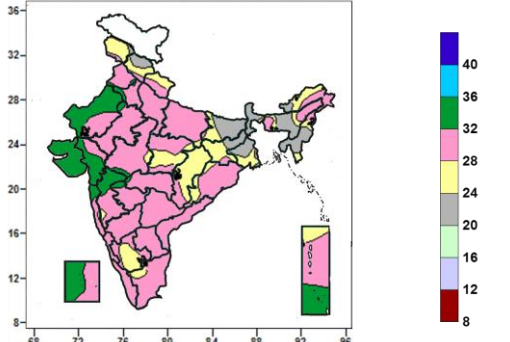
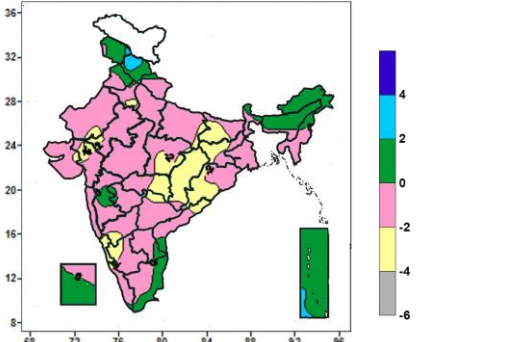
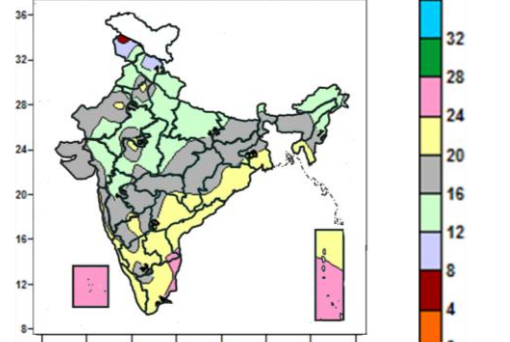
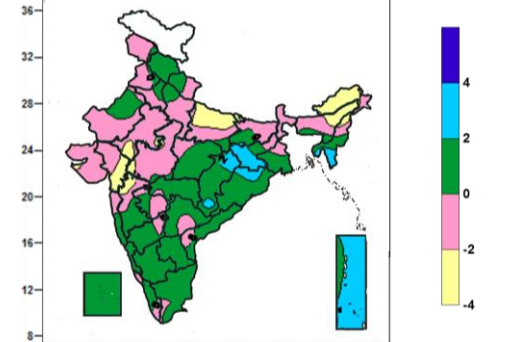
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In the remaining parts of the country, *kharif* crops are at grain formation to harvesting stages. Crop status and advisories for those subdivisions are given below:

1. **Saurashtra & Kutch:** Farmers in South Saurashtra Zone are advised to undertake sowing of gram and coriander. In North Saurashtra Zone, sowing of cumin and wheat may be undertaken as temperature is decreasing. Undertake sowing of gram, if 2-3 irrigation facilities are available. Carry out sowing of wheat and mustard in Bhal and Coastal Zone. Complete transplanting of cabbage, cauliflower and onion. Complete sowing of wheat crop before 15th November in North West Zone of Gujarat.
2. **Gujarat region:** As there are chances of decrease in temperature in North Gujarat Zone during coming week, carry out sowing of *rabi* crops under assured irrigation facilities. Undertake transplanting of cabbage, brinjal, cauliflower and sowing of onion, radish and garlic. Continue sowing of wheat and gram in South Gujarat Zone. Farmers in Middle Gujarat Zone are advised to undertake sowing of wheat, fenugreek, coriander and cumin.
3. **Madhya Maharashtra:** As mainly dry weather is expected to prevail in North Madhya Maharashtra during the period, farmers are advised to continue picking of fully opened cotton bolls. Farmers are advised to continue sowing of *rabi* jowar, maize and irrigated gram and wheat. Farmers are also advised to continue planting of pre-seasonal sugarcane.
4. **Marathwada:** As mainly dry weather is expected to prevail during the period, farmers are advised to continue picking of fully opened cotton boll. Farmers are advised to continue sowing of *rabi* maize, irrigated gram and wheat. Farmers are also advised to continue planting of pre-seasonal sugarcane.
5. **Vidarbha:** Farmers are advised to complete harvesting of already matured *kharif* crops. Farmers are also advised to continue sowing of irrigated gram and wheat.
6. **Konkan & Goa:** As late varieties of *kharif* rice are at maturity stage, farmers are advised to harvest the crops.
Farmers of Konkan are advised to undertake sowing of short duration crops like cowpea, wal, kulthi utilising residual moisture in the harvested rice field on 'vapsa' condition. They are also advised to undertake sowing of water melon on one side of the ridge.
7. **East Madhya Pradesh:** Continue sowing of *rabi* crops and *rabi* vegetables.
8. **West Madhya Pradesh:** Continue harvesting of *kharif* crops and sowing of irrigated and rainfed *rabi* crops like wheat, gram, pea, mustard etc. and planting of potato.
9. **Chattisgarh:** Significant rainfall occurred over half of the districts during last week. Farmers are advised to undertake transplanting of vegetable crops. After harvesting of rice crop, undertake sowing of gram and lathyrus.
10. **Punjab:** In Western Zone, undertake sowing of wheat and ghobi sarson. Complete sowing of gram under rainfed conditions. Undertake sowing of radish and tomato. Undertake transplanting of 4 to 6 week old seedlings of cabbage, Chinese cabbage and late season cauliflower. In Western Plain Zone, undertake sowing of wheat varieties. Continue picking of cotton bolls. In Undulating Plain Zone, complete sowing of berseem and gram. Start sowing of lentil, onion, garlic and root vegetables. Undertake transplanting of chilli, brinjal, tomato and cole crops.
11. **Haryana:** In Western Zone, undertake sowing of wheat. Complete sowing berseem if not done till date. Give irrigation to vegetable crops as dry weather is prevailing. In Eastern Zone, complete sowing of mustard and start sowing of wheat.
12. **Delhi:** Undertake sowing of wheat, gram, oat and fodder berseem and lentil and planting of potato, garlic and carrot. This is suitable time for sowing of sarson, saag, bathua, radish, fenugreek, coriander and turnip. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised bed.
13. **Himachal Pradesh:** Undertake sowing of barley in the high altitudes. Complete sowing of toria and continue sowing of pea, radish, turnip, coriander, cabbage, knol-khol, broccoli, parsley, lettuce, fennel and cauliflower. Planting of potato in lower hills and garlic in Sub-Montane & Low Hills Sub-Tropical Zone may be continued. In high hills complete picking of apple and pear. As dry weather is prevailing, in the early planted wheat crop where weeds are 2-3 leaves stage, spray Isoproturan @ 80 gram per 30-32 litres of water in one kanal for the control of weeds.
14. **Jammu & Kashmir:** Farmers are advised to sow gram, barley, *rabi* oilseeds, pulses and vegetable crops like radish, carrot, garlic, spinach and methi without further delay and continue harvesting of rice. Also start sowing of lentil, oat, pea, oil seeds like toria, gobi sarson, mustard, vegetables and fodder crops like barseem. Planting of garlic, transplanting of onion seedlings in well prepared land may be undertaken.

15. **Uttarakhand:** Sowing of barley, oat, pea and chickpea may be continued. Farmers can also undertake planting of sugarcane with intercrops like potato, lentil and transplanting of vegetable crops in Udham Singh Nagar district. In Nainital district farmers are advised to undertake sowing of wheat during this week. Farmers having irrigation facilities are advised to give light irrigation in early sown toria and mustard crops.
16. **West Rajasthan:** Sowing of taramira may be carried out. Prepare field for sowing of *rabi* crops like mustard, gram, barley and undertake transplanting of tomato. Continue harvesting of bajra and *kharif* pulses.
17. **East Rajasthan:** Farmers are advised to start field preparation for sowing of wheat, gram and mustard. Also start sowing of winter maize under irrigated condition. Autumn planting of sugarcane may be completed.
18. **East Uttar Pradesh:** Farmers are advised to continue land preparation and sowing of mustard, pea, lentil and gram. Also sowing of lucerne, oats and senji crops. Complete planting of sugarcane along with intercrops like wheat, raya, toria, gobhi sarson, pea, gram etc. and planting of potato. Farmers are advised to start field preparation for sowing of wheat and barley.
19. **West Uttar Pradesh:** Farmers are advised to undertake sowing of wheat, maize, pea, vegetables (onion, tomato, raddish, carrot, palak, cauliflower, cabbage etc.), lantil, gram and mustard and planting of potato and sugarcane. Farmers are also advised to apply irrigation to vegetable crops and already sown *rabi* crops. Continue harvesting of matured rice.
20. **Bihar:** Prepare field for sowing of wheat, oat and maize crops. Undertake sowing of gram and rajmah. Temperature is favourable for cultivation of Oyster mushroom. Farmers are advised to give first irrigation to early shown rai and toria. Undertake harvesting of matured *kharif* rice.
21. **Jharkhand:** Farmers are advised to undertake sowing of toria, gram, lentil, linseed, pea, mustard, kulthi, African marigold or French marigold and vegetable crops like turnip, spinach, carrot etc. and planting of potato. After harvesting of rice, prepare the land immediately for sowing of wheat.
22. **Orissa:** Farmers are advised to undertake sowing of mustard, sunflower, green pea and sesame. Undertake raising of *rabi* vegetable crops in the nursery.
23. **Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh and Assam & Meghalaya:** Continue land preparation and sowing of rapeseed and mustard, lentil, planting of potato and transplanting of 4-6 weeks old seedlings of winter vegetables like cauliflower, radish, tomato, brinjal, knol-khol, carrot and spinach in the main field in Assam. Also undertake land preparation and sowing of wheat. Undertake land preparation and sowing of mustard and *rabi* maize in Meghalaya and sowing of *rabi* maize, toria, sesame and lentil in Tripura.
24. **Sub Himalayan West Bengal:** Continue land preparation for sowing and transplanting of early cauliflower, radish, broccoli, cabbage and onion. Farmers are also advised to harvest maize.
25. **Sikkim:** Farmers are advised to sow mustard.
26. **Gangetic West Bengal:** Undertake land preparation for sowing of mustard and onion crops and planting of pointed gourd and seasonal flower crops like gladiolus. Undertake land preparation for transplanting of winter vegetable crops like radish, broccoli, cabbage, cauliflower etc.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 07.11.2012

<p>Actual Mean Maximum Temperature (°C) in India for the week ending 07.11.2012</p> 	<p>Maximum Temperature (°C) Anomaly in India for the week ending 07.11.2012</p> 
<p>Actual Mean Maximum temperature ranged between 32 to 36°C over many parts of West Rajasthan, Gujarat, Saurashtra & Kutch, some parts of Maharashtra(except Vidarbha), Lakshadweep, Andaman & Nicobar Islands, 24 to 28°C over of many parts of Jammu & Kashmir, Chattisgarh, South Interior Karnatka, some parts Himachal Pradesh, Uttarkhand, Arunachal Pradesh, Assam, Manipur, Tripura, Orissa, Madhya Pradesh, Tamil Nadu, Andaman & nicobar Islands, 20 to 24°C over of many parts of Himachal Pradesh, Bihar, Jharkhand, North East India (except Arunachal Pradesh), some parts of Jammu & Kashmir, 28 to 32°C over remaining parts of the country.</p>	<p>Actual Mean Maximum temperature anomaly ranged between 2 to 4°C over some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Assam & Meghalaya, Arunachal Pradesh, Lakshadweep, Andaman & Nicobar Islands, some parts of Uttarakhand, Sikkim, Coastal Andhar Pradesh, Raylaseema, Tamil Nadu, Kerala, -4 to -2°C over many parts of Chattisgarh, Orissa, Vidarbha, Bihar, Jharkhand, Coastal Karnataka, some parts of Delhi, East Uttar Pradesh, East Madhya Pradesh, North & South Interior Karnataka, Rajasthan, Gujarat, Saurashtra, -2 to 0°C over rest of the country.</p>
<p>Actual Mean Minimum Temperature (°C) in India for the week ending 07.11.2012</p> 	<p>Minimum Temperature (°C) Anomaly in India for the week ending 07.11.2012</p> 
<p>Actual Mean Minimum Temperature ranged between 24 to 28°C and above over many parts of Lakshadweep and Andhamna & Nicobar Islands, some parts of Coastal Andhra Pradesh, Raylaseema, 20 to 24°C over many parts of Gangetic West Bengal, Coastal Orissa, Andhra Pradesh, Tamil Nadu, Kerala, Coastal & South Interior Karnataka, some parts of Tripura, Jharkhand, Chattisgarh, Vidarbha, North Interior Karnataka, Madhya Maharashtra, West Madhya Pradesh, Rajasthan, Andaman & Nicobar Islands, 12 to 16°C over many parts of Punjab, Uttarakhand, Uttar Pradesh, Arunachal Pradesh, Madhya Pradesh, Gujarat, some parts of Jammu & Kashmir, Haryana, Rajasthan, Sikkim, Manipur, Mizoram, Madhya Maharashtra, 4 to 12°C over Jammu & Kashmir, Himachal Pradesh, and between 16 to 20°C over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged above 0 to 2°C over many parts of Himachal Pradesh, Uttarakhand, West Madhya Pradesh, Chattisgarh, Orissa, Gangetic West Bengal, South India(except Andaman & Nicobar Islands), Maharashtra, some parts of Jammu & Kashmir, West Rajasthan, Punjab, Haryana, Uttar Pradesh, Bihar, Jharkhand, Assam, Manipur, Mizioram, Tripura, West Madhya Pradesh, Andaman & Nicobar Islands, -4 to -2°C over many parts of Arunachal Pradesh, East Uttar Pradesh, some parts of Assam & Maghalaya, Nagaland, East Rajasthan, Gujarat, Madhya Maharashtra, -2 to 0°C over remaining parts of the country.</p>

Distribution of rainfall of the country during week ending on 07.11.2012

State/Districts	Actual (mm)	Dep. %	State/Districts	Actual (mm)	Dep. %	State/Districts	Actual (mm)	Dep. %
Assam			Dantewara	43.0	924	Ramgarh	104.8	4890
Baksa	0.0	-100	Dhamtari	17.6	2100	Ranchi	71.4	1522
Barpeta	0.0	-100	Durg	9.0	543	Saraikela	13.3	316
Bongaigaon	2.0	100	Janjgir	22.0	3043	Simdega	30.6	800
Cachar	74.6	426	Jashpurnagar	19.5	572	West Singhbhum	48.9	1091
Chirang	0.5	-50	Kanker	0.0	-100	Maharashtra		
Darrang	0.0	-100	Korba	30.0	1567	Konkan & Goa		
Dhemaji	0.0	-100	Koriya	26.4	2100	Goa	15.7	61
Dhubri	0.0	-100	Kawardha	75.0	2900	Mumbai	0.0	-100
Dibrugarh	0.0	-100	Mahasumund	26.0	584	Raigad	0.0	-100
East Garo Hills	2.0	-91	Narayanpur	26.1	537	Ratnagiri	0.0	-100
East Khasi Hills	14.7	38	Raigarh	0.0	-100	Sindhudurg	0.0	-100
Goalpara	0.0	-100	Raipur	13.7	708	Thane	0.0	-100
Golghat	0.0	-100	Rajandgaon	45.4	11250	Madhya Maharashtra		
Hailakandi	30.4	123	Surguja	61.5	3515	Ahmednagar	0.7	-81
Jaintia Hills	16.0	-5	Bihar			Jalgaon	0.0	-100
Jorhat	0.0	-100	Araria	0.0	-100	Kolhapur	17.5	69
Kamrup(Rural)	0.0	-100	Arwal	0.0	-100	Nasik	0.0	-100
Kamrup(Metro)	0.2	-96	Aurangabad	5.0	285	Pune	1.1	-82
Karbi Anglong	3.7	-31	Begusarai	0.0	-100	Sangli	9.4	19
Karimganj	9.6	-83	Bhabua	**	**	Satara	1.4	-79
Kokrajhar	0.0	-100	Bhagalpur	16.7	626	Solapur	4.6	-41
Lakhimpur	0.3	-96	East Champaran	0.0	-100	Marathwada		
Morigaon	0.0	-100	Gaya	34.3	8467	Aurangabad	0.1	-98
N.C.Hills	47.3	217	Gopalganj	0.0	-100	Beed	0.9	-85
Nowgong	5.2	-27	Jahanabad	0.0	-100	Hingoli	0.0	-100
Nalbari	0.0	-100	Kathihar	0.0	-100	Jalna	0.0	-100
Ribhoi	27.8	435	Khagadia	6.1	154	Latur	12.9	70
Sonitpur	0.0	-100	Lakhisarai	2.0	33	Nanded	6.5	12
Sibsagar	0.0	-100	Madhepura	0.0	-100	Usmanabad	6.4	-34
South Garo Hills	5.0	-35	Muzaffarpur	0.0	-100	Parbhani	1.1	-74
Tinsukia	0.0	-100	Nalanda	6.5	225	Vidarbha		
Udalgiri	0.0	-100	Nawada	24.4	3386	Akola	0.0	-100
West Garo Hills	0.2	-97	Patna	0.0	-100	Amraoti	0.4	-68
West Khasi Hills	**	**	Purnea	0.2	-90	Bhandara	25.5	2023
East Madhya Pradesh			Rohtas	5.6	331	Buldhana	0.0	-100
Anuppur	59.6	3407	Samstipur	0.0	-100	Chandrapur	18.4	818
Balaghat	14.1	1178	Saran	0.0	-100	Gadchiroli	9.1	113
Chhatarpur	0.0	-100	Sheikpura	10.7	1238	Gondia	9.3	612
Chindwara	0.0	-100	Sheohar	0.0	-100	Nagpur	18.3	915
Damoh	0.0	-100	Sitamarhi	0.0	-100	Wardha	7.8	240
Dindori	27.2	750	Supaul	0.0	-100	Washim	0.4	-39
Jabalpur	0.6	-79	Vaishali	0.0	-100	Yeotmal	5.7	78
Katni	2.5	79	West Champaran	0.0	-100	Orissa		
Mandla	10.8	414	Jharkhand			Angul	52.7	612
Narsingpur	0.0	-100	Bokaro	42.6	1083	Balasore	37.9	235
Panna	0.0	-100	Chatra	0.0	-100	Bargarh	7.6	155
Rewa	0.0	-100	Dhanbad	54.9	2397	Bhadrak	49.2	246
Sagar	0.0	-100	Dumka	108.6	1680	Bolangir	8.2	32
Satna	0.0	-100	East Singhbhum	49.3	1198	Boudh	25.7	14
Seoni	20.8	765	Garhwa	0.0	-100	Cuttack	140	590
Shahdol	13.6	1033	Giridih	64.9	2723	Deogarh	22.7	684
Sidhi	0.4	-67	Godda	**	**	Dhenkanal	71.5	355
Singrauli	25	12400	Gumla	102.4	3203	Gajapati	102.3	202
Tikamgarh	0.0	-100	Hazaribagh	55.2	2529	Ganjam	268	600
Umaria	12.5	635	Jamtara	71.1	1876	Jagatsingpur	94	169
Chattisgarh			Khunti	23.5	433	Jajpur	61.1	251
Bastar	20.4	343	Koderna	0.0	-100	Jharsuguda	42.4	1078
Bijapur	45.0	1264	Lohardagga	0.0	-100	Kalahandi	21.3	310
Bilaspur	32.0	1085	Palamau	88.1	12486	Kandhamal	63.8	184

State/Districts	Actual (mm)	Dep. %
Kendrapara	107.5	228
Keonjhar	42.2	353
Khurda	116.5	385
Koraput	103.2	760
Malkangiri	105.9	3822
Mayurbhanj	25.3	308
Nawapara	31.8	335
Nawarangpur	64.9	765
Nayagarh	114.3	302
Puri	171.6	729
Rayagada	106.9	536
Sambalpur	45.9	1484
Sonepur	25.9	440
Sundargarh	35.4	974
West Bengal		
GWB		
Bankura	35.3	1582
Birbhum	75.9	1067
Burdwan	38.8	1075
East Midnapore	19.8	247
Hooghly	36.6	916
Howrah	6.4	-11
Kolkata	18.3	233
Murshidabad	4.0	-33
Nadia	42.0	1515
24 Pargana (N)	50.4	769
Purulia	37.0	573
24 Pargana (S)	43.6	127
West Midnapore	63.8	1535
SHWB		
Cooch Behar	0.0	-100
Darjeeling	0.0	-100
East Sikkim	0.0	-100
Jalpaiguri	0.0	-100
Malda	40.5	888
North Dinajpur	**	**
North Sikkim	0.0	-100
South Dinajpur	4.1	-41
South Sikkim	0.0	-100
West Sikkim	0.0	-100
Karnataka		
Coastal Karnataka		
Dakshin Kannada	56.4	98
Udupi	92.9	313
Uttar Kannada	54.8	339
North Interior Karnataka		
Bagalkote	35.6	224
Belgaum	25.6	141
Bidar	29.4	382
Bijapur	21.8	102
Dharwad	41.0	260

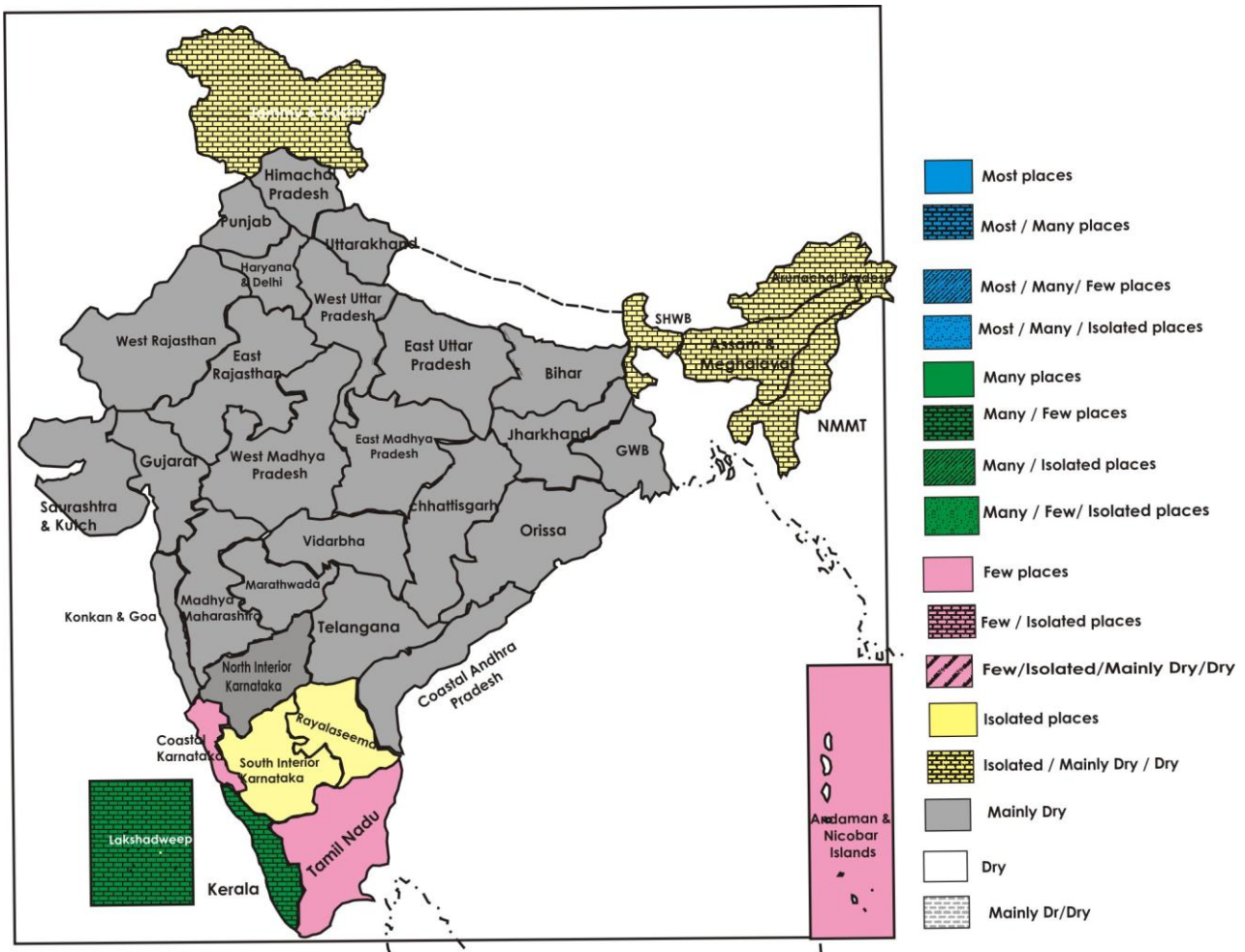
State/Districts	Actual (mm)	Dep. %
Gadag	116.2	1018
Gulbarga	17.4	142
Haveri	103.8	737
Koppal	103.5	956
Raichur	46.6	490
Yadgir	18.9	92
South Interior Karnataka		
Bangalore Rural	96.3	332
Bangalore Urban	90.9	378
Bellary	117.4	949
Chamarajnaragar	60.5	177
Chichballapur	109.7	430
Chickmagalur	89.0	374
Chitradurga	98.1	717
Davangere	126.9	752
Hassan	46.6	124
Kodagu	89.2	297
Kolar	100.8	376
Mandya	53.6	184
Mysore	38.1	128
Ramnagara	97.9	380
Shimoga	78.6	544
Tumkur	84.9	385
Kerala		
Alappuzha	41.9	-36
Kannur	57.0	55
Ernakulam	85.2	72
Idukki	54.2	-18
Kasaragod	52.5	63
Kollam	48.1	-44
Kottayam	51.8	-27
Kozhikode	63.2	25
Malappuram	38.6	-25
Palakkad	22.1	-61
Pathanamthitta	26.7	-65
Thiruvananthapuram	52.2	-32
Thrissur	44.1	-13
Wyanad	78.9	177
Tamil Nadu		
Ariyalur	61.9	11
Chennai	36.8	-66
Coimbatore	18.7	-62
Cuddalore	76.7	-9
Dharmapuri	60.6	83
Dindigul	11.6	-78
Erode	37.9	-10
Kanchipuram	45.3	-51
Kanyakumari	56.6	-26
Karikal	38.1	-75
Karur	50.4	32
Krishnagiri	78.5	189
Madurai	3.7	-94

State/Districts	Actual (mm)	Dep. %
Nagapattinam	79	-27
Namakkal	40.8	11
Nilgiris	67.2	18
Perambalur	47.5	-4
Puducherry	69.1	-37
Pudukottai	35.5	-11
Ramanathapuram	4.9	-93
Salem	58.0	48
Sivaganga	7.1	-87
Thanjavur	69.1	3
Theni	6.5	-88
Tirunelveli	24.0	-65
Tirupur	26.0	-40
Tiruvallur	110.4	33
Tiruvannamalai	109.1	108
Tiruvarur	78.5	-1
Toothukudi	6.8	-89
Trichy	50.0	18
Vellore	95.4	148
Villupuram	96.7	69
Virudhunagar	2.2	-97
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	355.1	1159
Guntur	191.8	492
Krishna	247.6	706
Nellore	112.9	18
Prakasam	190.6	323
Sirkakulam	257.6	702
Visakhapatnam	300	1370
Vizianagram	291.5	1484
West Godavari	298.9	971
Telangana		
Adilabad	16.6	168
Hyderabad	40.0	274
Karimnagar	39.0	414
Khammam	162.8	1354
Mehabubnagar	41.5	388
Medak	64.1	663
Nalgonda	66.1	311
Nizamabad	28.9	313
Rangareddy	36.1	409
Warangal	65.7	538
Royalaseema		
Anantapur	57.6	305
Chittoor	89.8	115
Cuddapah	63.0	107
Kurnool	42.8	266

Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall		** Data not available

Weather Forecast (Valid upto 0830 hours of 11th November, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 11th November, 2012

- Duration and intensity of fog/ shallow fog over parts of Haryana, Delhi and West Uttar Pradesh has decreased during past 24 hours. This condition would further improve over these regions during next 23 days.
- Rain/thundershowers would occur at many places over Kerala and Lakshadweep during next 48 hours and decrease thereafter.
- Rain/thundershowers would occur at a few places over Tamilnadu, coastal Karnataka and Andaman & Nicobar Islands and at one or two places over south interior Karnataka and Rayalaseema.
- Rain/thundershowers would occur at one or two places over Sub Himalayan West Bengal & Sikkim and northeastern states during next 24 hours and decrease thereafter.
- Weather would be mainly dry over rest parts of the country.

Weather Warning during next 3 days

- Heavy rainfall would occur at one or two places over Kerala and Lakshadweep during next 24 hours and decrease thereafter.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 15th November, 2012

- A fresh easterly wave would affect extreme south peninsular India causing scattered rainfall.
- A feeble western disturbance may affect Western Himalayan region from 13th onwards.

Zonewise Agromet Advisories

NORTHEAST INDIA [ARUNACHAL PRADESH, NMM&T, ASSAM, MEGHALAYA]

- **Realised Rainfall:** Mainly dry weather prevailed over most of the districts of the States of the region during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at one or two places over the states of the region during next 24 hours and decrease thereafter.
- **Advisories:**
 - As there was no significant rain over most of the districts of the States of the region during last couple of weeks and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
 - Farmers in Hill Zone of Assam are advised to undertake land preparation and sowing of rapeseed, mustard and lentil, planting of potato and transplanting of the seedlings of winter vegetables. Undertake transplanting of seedlings of vegetables of 4-6 weeks age in the main field.
 - Farmers in Lower Brahmaputra Valley Zone of Assam are advised to undertake land preparation and sowing of cauliflower, cabbage, knolkhol, *rabi* maize, rapeseed and mustard and planting of potato and improved varieties of tomato.
 - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to undertake sowing of brinjal, knolkhol, and transplanting of seedlings of cauliflower and cabbage. Farmers are also advised to undertake land preparation and sowing of rapeseed and mustard.
 - Farmers in North Bank Plain Zone of Assam are advised to undertake land preparation and sowing of rapeseed and mustard and planting of potato. Farmers are also advised to undertake sowing of cauliflower, cabbage, knolkhol, brinjal and tomato.
 - Farmers in Central Brahmaputra Valley Zone are advised to undertake land preparation and sowing of *rabi* crops (kitchen garden, cole crops, rapeseed-mustard, wheat). The seedlings of cole crops may be transplanted when they become 30-35 days old. Farmers are also advised to prepare land and undertake planting potato.
 - Farmers in Barak Valley Zone of Assam are advised to start transplanting of seedlings of brinjal and planting of potato in the main field. Farmers are also advised to undertake field preparation and planting of sugarcane setts (autumn planting). Select upland sandy loam soil for the cultivation of cauliflower.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to maintain proper moisture level in the cauliflower, cabbage, broccoli and knolkhol fields. Farmers are also advised to prepare seedbed of tomato and raddish.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to harvest *Khasi* Mandarin orange when colour changes.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to harvest *jhum* rice and wetland rice. Farmers are also advised for land preparation and transplanting of the seedlings of tomato and cabbage.
 - Farmers in Sub Tropical Plain Zone of Manipur are advised to undertake land preparation and sowing of pea and zero tillage rapeseed and planting of potato just after the harvest of the rice crop. Farmers are also advised to harvest soybean, groundnut and black gram and undertake transplanting of the seedlings of cabbage, cauliflower, broccoli, onion etc.
 - In Temperate Sub Alpine Zone of Meghalaya, farmers are advised to undertake nursery raising as well as transplanting of cole crops and other winter vegetables. Farmers are also advised to undertake sowing of *rabi* maize in low and medium altitude regions.
 - In Mild Tropical Plain Zone of Tripura, farmers are advised to start intercultural operation like thinning and weeding in *rabi* maize. Farmers are also advised to undertake sowing of toria and lentil.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Lower Brahmaputra Valley Zone and Hill Zone of Assam, infestation of rice bug and stem borer is reported in *sali* rice; to protect from stem borer infestation, apply recommended doses of Chloropyrifos or Quinolphos or Monocrotophos or Fenitrothion or Phosphamidon and to control rice bug apply Malathion 5% dust @ 20 kg / ha.

- In Central Brahmaputra Valley Zone and Mid Tropical Hill Zone of Assam, gundhi bug infestation is observed in rice. Farmers are advised to apply Malathion 5% dust @ 20 kg / ha based on ETL in *sali* rice.
- In Mid Tropical Hill zone of Mizoram, there is chance of attack of collar rot and rhizome rot in ginger and turmeric. Spraying with copper fungicide or combination of Metalaxyl + Mancozeb @ 2.5 g / litre of water or soil drenching with 1% Bordeaux mixture to control Collar rot and spraying with Copper Oxychloride @ 3 g / litre of water to prevent rhizome rot disease may be done.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In North Bank Plain Zone and Brahmaputra Valley Zone of Assam and Sub Tropical Plain Zone of Manipur and Mid Tropical Zone of Tripura, farmers are advised to vaccinate cattle, pigs and buffaloes against FMD, HS, BQ.
 - In Mild Tropical Hill Zone of Mizoram and Sub Tropical Plain Zone of Manipur, farmers are advised to deworm cattle against Fascioliosis and Endoparasite, vaccinate poultry against Ranikhet and Coccidiosis, deworm pigs and vaccinate against swine fever.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]

- **Realised rainfall:** Significant rainfall occurred in Jharkhand except (Garhwa, Koderna, Lohardagga, Saraikela), Orissa except (Jagatsingpur, Jajpur, Malkangiri, Nawapara and Puri) and in Gaya district of Bihar.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Sub Himalayan West Bengal and Sikkim during next 24 hours and mainly dry thereafter. Weather will be mainly dry over Gangetic West Bengal, Bihar, Orissa and Jharkhand during the period.
- **Advisories:**
 - Farmers are advised to apply irrigation to the standing crops in Jharkhand, Bihar, West Bengal and Sikkim.
 - As significant rainfall occurred in Jharkhand, farmers are advised to postpone irrigation, to the standing crops.
 - Farmers are advised to drain the water from the field and provide mechanical support to the crops in Jharkhand where there is lodging in rice crop at maturity stage.
 - In South Bihar Alluvial Zone, farmers are advised to harvest matured short duration rice crop and to prepare field for sowing of gram, lentil, peas, sunflower and mustard. Prepare nursery bed with recommended dose of fertilizers for sowing of autumn planted tomato, cauliflower, chillies, palak, carrot, radish, knol khol, turnip, beet, garlic and cabbage. Prepare field for sowing of irrigated, non-irrigated wheat, oat and maize crop.
 - In North West Alluvial Plain Zone of Bihar, farmers are advised to harvest matured rice crop and undertake planting of potato. Farmers are advised to start sowing of *rabi* maize and other crops. Temperature condition is favourable for sowing of pea and lentil crop. Undertake sowing of gram and rajmah. Temperature condition is favorable for cultivation of Oyster mushroom.
 - In North East Alluvial Zone of Bihar, farmers are advised to give first irrigation to early sown rai and toria. Prepare land for timely sown irrigated wheat. Undertake harvesting of mature *kharif* rice. Grow the fodder crop for continuous supply of fodder to the domestic cattle.
 - Farmers in Western Undulating Zone are advised to prepare land to sow groundnut and mustard.
 - Farmers of Western Undulating Zone are advised to prepare land for sowing of *rabi* oilseed like groundnut and mustard.
 - Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to drain out water both from paddy and non-paddy field. Harvesting of paddy, pulse, sunflower, maize, mustard and groundnut may be continued.
 - Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised for nursery raising of onion, sowing of garlic in irrigated upland and medium land and wheat.
 - The drop in temperature is very much suitable for sowing of wheat. Farmers of North Central Plateau Zone of Orissa are advised to prepare the land for wheat crop. As present weather conditions are

favourable for proper germination of linseed and gram, farmers are also advised for sowing of linseed and gram as paira crop after the harvesting of rice provided sufficient soil moisture must be there.

- Farmers of North Eastern Plateau Zone of Orissa are advised to start transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato and brinjal etc. with suitable seedlings. Weather is conducive for winter sunflower sowing in North Eastern Plateau Zone of Orissa. In irrigated areas, complete groundnut sowing before the end of the month.
- Farmers of North Eastern Coastal Plain Zone are advised for planting of tomato, cabbage & cauliflower may be done. Land preparation for groundnut may be started in uplands.
- Farmers of Mid Central Table Land Zone of Orissa are advised to start sowing of sugarcane, blackgram and greengram.
- Farmers of North Eastern Ghat Zone of Orissa are advised for sowing of rainfed groundnut and green pea in the fallow uplands and sowing of sesame.

- Farmers of West Central Table Land Zone of Orissa are advised to go for land preparation for sowing of rainfed groundnut and sesame. Harvest the matured *kharif* groundnut, green gram and black gram.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to undertake sowing of short duration varieties of arhar, groundnut, jowar, soybean, turmeric and okra for inter cropping. Farmers are also advised to sow kulthi, potato, green pea and African marigold or French marigold.
- In Western Plateau Zone of Jharkhand, farmers are advised to sow kulthi, green pea and African marigold or French marigold. Farmers are advised to sow *rabi* crops like gram, lentil, linseed, pea, mustard etc. and undertake planting of potato. Farmers are also advised to raise the seedlings of winter vegetables like cauliflower, cabbage, chilli, tomato and brinjal etc. and sow directly the seeds of radish, turnip, spinach, carrot etc. After harvesting of rice, prepare the land immediately for unirrigated and irrigated varieties of wheat.
- As dry weather is likely to prevail, farmers are advised to dry the cobs of maize in the open sun before storage.
- In Coastal Saline Zone of West Bengal, farmers are advised to start sowing of black gram in paddy field. Maintain proper aeration in the field of betel vine.
- In New Alluvial Zone of West Bengal, farmers are advised to harvest early transplanted aman rice and maintain proper drainage for mature rice field. Farmers are also advised to complete land preparation for potato sowing if land preparation is not completed then apply 1.5- 2 ton cow dung manure or compost manure for a bigha.
- Farmers in Laterite and Red Soil Zone of West Bengal are advised to start sowing of potato and before sowing seeds should be dipped in Bavistin solution for 10 minutes. In winter vegetables, apply 44 kg of urea and 50 kg of MoP, 21 days after sowing of seeds. Farmers are also advised to planting of winter season gladiolus.
- Farmers in Old Alluvial Zone of West Bengal are advised to undertake land preparation and sowing of wheat and mustard and start seedbed preparation for sowing of tomato.
- Farmers in Terai Zone of West Bengal are advised to prepare main field for planting cauliflower, cabbage, brinjal and tomato. Farmers are also advised for transplanting of winter seasonal flowers like gladiolus and harvest short duration *aman* rice.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- BPH and sheath blight occurrence is reported in Western Undulating Zone of Orissa during this period in some areas. For control of BPH, basal spraying of Buprofezin @ 1.5 ml / litre of water or Imidacloprid @ 1 ml / 4 litre of water may be carried out. Alternate wetting and drying of field should be done.
- Infestation of pod borer has been found and blister beetle may be severe in arhar, spray 200 ml Endosulphan along with 200 Neem based pesticides in 200 litre water for pod borer and spray 2 ml Neem oil along with 1 ml Endosulphan in 1 litre water thrice at an interval of one week in North Eastern Ghat Zone.
- Fruit and shoot borer has been found in brinjal in West Central Table Land Zone of Orissa, install pheromone traps. Alternately spray 4g Sevin and 2ml Malathion in one litre water in 7 days interval.
- Due to favourable weather condition in Terai Zone of West Bengal, neck blast, may occur in rice. For management of neck blast, spray Bavistin 1 g / litre of water.

- Due to favourable weather condition in Hill Zone of West Bengal, fruit borer and shoot borer may attack in brinjal, okra, tomato and chilli, for the management of fruit borer and shoot borer, Dichlorvos may be sprayed @ 0.75 ml / litre of water. Aphids, lemon butterflies and powdery mildew may infest orange. For their protection spraying should be done with Endosulfan @ 2 ml / litre of water. For protection against powdery mildew, wettable sulphur should be sprayed @ 2 g / litre of water.
- Gundhi bug and brown plant hopper has been found in rice in Coastal Saline Zone of West Bengal. Spray Imidachlorpid 17.8 S.L. @3ml/liter of water or Buptofezin 25 E.C.@2ml/liter of water to control attack.
- Under present hot and humid situation in Laterite and Red soil Zone of West Bengal, brown plant hopper or stem borer may attack in aman rice. Spray mancozeb 1.5ml per lit and Carbosulphan 25 EC@2 ml per lit of water to control attack.
- **Animal Husbandry**
- Foot and mouth disease has been observed in cows. Farmers of North Eastern Plateau Zone of Orissa are advised to apply potassium permanganate on lesions in the mouth and sulphur treatment is recommended for foot lesions.
- Farmers of Western Undulating Zone of Orissa are advised to vaccinate cattle with intramuscular Qil Adjuvant FMD vaccine @2ml per one cattle and @1ml per one sheep or goat as a preventive against FMD during the winter season. The poultry should be vaccinated with R₂b strain RD vaccine as a preventive against Ranikhet Disease and administered @0.5ml per bird subcutaneously.
- **Pisciculture**
- Farmers of North Eastern Plateau Zone of Orissa are advised that apply CIFAX 400ml/ha ml of water as prophylactic measures against diseases. Apply Lime @ 250kg/ha.
- Farmers of North Eastern Coastal Plain Zone are advised to apply 50kg lime/Ac-m in all pisciculture tanks as a preventive dose against diseases before onset of winter season.
- Stages of major crops are mentioned in Annexure I.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rain occurred in Vidarbha during last week. No significant rain occurred in most of the districts of the remaining parts of the State. Weather was mainly dry in Gujarat State during last week.
- **Rainfall Forecast:** Mainly dry weather would prevail over the States in the region.
- **Advisories:**
- As late varieties of rice are in grain maturity stage in Maharashtra State, farmers are advised to complete harvesting of already matured rice crop.
- There was no significant rain in North Madhya Maharashtra during last week and mainly dry weather would prevail during next 5 days, farmers are advised to give light irrigation to sugarcane and vegetable crops.
- As *rabi* jowar, safflower and sunflower is in early vegetative stage in Madhya Maharashtra and Marathwada region, farmers are advised to undertake weeding and hoeing in the crop field.
- Farmers in Konkan region are advised to undertake sowing of short duration crops like cowpea, wal, kulthi using residual moisture in the harvested rice field on '*vapsa*' condition. Undertake sowing of water melon on one side of ridges in a spacing of 4 x 1 m.
- Prevailing weather is favourable for sowing of *rabi* gram and wheat. Farmers in Madhya Maharashtra are advised to undertake sowing of irrigated gram upto 10th of November.
- As cotton is at boll maturity / picking stage in Marathwada region, farmers are advised to continue picking of fully opened cotton bolls in morning hours.
- Farmers in Nasik region are advised to start sowing of irrigated wheat. Also complete transplanting of *rabi* onion.
- As there are chances of decrease in temperature in North Gujarat Zone during coming week which provide favourable condition for *rabi* sowing, carry out sowing of *rabi* crops with assured irrigation

facilities. Undertake transplanting of cabbage, brinjal, cauliflower and sowing of onion, raddish and garlic.

- Continue sowing of wheat and gram in South Gujarat Zone. Farmers are advised to give seed treatment with rhizobium culture in gram before sowing.
 - Farmers in Middle Gujarat Zone are advised to sow wheat. Complete sowing of sweet corn. Undertake sowing of spice crops like fenugreek, coriander and cumin.
 - Farmers in South Saurashtra Zone of Gujarat are advised undertake sowing of gram. Harvest ripened spikelets of castor in time. Apply irrigation at regular intervals in custard apple and harvest ripe fruits. Also undertake sowing of Coriander.
 - Undertake sowing of gram in North Saurashtra Zone, if 2-3 irrigation facilities are available. Sowing of cumin and wheat may be carried out as temperature goes down. Complete harvesting of groundnut. Apply irrigation in alternate bed to cotton crop.
 - As per irrigation facilities, carry out sowing of *rabi* crops in South Gujarat Heavy Rainfall Zone. Undertake sowing of gram and wheat. Complete sowing of mustard crop. Carry out planting of sugarcane after sett treatment with insecticides and fungicides. Under high temperature condition irrigate vegetable crops regularly. Pluck citrus fruits late during afternoon hours.
 - Carry out sowing of wheat and mustard in Bhal and Coastal Zone of Gujarat. Complete the transplanting of cabbage, cauliflower and onion. Carry out intercultural operation or hand weeding in brinjal and tomato.
 - Complete sowing of wheat before 15th November in North West Zone of Gujarat. Apply light irrigation to cumin crop and avoid water logging in the plots of cumin.
 - Stages of the crops are mentioned in Annexure I.
 - Under prevailing weather there may be attack of leaf cater pillar and hairy cater pillar in sunflower in Marathwada region; dust Methyl Parathion powder 2% @ 25 kg / ha.
 - Due to rainy and humid weather, there is attack of white fly, thrips and jassids in cotton in Western Maharashtra Scarcity zone; spray Aciphate plus Monosil @ 20 ml in 10 litres of water.
 - There may be incidence of thrips and blight in onion in Pune region; farmers are advised to carry out alternate spraying of Profenophos @ 10 ml or Cypermethrin 25 % @ 5 ml in 10 litres of water at 15 days interval against thrips. For control of blight, spray Mancozeb 0.25 % or Chlorothalonil 0.25 % four times at 15 days interval.
 - Varieties of *rabi* crops are mentioned in Annexure II.
- Animal Husbandry:**
- Cut the beaks of birds in the poultry under age of 15 Weeks. Entry of visitors of poultry should be prevented. Rats in the poultry should be destroyed. Clean udder of milking Animals with insecticide, zinc oxide or boric powder in North West Zone of Gujarat.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- **Realised Rainfall:** No significant rainfall occurred over the States of the region.
- **Rainfall Forecast:** Mainly dry weather would prevail over the States in the region.
- **Advisory:**
 - As no significant rainfall occurred over the States of the region and mainly dry weather would occur during the period, farmers are advised to apply irrigation to the standing crops in the region.
 - Farmers in Flood Prone Eastern plain zone of East Rajasthan are advised to prepare field for sowing of *rabi* crops like wheat, mustard, barley, potato and lentil and sow seeds in nursery for raising seedling of autumn vegetables like tomato, brinjal, cauliflower, cabbage and radish.
 - Farmers in Semi-arid Eastern plain zone of Jaipur of East Rajasthan are advised to complete the sowing of mustard & gram at the earliest and start field preparation for the sowing of *rabi* crops like wheat, barley. Undertake planting nursery of late cauliflower, cabbage & *rabi* onion. Start sowing of fenugreek, cumin, Isabgol, ajwain, carrot, radish & garlic may be continued.
 - In Arid Western Plain Zone Bikaner of West Rajasthan, farmers are advised to undertake the harvesting of matured late sown *kharif* crops, also undertake sowing of barley and wheat.
 - In Arid Western Plain Zone Jodhpur of West Rajasthan, farmers are advised to complete the sowing of mustard and for sowing of wheat and barley field preparation may be undertaken and also sowing of vegetables.
 - In Transitional plain zone of Inland Drainage of Rajasthan, farmers are advised to start for sowing of taramira, toria, pea rainfed gram and mustard and vegetables like carrot, spinach and radish.

- In irrigated northwestern plain zone of west Rajasthan, farmers are advised to continue sowing of wheat, gram and barley and complete the sowing of mustard.
- In Sub Humid Southern Plain and southern humid plain zone of Rajasthan, farmers are advised to start preparation of field for sowing of *rabi* crops like wheat, barley and gram. Sowing of opium poppy should also be started during this week. Complete the planting of autumn sugarcane.
- In southeastern humid plain zone of East Rajasthan, farmers are advised to start field preparation for sowing wheat, gram and mustard. Also advised to start sowing of winter maize in irrigated conditions. Autumn planting of sugarcane may be completed.
- In sub tropical zone of Jammu & Kashmir, farmers are advised to do sowing of gram, barley, *rabi* oilseeds, pulses and vegetables like radish, carrot, garlic, spinach and methi without any further delay and continue harvesting of early maturity varieties of rice.
- In Intermediate zone of Jammu & Kashmir, farmers are advised to start sowing of wheat, gram, barley, lentil, oat, pea, oil seeds like toria, gobi sarson, mustard, vegetables and fodder barseem.
- In Valley Temperate Zone of Jammu & Kashmir, farmers are advised for land preparation and sowing of *rabi* cereal (wheat), pulses (pea and lentil), brown sarson, fodder(oat), also sowing of spinach and methi may be continued. Planting of garlic, transplanting of onion seedlings in well prepared land may be done.
- In Barbar & Tarai region of Uttarakhand, conditions are favourable for sowing of barley, Oat pea, chickpea. Also farmers can also go for sowing of sugarcane, intercropping with potato, lentil and vegetables in Udham singh Nagar district. In Nainital district, it is advised to sow wheat in hilly region and also continue sowing of wheat in mid and high hills as well as in lower hills during this week. Farmers having irrigation facilities are advised to give light irrigation in early sown toria, mustard crops of 30 days duration, top dressing, weeding & thinning operations for their better growth and also it is advised to do weeding operation in vegetables (coriander, spinach, radish, menthe). Complete harvesting & threshing operations of matured soybean & finger millets crops during this week.
- In Sub humid sub tropic of Uttarakhand, farmers are advised continue sowing of vegetable pea, mustard and land preparation for sowing of wheat. Supplemental irrigation should be done after earthen up and weed remove in crops like brinjal, chilli, lady's finger. Ploughing of early planted fruit crop and other plant and after ploughing apply recommended fertilizer as per age of the plant. Planting of cauliflower, brinjal and chilies sapling may be undertaken.
- In Hill zone in Uttarakand, farmers are advised to continue sowing of vegetable pea. Farmers are advised for sowing of high yield variety of toria, wheat, vegetables, mustard after harvesting of *kharif* crops.
- Farmers in Central plain Zone of Uttar Pradesh, are advised to complete planting of sugarcane. Intercropping of wheat, raya, toria, gobhi sarson, pea, gram and potato etc. can be done successfully in this crop. Berseem sowing should be completed during this period. Also sowing of lucerne, oats and senji crop may be done.
- In Bundelkhand Zone of Uttar Pradesh, farmers are advised to start land preparation and sowing of *rabi* crops like wheat, pea, masoor & gram after seed treatment. Continue harvesting of maturity paddy and also irrigate already sown *rabi* crops like pea, toria and lahi.
- In North Eastern Zone of Uttar Pradesh, farmers are advised for land preparation and sowing of mustard, pea, lentil, gram, maize, also sowing of toria, leafy vegetables and tuber crops and continue harvesting of matured paddy.
- In Western Plain Zone of Uttar Pradesh, farmers are advised for sowing of wheat, potato, maize, pea, masoor, alsii, vegetables (like onion, tomato, raddish, carrot, palak, cauliflower, cabbage etc.) and planting of sugarcane, chilli and brinjal. Last irrigation may be given to groundnut.
- In Sub-Montane & Low Hills Sub-Tropical Zone and Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to complete nursery sowing of early variety of pea, raddish, turnip, coriander, cabbage, knol khol, broccoli, parsley, lettuce, fennel and cauliflower. It is optimum time for planting of wheat crop, oats and barley in high altitudes. Potato sowing in lower hills may be continued. Garlic also may be planted. Also irrigation in ginger may be carried out and also complete the harvesting of walnut and late variety of persimon in mid hills. In high hills complete the harvesting of apple and pear. In the early planted wheat crop where weeds are 2-3 leaves stage, spray isoproturon @ 80 gram per 30-32 litres of water in one kanal for the control of weeds.
- Farmers of Mid hill sub humid zone of Nauni are advised to start coating of lime on the trunk of temperate fruits upto 2-3 ft from ground. Also, complete the sowing of early variety of pea and direct sowing of root crops may be continued.
- Farmers in Delhi are advised to undertake sowing of wheat. Sowing of gram may be done at earliest. Keeping in view of temperature trend sowing of oat and barseem for fodder purpose may be done. Sowing of lentil may be done in this weather conditions. Keeping view in weather, sowing of pea should not be delayed as late sowing reduces the seed yield and exposes the crop to insect damage. Sowing of potato may be done as soon as possible. Sowing of garlic and carrot may be done in raised bed. This is suitable time for sowing of sarson saag, bathua,

radish, radish, fenugreek, coriander and turnip. Weather is suitable for sowing of *rabi* onion. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised bed.

- Farmers in Western Zone of Punjab are advised to undertake sowing of wheat. Transplanting ghobi sarson which is more profitable than direct sowing. Complete sowing of gram under rainfed conditions by this week as further delay in sowing results reduction in yield. This is the right time for sowing of English varieties of radish, turnip and tomato. Transplanting of 4 to 6 week old seedlings of cabbage, chinese cabbage and late season cauliflower may be done.
- Farmers in Western Plain Zone of Punjab are advised to undertake sowing of wheat varieties recommended by Punjab Agricultural University. Give irrigation according to the need of inter crops in autumn planted sugarcane. Continue picking of cotton bolls.
- Farmers in Undulating Plain Zone of Punjab are advised to complete the sowing of barseem as early as possible. Sow varieties PBG 5 and PBG-1 of gram which has resistance to gram blight. Starts sowing of recommended varieties of lentil, onion, garlic and root vegetables. Undertake transplanting of chilli, brinjal, tomato and cole crops.
- Farmers in Western Zone of Haryana are advised to undertake sowing of recommended varieties of wheat. Complete the sowing barseem if not done earlier. Give irrigation to vegetable crops as per requirement.
- Farmers in Eastern Zone of Haryana are advised to complete the sowing of mustard crop with certified seeds. Start the sowing of wheat crop with certified seeds. Harvest ripened guar crop and threshing at the earliest.
- In semi arid plain zone of east Rajasthan to control the blight in tomato spray Mancozeb @ 2 gm.
- In semi arid eastern plain zone of east Rajasthan to protect already sown mustard crop from painted bug & saw fly, farmers are advised to broadcast quinalphos 1.5 % or methyl parathion 2% dust @ 20-25 kg per hectare.
- In Arid Western Plain Zone Bikaner of West Rajasthan, farmers are advised to prevent attack of termite in gram, apply Quinolphos 1.5% powder @ 25kg/ha at the time of last ploughing. To control soil borne diseases like wilt and root rot, apply Trichoderma @ 4kg/ha with FYM/compost after pre sowing irrigation.
- In Arid Western Plain Zone Jodhpur of West Rajasthan, farmers are advised to control BLB in chilly by spraying streptomycin 250 mg in 3 gm/lit water.
- In southern humid plain zone of east Rajasthan in cotton to control sucking pest spray imidacloprid 17.8 SL@ 150-200ml/ha or dimethoate 30 EC @ 1 lit/ha and to control wilt spray cobalt chloride 100 ppm solution.
- In Transitional plain zone of Inland Drainage of Rajasthan, farmers are advised to control leaf curl & mosaic in Papaya uproot & burn the affected plants.
- Constant monitoring of lady finger, chilli and cucurbitaceous crops against attack of mite, jassid and hopper is advised in Delhi. If insect population is more than ETL spraying of ethion 50 EC @ 1.5 - 2 ml per litre of water is advised to control mite and spraying of dimethoate 30 EC @ 2 ml/litre of water against jassid and hopper is advised.
- There is mild attack of hopper and moderate to severe attack of leaf folder on paddy crop in Western Zone of Haryana. Farmers are advised to spray the crop with 250 ml monocrotophos or dusting of methyl parathion (Folidol) @ 10 kg/acre.
- In Arid Western Plain Zone Bikaner of West Rajasthan, humidity in atmosphere may increase, farmers are advised for control attack of painted bug in mustard, by dusting the crop with methyl parathion dust @ 25 kg/ha.
- **Animal Husbandry**
 - In Barbar and Tarai region of Uttarakhand, do proper chopping of maize, sorghum and other fodder and mix it in green fodder equally. Give them fresh water for drinking 2 times in a day. Since night temperature will fall further during this week, hence keep all types of small animals under the shed during the night. Put rice straw or dry leaves of sugarcane on the ground for their comfort sting during the night time.
 - In Western plain Zone of Punjab, farmers are advised to provide dry bedding to young calves.
 - In semi-arid eastern plain zone, farmers are advised to feed pregnant cow & buffaloes an extra amount of 2 kg concentrate feed before 2 month of Parturition. After parturition feed 2 kg Jaggery, 1/2 kg pearl millet grains, 100 gm fenugreek, 20 gm Ajowan, 50 gm salt and 40 gm mineral mixture daily.
 - In Intermediate zone of Jammu & Kashmir, vaccination of animals against FMD advised. Weather is conducive for ticks and mites attack on animals. For control spray Butox@ 2.0 ml per litres of water. Ensure proper drainage in the surroundings of cowshed.
 - In Valley Temperate Zone, Jammu & Kashmir farmers are advised as the night temperature is reducing day by day proper arrangement should be done to provide warming to the livestock. During day time animals should not be moved out of sheds too early. Animals should be fed with a balanced diet containing higher amount of minerals and vitamins.
- **Horticulture :**

- In intermediate zone (Pahalgam) of Jammu & Kashmir, farmers are advised to undertake planting of litchi. Also for control of leaf curl and Stigmata blight on peach, plum, apricot and almond, spray copper oxychloride (0.3%) or captan (0.2%) before leaf fall.
 - In Valley Temperate Zone of Jammu & Kashmir, farmers are advised to start pruning in apple trees. Older trees should be pruned first as younger trees are more prone to winter injury. Cease all pruning operations well before any chance of a severe temperature drop.
 - In Semi Arid Eastern plain zone of East Rajasthan, mango, guava & pomegranate may be attacked by mealy bug insect. Hopper of this bug suck sap of tender leaves of these trees. To control this farmers are advised to mix quinalphos 1.5 % @ 50-100 gm per tree in soil at a depth of 10-25 cm.
 - In Transitional plain zone of Inland Drainage of east Rajasthan, farmers are advised to control leaf curl, mosaic in papaya uproot & burn the affected plants and spray Dimethoate 30 EC or Methyl Dimeton 25 EC @ 1 ml per litre water.
 - In Arid Western Plain Zone(Bikaner), farmers are advised to avoid heavy irrigation in ber to prevent fruit drop at this time of fruiting. Spray Monocrotophos 36 SL @ 0.04 % at the pea grain size stage of ber fruit.
 - In Arid Western Plain Zone(Jodhpur), Rajasthan as there is starting of fruiting stage of ber, farmers are advised to apply urea per plant as per the age of ber fruit and also apply irrigation.
 - In Irrigated North Western plain zone of Rajasthan, farmers are advised to give regular irrigation to kinnow fruit.
 - In arid western plain and semi-arid eastern plain zone of Rajasthan, farmers are advised to spray Dimethoate 30 EC at recommended dose to control mosaic disease in papaya.
- **Apiculture**
 - In Intermediate zone of Jammu & Kashmir, provide ample space for queen bee by giving drawn comb. Week colonies may be provided sealed brood from strong one to equalize the strength of all the colonies. Stimulating feeding of sugar, syrup should be given for expansion of brood area, if needed at the start of the month. Queenless colonies should be united with strong ones. (Sulphur dusting should be avoided in temperate regions).
 - In Sub Tropical Zone of Jammu & Kashmir, week colonies may be provided sealed brood from strong ones. Provide ample space to queen for eggs by giving drawn comb.
 - **Floriculture**
 - In valley temperate zone of Jammu and Kashmir, regular check out the stored bulbs of tulip and other planting material to avoid damage. Mowing of lawn should be followed regularly. Sow the seeds of spring annuals as early as possible if not sown till now. Collect the seeds of summer annuals. Stop irrigation in gladiolus and liliun field. Preparation of land for spring flowering annuals should be followed.
 - Farmers of the mid hill sub humid zone of Himachal Pradesh are advised to harvest the chrysanthemum and marigold flowers. Planting of Liliun bulbs in low and mid hills can also be done.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

- **Realised Rainfall:** Most of the districts in Tamil Nadu, Kerala except Palakkad and Pathanamthitta, Coastal Andhra Pradesh, Rayalaseema, Telangana except Adilabad and Nizamabad, Coastal Karnataka, North Interior Karnataka except Bijapur, Gulbarga and Yadgir and South Interior Karnataka received rainfall during last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Kerala during next 48 hours and decrease thereafter, at few places over Tamil Nadu and Coastal Karnataka and at one or two places over South Interior Karnataka and Rayalaseema. Weather would be mainly dry over rest parts of the region.
- **Warning:** Heavy rainfall would occur at one or two places over Kerala during next 24 hours and decrease thereafter.
- **Advisories:**
 - Due to cyclone “Nilam” heavy rainfall occurred in the North Coastal Zone of Andhra Pradesh during last week. Crop fields were submerged due to heavy rain. Lodging of rice, sugarcane, banana was noticed in certain pockets and sizeable extent of cotton and maize were also affected. Farmers are advised to drain out excess water from the fields as early as possible. They are also advised to undertake management practices as indicated in the annexure.
 - Due to heavy rain during end of October, harvesting of late *kuruvai* rice was affected. *Samba* rice (direct sown / transplanted) was mostly flooded in the Cauvery Delta Zone. Farmers are advised to drain out excess water to avoid crop damage.
 - As most of the districts in Tamil Nadu, Kerala except Palakkad and Pathanamthitta, Coastal Andhra Pradesh, Rayalaseema, Telangana except Adilabad and Nizamabad, Coastal Karnataka, North Interior Karnataka except

Bijapur, Gulbarga and Yadgir and South Interior Karnataka received sufficient rainfall during last week, postpone irrigation to the standing crops.

- Farmers in the Eastern Dry Zone of Karnataka are advised to take up inter cultural operations in late sown crops, take up normal agricultural operations for the standing crops, repair bunds and drainage system to avoid stagnation and avoid harvesting if cloudiness exists in the locality. The farmers are also advised to make soak pits/trenches for perennial horticulture crops near the base of the crops to conserve moisture.
- Farmers in the North Dry zone of Karnataka are advised to continuing sowing of chickpea, wheat (irrigated) and to avoid shortage of fodder to animals, priority should be given to fodder crops such as fodder sorghum or rabi sorghum which will give good quality fodder. Harvesting of pearl millet (bajra), groundnut and maize may be taken up carefully.
- Moderate amount of rainfall has been received at many places in the Hill Zone of Karnataka during past 5 days and as per forecast there will be moderate amount rainfall at many places during the next five days. Taking advantage of this rainfall, farmers are advised to complete sowing of rabi crops as early as possible
- It is reported in the North East Dry Zone of Karnataka that in some parts there was no germination of rabi jowar because of dryness. Wherever sufficient rainfall and soil moisture build up is seen, farmers are advised to go in for resowing rabi jowar (both red and black soils) and bengal gram (black soil).
- Farmers in the Problem Area Zone of Kerala are advised to postpone harvesting of paddy since moderate to heavy rainfall is forecasted. The harvested paddy should be properly covered with plastic sheet to protect from rainfall. The heaped paddy have to be uncovered and spread during day time to expose the grains to air in order to remove the excess moisture and avoid the development of fungus. This is to maintain the quality of the grains till procurement. In areas where crop is already harvested plan for taking next crop, the land should be ploughed thoroughly incorporating the crop residues and inundated water for decomposing. Mulch the coconut basins with green/dry leaves. This help to add organic matter to the soil and to reduce the soil temperature.
- In the Northern Zone of Kerala farmers are advised to harvest the first crop of paddy quickly on days of clear sky. It is time to prepare nursery for the second crop. To get healthy seedlings apply dried and powdered farm yard manure @ 1 Kg/sq. meter of the nursery at the time of final ploughing and incorporate thoroughly. To prevent diseases in early stages soak the seeds in Bavistin solution. Iron toxicity is found in paddy fields of midland lateritic belts of Kerala. Apply lime/dolomite as per requirement after soil analysis.
- Farmers of High altitude zone of Kerala are advised to plough the inter spaces for controlling the weed growth and enhancing the infiltration of rain during NE monsoon in coconut and arecanut crops.
- Farmers in the Cauvery Delta Zone of Tamil Nadu are advised to provide adequate drainage facilities to drain the excess rainwater present in the paddy fields to improve better aeration in the root zone and after draining the excess water, gap filling has to be done by using same variety seedlings or seedlings obtained by thinning in the same field to maintain optimum plant population.
- Farmers in the Western Zone of Tamil Nadu are advised to do hand weeding in sorghum crop to keep the field weed free, since the crop is adversely affected by weed infestation in the early stage and spray NAA on cotton at 60 and 90 days after sowing, to prevent early shedding of buds and squares and to increase the yield.
- As moderate rainfall is expected in the coming days in the South Zone of Tamil Nadu, farmers are advised to postpone irrigation to the crops, sow the late season crops like sunflower and pearl millet under rainfed conditions and do hand weeding in rainfed crops, when soil moisture content is optimum.
- Farmers in the North Western Zone of Tamil Nadu are advised to complete maize and jowar cultivation using the recent rains and spray Atrazine chemical @ 500 g per acre in 200 litre of water using hand sprayer when the moisture is there in the soil, to prevent possible formation of weeds.
- Farmers in High altitude tribal zone of Andhra Pradesh are advised to drain out standing water from rice and ragi fields to the maximum possible extent and lift the lodged crop and undertake stalking. They are also advised to monitor for pest and disease.
- Farmers in the Krishna Godavari zone of Andhra Pradesh are advised to drain out water from the rice field and spray 5 per cent salt solution on the panicles to avoid germination as crop is at harvesting stage. They are advised to continue sowing of chick pea.
- The rainfall received during last week was beneficial for the standing crops like green gram, black gram, red gram and drill sown rice and rice which is in transplanting stage in Nellore district of Southern zone of Andhra Pradesh. Farmers are advised to continue transplanting of rice in Nellore district. Farmers in the Cuddapah district are advised to undertake sowing of rabi Bengal gram and rabi groundnut utilizing the recent rainfall.
- Farmers in the Hill Zone of Karnataka are advised to undertake plant protection measures to control mealy bug infestation in papaya, shoot fly in maize and jowar and red hairy caterpillar, aphid and leaf minor in groundnut.
- Farmers in the North East Dry Zone of Karnataka are advised to monitor the incidence of stem borer, leaf folder, blast and sheath blight in paddy and undertake plant protection measures if noticed. Helicoverpa pod

borer is noticed in early sown Bengalgram and I and II instars larva is reported due to cloudy weather in red gram. Farmers are advised to spray insecticides like Profenophos or Chlorpyrifos @ 2ml/liter of water to control pod borer and Emmamection Banzoate 1.2g/l of water use 50 to 70 g/acer to control the larvae.

- In the Southern Zone of Kerala high humidity and temperature may favour the incidence of Sigatoka disease in banana. Farmers are advised to cut and remove all the badly affected leaves in a plot in a single day and apply Propiconazol 1ml / litre of water and copper oxy chloride 4 g/ litre of water alternately at two weeks interval.
- Bacterial leaf blight, bacterial leaf streak and leaf folder incidence are noticed in the *samba & thaladi* paddy in the Cauvery Delta Zone of Tamil Nadu due to prevailing weather condition. Farmers are advised to spray streptomycin + tetracycline 120 g + Copper oxy chloride 500 g mixture/acre or copper hydroxide at 500 g/ac in 200 litre of water to control bacterial leaf blight and bacterial leaf streak and profenophos 400 ml/acre to control leaf folder.
- Fruit borer problem is found in tomato, chilli and brinjal crops in the North Western Zone of Tamil Nadu. Farmers are advised to spray monocrotophos @ 3 ml per litre of water mixed with sticking solution (Teepol; 1 ml/litre) over the leaves, to control it.
- In the prevailing weather having high cloud cover and humidity there is incidence of sucking pests in cotton in the South Zone of Tamil Nadu. Farmers are advised to spray dimethoate 500 ml / ha for controlling them.
- In the High Altitude Hilly Zone of Tamil Nadu, severe incidence of early and late blight seen in potato is noticed, which reduces yield upto 60 %. Farmers are advised to spray systemic and non- systemic fungicides alternatively once in 15 days to control the diseases.
- Leaf folder and Iron deficiency in rice and Flea beetles damage in black gram and green gram was noticed in the Nellore district of Southern zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- Rice crop in the Karimnagar district of Northern Telangana zone of Andhra Pradesh was affected by BPH, Sheath rot, Panicle mite, and false smut. They are advised to take appropriate plant protection measures
- **Livestock**
- Due to the low temperatures in the North Western Zone of Tamil Nadu, feed intake is lightly to go up beyond 112 grams/day.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in Chhattisgarh except Bastar, Dhamtari, Durg, Janjgir, Jashpurnagar, Kanker, Koriya, Mahasumund, Narayanpur, Raigarh and Raipur districts) and in Annupur district of Madhya Pradesh during last week.
- **Rainfall Forecast:** Weather will be mainly dry over Madhya Pradesh and Chhattisgarh during the period.
- **Advisories:**
 - Farmers in Madhya Pradesh are advised to provide irrigation to the standing crops as there was no rainfall during last week.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to harvest rice crop. To avoid loss of soil moisture, field should be immediately prepared for the planting of chickpea, lentil, mustard, and linseed crops. Seeds should be treated with fungicides before sowing. In pulse crops, seeds should be inoculated with Rhizobium bacteria. Also use recommended amount of fertilizers at the time of sowing in these crops. As minimum temperature decreasing this is proper time for sowing of pea. Nursery preparation of cabbage, cauliflower and onion, planting of spinach, fenugreek, garlic and coriander may be done.
 - Farmers in Jhabua Hills Zone of Madhya Pradesh are advised to give irrigation to cotton crop if there is moisture stress condition. Apply fertilizers in chilli, capsicum, tomato, papaya, onion etc. and irrigate. This is suitable time for sowing of carrot, radish, pea, methi, palak and transplant tomato, brinjal, cauliflower and other vegetables etc. Prepare field for sowing of *rabi* crops. Undertake sowing of wheat, maize and gram. Farmers are also advised to transplant onion and winter flowers and undertake sowing of garlic. Sow barseem crop for green fodder.
 - Farmers in Gird Zone of Madhya Pradesh are advised to prepare fields for *rabi* crops. Apply irrigation to toria crop. Land preparation should be done for sowing of wheat.
 - Farmers in Bundelkhand region of Madhya Pradesh are advised to sow chickpea, lentil, linseed and mustard in already prepared field also treat the seed with fungicide Captan or thiram @ 2g/kg and thereafter use the rhizobium culture. They are also advised to use mulch to enhance germination after the sowing of coriander and garlic. Farmers advised to complete the sowing of early reddish, fenugreek,

spinach, turnip, corianders and mustard for vegetable purpose in this week. Farmers in Bundelkhand region of Madhya Pradesh are advised to undertake sowing of wheat in irrigated areas. Farmers are advised for nursery sowing of onion in raised bed system during this week.

- Farmers in Vindhyan Plateau of Madhya Pradesh are advised to sow irrigated wheat and sugarcane. Farmers are advised to sow pigeon pea and potato crops with irrigation facilities. Prepare nursery for onion and garlic crop. Due to cloudy weather there may be attack of caterpillar in gram, spray Quinolphos 1 lit./500 lit of water.
- Farmers in Nimar valley zone of Madhya Pradesh are advised to sow wheat and gram. Undertake transplanting of brinjal, onion and planting of potato.
- Farmers in Malwa Plateau zone of Madhya Pradesh are advised to harvest the matured *kharif* crops. Transplanting of tomato, chilli, brinjal, cabbage and cauliflower may be done. Undertake sowing of pea and planting of potato.
- In Chhattisgarh Plain Zone, present weather conditions are suitable for sowing of nursery of early varieties of cabbage, tomato, brinjal and chilli. Sowing may be done in a raised nursery of about 6 inch with proper drainage system. Sowing of gram, pea, mustard and linseed may be done. Present weather conditions are suitable for sowing of niger, winter black gram and lobia, hence it is advised to complete the sowing at the earliest. Farmers are also advised for the preparation of the land for *rabi* crop. After the harvesting of the rice crop sow gram and lathyrus. Farmers are advised to harvest the matured crop of soybean and groundnut.
- Farmers are advised for land preparation in the upland slopy fields in Chhattisgarh Plain Zone for sowing of horse gram during second fortnight of this month and transplanting of vegetables crops with proper drainage system.
- Farmers in Bastar Plateau Zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea. Farmers are also advised for planting of cassava, colocasia, ginger, elephant foot yam and diascoria and support may be given by bamboo sticks. Colocasia and daag kanda harvesting may be done as per crop maturity.
- If the nursery of vegetables like chillies, brinjal and cucurbitaceous vegetables and other winter season vegetables is ready in Bastar Plateau Zone in Chhattisgarh, proper drainage measures should be adopted from the beds and seedlings should be planted in the beds.
- In North Hill Zone of Chhattisgarh, farmers are advised to prepare the land for sowing of wheat and sugarcane.
- Farmers in Malwa Plateau Zone of Madhya Pradesh, there may be attack of leaf minor on vegetable crops. Apply rogog or confidor @ 1ml/ lit.
- Due to prevailing weather, green hoppers, white hoppers and brown plant hoppers may be observed in Bastar and Narayanpur districts in Chhattisgarh, spray Monocrotophos @ 2 ml or Imidachloprid @ 0.5 ml per litre of water.

Animal Husbandry & Poultry

- Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to arrange vaccination of the animals to prevent from Foot and Mouth disease. Use potassium permanganate @ 5 ml per liter of water to clean the infected parts, as a precautionary measure.
- Farmers in Jhabua Hills of Madhya Pradesh are advised to vaccinate their cattle for FM disease. For control of Ranikhet disease in bird vaccinate them by F-1 or Lasota vaccine.
- Farmers in Bundelkhand region of Madhya Pradesh are advised that onset of winter is likely to be started due to which chances of spread of mouth and foot disease will be there. Hence, vaccinate against the disease.
- Farmers in Nimar Valley Zone of Madhya Pradesh are advised to give vaccination to the animals to prevent from Foot and Mouth disease.

Annexure I

Major Crops

NORTHEAST INDIA [ARUNACHAL PRADESH, NMM&T, ASSAM, MEGHALAYA]

- Sugarcane (vegetative), *sali* rice (grain formation / maturity), arhar (pod formation), *kharif* sesame (harvesting), groundnut (harvesting), black gram, green gram (pod formation), cauliflower (nursery raising / transplanting), winter vegetables (nursery sowing / sowing / transplanting) in Assam.
- WRC rice (grain maturity / harvesting), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (pod maturity / harvesting), sesame (capsule maturity / harvesting), cauliflower, cabbage (nursery raising / transplanting) in Arunachal Pradesh.
- *Kharif* rice (grain formation / maturity), soybean, groundnut (pod maturity / harvesting), cucurbits, chilli and okra (fruiting / harvesting), potato (land preparation / planting), pea (land preparation / sowing), tomato (seedling / transplanting), cauliflower (nursery preparation / transplanting) in Manipur.
- *Kharif* rice (grain formation / maturity), maize (cob maturity / harvesting), groundnut (pod maturity / harvesting), tomato (flowering / fruiting / harvesting), cole crops (transplanting / vegetative), soybean (pod maturity / harvesting), turmeric, ginger (vegetative / rhizome formation) and *rabi* maize (sowing) in Meghalaya.
- Rice (grain formation / maturity), soybean (pod maturity / harvesting), groundnut (pod maturity / harvesting), *kharif* maize (maturity / harvesting), cauliflower, tomato (nursery preparation / transplanting) and ginger / turmeric (vegetative / rhizome formation), okra, bean and cow pea (harvesting) in Mizoram.
- *Jhum* rice (harvesting), wet land rice (maturity / harvesting), maize (maturity / harvesting), tomato, cabbage (nursery preparation / transplanting), soybean (pod maturity / harvesting) in Nagaland. Upland rice (harvesting), *aman* rice (grain formation / harvesting), groundnut (pod maturity / harvesting), *rabi* maize (sowing), *rabi* legumes, toria, etc.(sowing), bitter gourd and pointed gourd (harvesting) in Tripura.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL &SIKKIM]

- Mustard, gram, peas, sunflower, maize (land preparation / sowing), sugarcane (vegetative), fodder crops like sorghum, bajra, meth, kalai, boda and dinanath grass (vegetative), *kharif* rice (grain formation / grain maturity), urad, arhar, bajra etc. (flowering / grain formation), mango, litchi, guava (early vegetative / vegetative), winter vegetables, wheat (sowing) in Bihar.
- Upland rice (grain formation / grain maturity), maize (harvesting), pigeon pea (flowering / pod formation), groundnut (pod formation / maturity), rice (grain formation / maturity), urad, jowar and soybean, til (pod formation / maturity), *kharif* vegetables like okra, beans, French bean, tomato (fruiting / harvesting), kulthi, African marigold, French marigold (sowing), urad, potato, green pea, toria, tomato, cauliflower, cabbage and bell pepper (land preparation / sowing), gram (land preparation / sowing), rapeseed, linseed and mustard (sowing) radish, turnip, spinach, carrot (sowing), wheat (land preparation) in Jharkhand.
- Sugarcane (grand growth), banana (vegetative), maize (cob formation / maturity), sunflower (head formation), rice (grain formation / maturity), mustard, sunflower, sesame, groundnut, cow pea (sowing) and fruit crops (planting / seedling) in Orissa.
- *Aman* rice (grain filling / maturity / harvesting), *kharif* maize (cob formation / cob maturity), cauliflower (sowing / seedling / transplanting), marigold, Gladiolus (planting), potato (sowing), betel vine (vegetative), winter vegetables (sowing), *kharif* vegetables (fruiting / harvesting), onion (sowing) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting / seedling), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (grain formation / maturity) in Sikkim.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (new *suru*) (active tillering in Madhya Maharashtra and Marathwada), sugarcane *adsali* (elongation), sugarcane pre seasonal (elongation), sugarcane (new *adsali*) (early tillering), sugarcane (new pre seasonal) (planting), *kharif* rice (grain maturity / harvesting), cotton (boll formation / maturity /

picking), red gram (flowering / pod formation), *rabi* jowar (germination / early vegetative in Madhya Maharashtra and Marathwada), safflower (early vegetative in Madhya Maharashtra and Marathwada), maize (germination / early vegetative in Madhya Maharashtra and Marathwada), gram (sowing / germination / primary branching) in Maharashtra.

- Wheat, gram (sowing), cotton (boll formation / maturity / picking), groundnut (harvesting), *kharif* rice (harvesting), sugarcane (vegetative / elongation), new sugarcane (planting), sesame, castor (harvesting), new castor (sowing / germination), winter vegetables (sowing / transplanting), mustard (sowing / seedling) in Gujarat.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- Wheat, Oats, Barley (sowing), apple(harvesting/new planting), radish, arbi, amaranthus, turmeric, dhaincha, chari, bajra, barley, red and white clover, bell pepper, garlic, ginger, coriander, knol khol, cabbage, cauliflower, lettuce (maturity/harvesting), pea, raddish, turnip, coriander, cabbage, Knol khol, broccoli, parsley, lettuce, fennel and cauliflower (sowing), lentil, gram (sowing) in Himachal Pradesh.
- Rice (grain filling stage), cauliflower, cabbage, broccoli and tomato (Transplanting), coriander, spinach and radish (vegetative), carrot, pea & garlic (sowing), gram, mustard (sowing), maize (cob formation), sugarcane (vegetative), cotton (boll formation), sugarcane (vegetative) in Delhi.
- Sugarcane (planting), papaya (planting), sunflower (early vegetative / vegetative), maize (Normal sown - reproductive stage, early sown- harvesting stage, very late sown- silking stage/cob maturity), garlic, cucurbits, okra(seedling), *kharif* pulses(seed maturity/harvesting), potato (sowing), radish (sowing), cabbage, cauliflower (nursery sowing), carrot, turnip (sowing), knol-khol, cole crops (transplanting), mustard (sowing/emergence), barley, pulses (sowing), toria (vegetative), vegetables {Methi early bunching and kasuri methi, spinach}(sowing), *rabi* oilseeds (sowing/emergence), Wheat(sowing), Berseem (Sowing) in Jammu & Kashmir.
- Wheat (land preparation/sowing), rice (harvesting), finger millets (harvesting), groundnut, sorghum, urad, moong, rajma (grain maturity/harvesting), arhar and ginger (vegetative), soybean (harvesting), maize(harvesting), autumn sugarcane, mustard, yellow serson, karan rai, brinjal, chilli, lady's finger, barley, oat, pea, chick pea, potato, lentil and vegetable (sowing) in Uttarakhand.
- Wheat (land preparation/sowing), rice (harvesting), sugarcane (vegetative growth/ripening), cotton(flowering/boll formation), arhar(maturity/harvesting), groundnut (maturity/harvesting), chana, pea, masoor, alsi, barseem, jai(sowing), vegetables like onion, garlic, radish, carrot, coriander (sowing), mustard, pea, lentil & gram, maize(field preparation/sowing) in Uttar Pradesh.
- Rice (maturity / harvesting), spring sugarcane (sprouting/tillering), radish, carrot, turnip, (sowing / germination/vegetative), cauliflower (transplanting/vegetative), tomato, sunflower (early vegetative), cotton (fruiting), okra, chilli, brinjal (transplanting/early vegetative), maize, mung, mash, tur (early vegetative), toria (sowing), maize (cob formation) in Punjab.
- Rice (maturity / harvesting), sugarcane (grand growth) (early vegetative/vegetative), barseem (vegetative / last cut), fodder (maize + cowpeas) (vegetative/ 1st cutting), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), radish, cotton (flowering), turnip (sowing/seedling) in Haryana.
- Cauliflower, cabbage, onion (transplanting / germination), sugarcane (new planting/ vegetative), cotton (Desi kapas, B.T. kapas, soft kapas, American Cotton) (boll maturity/ picking), maize (cob formation/maturity), mirch, simla mirch, guar, vegetable (tinda, water melon, pumpkin, cucumber, coriander, bhendi, ridge gourd) (sowing/seedling), green gram, cowpea (pod maturity/harvesting) and groundnut (pod maturity/harvesting), short duration moth and guar (pod maturity/harvesting), moong (vegetative), kinnow (fruiting), rice (maturity / harvesting), oilseeds (sowing/emergence), wheat, mustard, gram, potato (sowing) in Rajasthan.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

- Sugarcane (planting), early planted paddy (harvesting), late planted paddy (harvest), sunflower (flowering), groundnut (pod development/harvest), cowpea (vegetative), pigeon pea (flowering/pod formation), bajra (harvesting), soybean (harvesting), maize (grain filling/harvest), desi cotton (vegetative), cotton (boll formation/picking) and chilli (fruiting), *Rabi* crops- sorghum (sowing), wheat (sowing), Bengal gram (branching), safflower (sowing), vegetables (fruit maturity), New vegetables (nursery), in Karnataka.
- Sugarcane (June planted) (grand growth/ cane formation), vegetables (all stages), early sown rice (maturity/ harvest), late sown rice (panicle initiation/flowering), ragi (maturity / harvesting), castor (capsule maturation/

- 1st picking stage), late sown groundnut (pod formation/pod filing), maize (harvesting), red gram (flowering), Bt. cotton (flowering/boll development), black gram, green gram (early vegetative) and jowar (vegetative) in Andhra Pradesh
- Pepper (berry formation), coconut (flowering/nut development), irrigated banana (harvesting), irrigated banana (planting), cardamom (planting/harvesting), rubber (tapping), vegetables (harvesting/planting), *mundakan* paddy (early vegetative/tillering), banana /cardamom/vegetables (new planting) in Kerala.
 - *Kuruvai* rice (harvesting), Late *samba* rice (nursery sowing), *samba* rice (tillering), *thaladi* (transplanting), rainfed maize (flowering), sorghum (germination / early vegetative), cowpea (germination / early vegetative), rainfed groundnut (flowering), pulses (vegetative), cotton (vegetative), new maize crop (vegetative), vegetables (vegetative) in Tamil Nadu.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (harvesting), maize (harvesting), jowar, and soybean (harvesting), arhar (harvesting), *kharif* vegetables i.e. tomato, brinjal, chilli etc. (flowering/fruitletting/harvesting), ladies finger, cucurbits (vegetative/flowering), pea, potato, sugarcane (sowing), *rabi* vegetables (nursery preparation), *rabi* wheat, maize, gram (sowing), fodder crops (sowing) in Madhya Pradesh.
- Rice (grain formation / harvesting), sugarcane (planting/vegetative), groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (planting), vegetables (transplanting / vegetative), millet (vegetative), tapioca, ginger, colocasia, diascorea, elephant foot yam and cassava (planting), wheat, sugarcane (land preparation) in Chhattisgarh.

Annexure II List of Varieties

Orissa

Cowpea: SEB-2, Pusa Barsati.

Brinjal: Utkala Tarini, Utkala Madhuri, Blue Star, Green Star, Pusa Purple Cluster.

Green chilli: Pant C-1, Kala Suryamukhi, Utkala Ava, Utkala Ragini etc.

Tomato: BT-2, BT-10, BT-12, Niladri, Sadabahar, Madhuri, Maharathi, Rasmi, Naveen, etc.

Mustard: Parbhathi, Anuradha, TS-29 & M-27, M-27, Pusa Jaikisan, Pusa Bold

Groundnut: Smruti and JL-24, TMV-2, Devi

Sunflower: Morden, Sunrise, Surya and Hybrid varieties like KBSH-1, KBSH-3 and MSFH.

Onion: Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan , Arka Pragati, Agrifound light red, Agrifound dark, Punjab Selection, Patna white, Bombay white, Pusa white round.

Sugarcane: Early-CO-6907, CO7508
Medium-CO-7219, CO-86249

West Bengal:

Cauliflower: Kanwari, Jowhar, Moti, Early Patna.

Tomato: Pusa Rubi, Pusa Early, S-2, Roma Super.

Mustard: Agrani (B-54), Panchali (T.W.C.-3), B-9, Rai-5 and Bhagiroti (R.W.-351) etc.

Sugarcane : Co- 7218, Co- 527, Co- 1148, Co- 6203 etc

Jharkhand:

Okra: Pusa A-4, Prabhani Kranti, Arka Anamika, Versha Uphar & Hybrid varieties like Sonal and Sarika.

Potato: Kufri Ashoka, Kufri Puhkraj, Kufri Pushkar and Kufri Surya.

Toria: T-9, Panchali, Bhawani, PT-303.

Tomato: Pusa Ruby, Swarna Sampda, Swarn Lalima.

Cabbage: Golden Acre, Pride of India, Early Drum Head.

Cauliflower: Pusa Depali, Patna Early, Hazipur Extra Early, Pusa Ketki.

Mustard: Shivani, Pusa Jaikisan, Pusa Bold, Vardan.

Rapeseed: Panchali, Bhawani, P.T.-303.

Linseed: Sweta, Shubhra, T-397.

Gram: Pusa-372, K.P.G.-59, K.W.R.-108 and for Kabuli gram are H.K.-94134 and Kak-2.

Pea: Arkel, Kashi Nandini, PE - 6 and Birsa Matar.

Bihar

Gram: Rajendra Chana, Uday, Pusa 256, RAU 52, SG2.

Peas: Ratna, Aparna, Harbhajan, Malbai, Malviya mator 15, Harbhajan, Arpana and Pusa Prabhat.

Lentil: BR 25, Pant L 406, 639, Malika, Arun.

Cauliflower: Aghani, Early Snowball, Patna Main and Pusa Shuvra.

Rai: Baruna, Pusa Bold and Kranti.

Carrot: Pusa Keser, Pusa Meghali, Pusa Yamdagini, Desi Lal, Desi Kali, American beauty and Kalyanpur Yellow.

Sarson: Rajendra Sarson-1, Swarna etc.

Sunflower: Morden, Surya, Paradovic, KBSH 1, 44.

Maize: DHM117, Saktiman 1, 2, 3, 4; Laxmi, Rajendra Shankar Makka 1 and 2.

Potato: Kufri Lalima, Kufri Kuber, Kufri Alankaar, Khufri Jyoti, Khufri Chandramukhi, Ranjendra Aloo1, 2 And 3, Khufri Badshah.

Oyster mushroom: Sejour Kaju, Florida.

Wheat: C306, HD2733, K9107.

Madhya Pradesh

Wheat: Sujata, HW- 2004, HI-1500, HI- 1531, HD-2004, JWS- 17, HD-4672,

Timely sown : HI-8498, HI -1418, HI- 1479, HI – 1544, GW -273, GW- 322, GW – 366
Gram: JG-130, JG-11, JG-315, JG-16, Jaki – 9218, Kabuli kak-2, JG-412, Vijay, JG-226
Lentil: RVL-31, JL-2
Maize: JVM -421, JM-16,
Pea: Pusa pragati, Jawahar Pea 1, Jawahar Pea 2, Jawahar Pea 5 and Bonvile
Sugarcane: KO-J-N- 86572, KO-J-N- 86141

Chattisgarh

Maize: Proagro-4640, 4212, Pusa Hybrid -42, MH-10, MH-11, Navjyot, HM-9.
Niger: JNC-1, JNC-6, JNC-9, GA-10, Ootakmund, KGN-2
Kulthi: AK-21, Ak-42, Bastar Kulthi, Birsa Kulthi and VLG-9

Himachal Pradesh:

Wheat: HPW-89,147 VL-738 and HS-240
Barley: HBL-316 and Dolma
Oat: Palampur-1
Cauliflower: Pride of India, Shweta, Madhuri, Himrani.
Cucumber: Kiyana seedless/243, Matgaura, Maliniseeded
Pea: Ageta – 6 or Arkal pea
Raddish : Japani white and early mino white
Turnip : PTWG-1,
Cabbage : Snow ball K-1 Palam uphar, golden acre,
Knol khol : White Bina,
Broccoli : Palm kanchan, Palam vichitra and palam samridhi.

Jammu & Kashmir

Potato : Kufri Badshah, K. Jyoti
Radish: P.Reshmi, Japanese White, Minowase
Carrot: Pusa Kesar, P. Yamdagani, Nantes, Chaman
Turnip: PTWG,
Garlic: Local, large segmented, Agrifound Paravati
Onion: Pusa Red ,N-53, Agrifound Dark Red & Agrifound Light Red,
Knolkhol: King of Market and White Vienna
Spinach: prickly seeded
Methi : Pusa early bunching and kasuri methi
Gobi sarson: GSS-1, GSL-2 & DGS –1.
Mustard: KOS-1, KS-101
Peas: Bonnevillea, AP-1, AP-3
Onion : Pusa Red, Punjab Selection
Barley: Ratna, Jyoti, sonu
Mustard: RLM-514, 619, 198, Kranti, Varuna, Pusa Basant, Pusa Bahar, RH-30, RSPR-01, RL 1359
Gram: C-235, K-468, Gourav, PBG-1, SCS-3
Wheat : Irrigated- PBW-550, PBW-502, PBW-621-50, DBW-17, Raj-3077, RSP-303, HD-2967, HD-2687
Unirrigated: PBW-396 VL-738 and PBW-175 under the rainfed conditions. VL-738, VL-804, HS-240 under irrigated and rainfed areas. HD-1553, HS-277, VL- 616 & SKW-196.
Lentil: L-9/12 and PL-406, Pea: T-163, PG-2 and Rachna.
Berseem: Mescavi, Pusa Giant, BL-1 and Vardan

Punjab & Haryana

Punjab :

Wheat: PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943, PDW 314, PDW 291, PDW-274 and PDW-233
Radish: Punjab Safed, Punjab Pasand and Japanese White.
Turnip: L-1
Carrot: Selection 21 and PC-34
Gram: PBG 5 and PBG-1
Peas: Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.
Raya: PBR-210, RLM-619, PBR-91 under irrigated conditions and PBR-97 under rainfed conditions.

Gobhi sarson: GSC-5, GSL-1, GSL-2, PGSH-51, Hyola (PAC-401) should be sown from 10th of October to **end** of October.

Delhi

Wheat: H.D. 2687, H.D. 2851, H.D. 2894, H.D. 2967, D.B.W.-17.

Carrot: Pusa Rudhira and Pusa Kesar.

Sarson Saag: Pusa Saag-1;

Bathua: Pusa Bathua-1

Radish: Japani White, Hill queen, French Radish;

Coriander: Pant Haritama, Hybrids;

Turnip: Pusa Swati, Local Red variety.

Potato: Kufri Badshah, Kufri Bahar, Kufri Aanand, Chipsona-1, Chipsona-2, Chipsona

Pea : Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville

Fenugreek: Pusa Kasuri

Garlic: G-1, G-41, G-50, G-282.

Gram: Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372.

Oat: - J.H.O-822, O.L.-9, Pusa oat-5,

Barseem : Vardan, Buland Barseem-1, Masakavi,

Lentil: Pusa Masoor -5 (L-4594).

Pea: Pusa Pragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville.

Rajasthan

Vegetables : Tomato: Pusa Ruby, Pusa Early and Vihar, Brinjal: Pusa long, Meghdoot, Arka Bahar, Pusa summer and prolific round, Cucumber: Balam, Pusa Sahyog.

Radish: Japanese White and Hill Queen, Early cauliflower: Pusa hybrid-2, Improved Japanese and Pusa Himjyoti,

Cabbage: Pusa Drum Head and Hybrid 10, Cauliflower: Pusa Snowball 1 and Hissar 1, **Taramira:** Karan Tara, Narendra Tara,

Mustard Early sown: NPJ112, EJ17, Pusa Mahak and Kanti Early Pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6

Normal sown (irrigated)-Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, like Bharat Sarson-1 (NRCDR-2), Bharat Sarson-2 (NRCHB 101), Bharat Sarson-3 (NRCHB506), Laxmi and Pusa bold. Normal sown (rainfed) - Arawali, RGN48, Geeta and PBR 97, Saline sodic soils - CS52, CS54, CS56, Narendra Rai 1. Yellow Sarson - NRCYS-05-02, YSH401

Potato: Kufri Ashok and Kufri Chandramukhi, Kufri Anand, Chipsona-1, 2, Jyoti and Pukhraj.

Mustard: Jay Kisan (Bio-902), Rajat- P. C. R. -7 R.H. – 30, R.H.-819, G.M.-2, Uravashi, Pusa bold, Aravali- I.N. 393, R.N.505, Ashirwad – 48, R.G.N.- 145, R.G.N.-73, R.G.N.-13 Gobi sarson (GSL-1, DGS-1), T-59, RGN- 48,

Gram: G.N.G. 663 (Vardhan), G.N.G 469 (Samrat), G.N.G 1581 (Gangaur), Gram (Rainfed area): C-235, RSG-44, 945, 807, RSG-888, C-235, H-208 and GNG-146, K-468, Gourav and PBG-1 . Early pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6., Pea: T-163, PG-2, Rachna, HFP-3

Kabuli Chana: G.N.G 1499 (Gauri) and G.N.G 1292

Wheat: Raj-3077, Raj-3765, Raj-3777, Raj-1482 & Lok-1 Improved varieties : GW-273, GW-322, Raj-3777, Raj-3765, HI-8498, Raj 4037, Raj 4021, HD-2329, WH 147, PBW502 etc

Barley: R.D.-2035, 2552, 2592, 2052, 2660, 2035, 2503, 2508, RD-2052, RD-2503, RD-2035, RD-2592 & RD-2552.

Garlic (Ladva, Maleva), carrot (Nantis) and Ajwain. Labh Saleksha-1, Labh Saleksha-2 and RA-180 are improved varieties of Ajwain.

Cumin & Isabgol: RMT-1, RMT-143 Fenugreek. RS-1, RZ-19, RZ-209,

Uttar Pradesh

Rai : Narebdra rai 8301, Rohini, Vaibhav, Varuna(Ta 59)

Potato: kupri, ashok, kupri chandramuki, kupri jawahar.

Non-irrigated wheat :lok-1, sujata, gomati, Indira.

Wheat:VL616, 829, 802, 804, 738, 719 and HS277.

Chana : KWR-108, JG-16, JGK-1(kabuli), pusa-256, radhe, PG-114, type-3, k-468, JD-1168, WR108.

Pea: Indira, JP-850, malviya matar-15, rachana malviya matar-2, panta matar-5, JP-885.

Masoor: Bokar-2, 3, K-75, IPL-81.

Alsi: bokar, Lakshmi-27, padmini, parvati, K-2, LC-2023, LC-54.

Sugarcane: GD1168, WR 108, Radhe, JG 315

Wheat : C-306, K-8027, K-8962, K-9465, K-9107, K-9006, Malviya-533, UP-2383, 2338, HD-3338, HD-2687, HD- 2888, HD-4713, HD-2894, HD-2851, HD 2781, PBW- 502, PBW-343, PBW-502, SCW 468, WH-147.

Sarson: Varun type-59, Rohini, Urvashi, Vaibhav, Maya, Narendra suvarna rai-8, Narendra agate rai-4.

Uttarakhand

Pea: VL Ageti Mater-7, Vivek Mater-10, Pant Subjee Mater-3, Azad Mater-3

Toria: PT-303, PT-507.

Vegetable pea : VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel

Barley : Jyoti, Vijaya or Jagrati etc. ;

Oat : UPO-212, UPO-94, JHO-822, UPO-50 or Kent etc.

Wheat: irrigated UP-2572, UP-2584, UP-1109, VL-802, VL-804, VL-738, VL-719, VL-421, HS-240. un-irrigated : VL-616, HS-277, VL-829 etc.

Masoor: VL masoor-4, Panta masoor-5, VL masoor-1, VL masoor-203, PRB-502, PRB-507, PRB-701.

Mustard : Varuna, Vardan, Rohini etc and For Pea V.L.Ageti matar-7, Vivek Matar-3,

Potato: Kufri Chandramukhi, Kufri Jyoti, Kufri Anand, Kufri Jawahatr, Kufri Satlaj, Kufri Ashok etc.

Assam

Cauliflower: Early Kunwari, Pusa Katki, Pusa Deepali.

Cabbage: Golden Acre, Pride of India, Pusa Mukta (Sel – 8), Japanese, Pusa Synthetic, Pusa Snowball and for late maturing varieties- Snowball-16, Pusa Snowball, K-1 and Hissar 1 etc.

Tomato: Punjab Chhuhara, S-12, Punjab Kesri, Pusa Early Dwarf, Sioux, Pusa Ruby, VC- 48-1, Arka Abha (BWR-1).

Radish: Pusa Desi, Pusa Himani, Pusa Chetki.

Carrot: Nantes, Pusa Kesar and Chantenay.

Spinach beet: Jobner Green, All Green, S-23, Pusa Jyoti.

Onion: Pusa Red, Pusa Ratnar, Pusa white (Round), Pusa white (Flat), N-53, Agrifound Light Red, Punjab Red Round, Pusa Madhuri, Arka Niketan etc.

Winter brinjal: Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samrat etc.

Rapeseed and Mustard: M-27, TS- 36, TS-38.

Potato: Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri, Pukhraj

Wheat: Sonalika, UP 262, K 7410, WH 291 and HDR-77.

Manipur

Cauliflower: White Shot.

Pea: Arkel, Azad Pea.

Meghalaya:

French bean: Arka Suvidha, Arka Anoop (bush type) and Naga local, RCMFB-1 (pole type).

Cabbage: H-139 and Pride of India.

Cauliflower: Pusa Meghna, Pusa Sharad and Meghalaya Local.

Broccoli: Puspa, Aiswarya and Fiesta.

Tripura:

Tomato: Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cauliflower: CFL- 4048, Pusa Early Synthetic, Kamaya, Suhasihi.

Cabbage: BC- 76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

Pea: Arkel, Arka Ajit, TRCP- 8, 9.

Cowpea: Kashi Kanchan.

Rabi maize: HQPM- 1.

Lentil: WBL – 58.

Toria: TRC-T-1-1-5-1.

Gujarat:

Gram: Gujarat Gram-1, 2, 3, Dahod Yellow or Chafa or ICCV-10 or PG-1.

Wheat: GW- 496, GW -503, GW -273, GW -322, GW-366, Lok-1

Mustard: Varuna or Gujarat Mustard-1, 2, 3.

Castor: GCH-7, GCH-6, GCH-4.

Cumin: Cumin Guj.- 4.

Chick pea: Gujarat Chick Pea-1 or 2, Dahod Pila, ICC-4.

Cauliflower: Pusa Early, Pusa Dipali, Pusa Kartiki, Early Kuvari for early maturity and Pusa synthetic, Early Snowball, Snowball for medium duration, Jyayant Snowball, Super Snowball, Snowball-13.

Carrot: Patan Local, Pusa Kesar and Pusa Chamdagni.

Onion: Talaja Red, Nashik Red, Pusa Red, Pusa White, N 53, H 48.

Cabbage: Kranti, Golden Acaire Pride of India, Coppen Market.

Raddish: Pusa Hemadri, White ICL, Japanees White, Pusa Rashmi , Pusa Chetaki.

Brinjal: Guj. Brinjal-6, P.L.R. 1, Junagadh Lambagoal, Mahicco- 11, 16.

Maharashtra

Irrigated gram: Vikas, Vishwas, Phule G-12, Vijay, Vishal or Virat varieties for Madhya Maharashtra.

Rainfed gram: Akash, Vikas, Vishwas for Madhya Maharashtra.

Irrigated gram: Vishal and Dig Vijay variety for Marathwada region and Jaki-9218, Chafa-816, Vijay, Kabuli Harbhara for East Vidarbha.

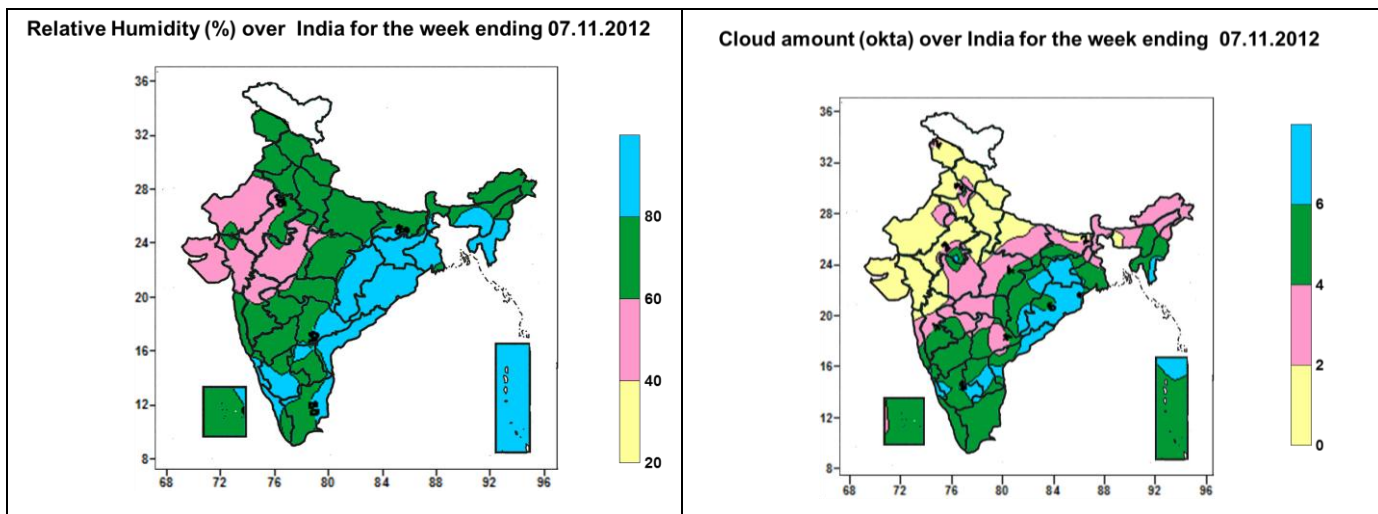
Rainfed wheat: Panchvati, N-5439 or N-8223 for Pune region.

Irrigated Wheat: NIAW-301, NIAW-917, MACS-6122 and NIDW-295 for Madhya Maharashtra and HD-2189, AKW-1071, AKW-3722, MACS-2496 or MACS-2846 for East Vidarbha.

Water Melon: Sugar baby.

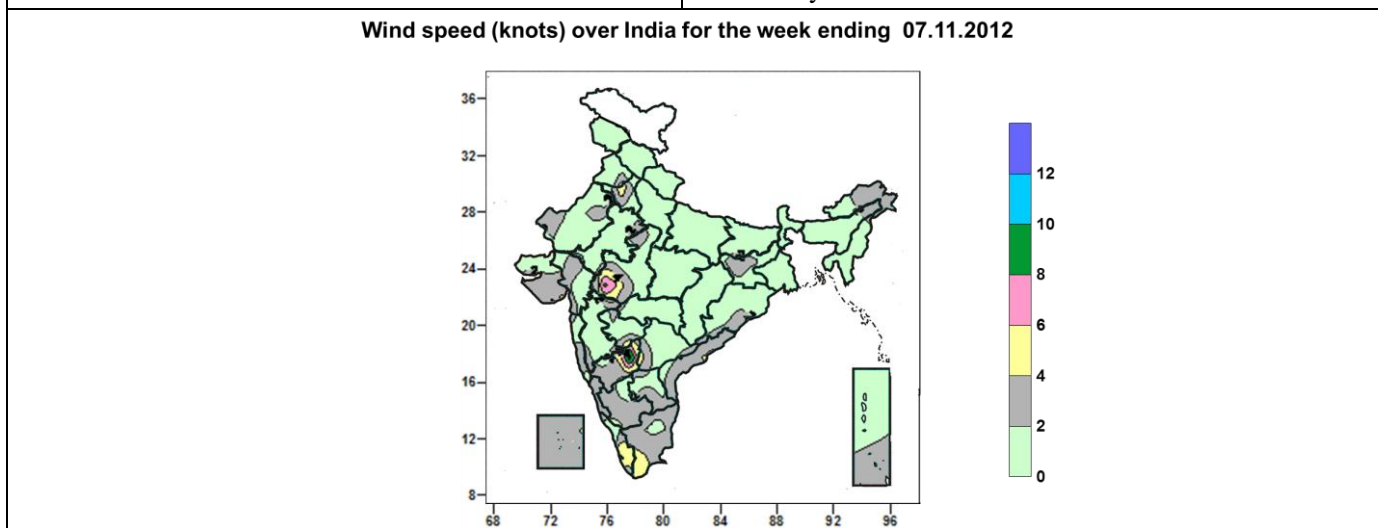
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 07.11.2012



Relative humidity ranged between 60 to 80 % over most parts of Jharkhand, Gangetic West Bengal, Assam, Manipur, Mizoram, Tripura, Chattisgarh, Orissa, Coastal Andhra Pradesh, Coastal & South Interior Karnataka, Andaman & Nicobar Islands, some parts of Bihar, Telangana, Raylaseema, Tamil Nadu, Kerala, Lakshadweep Islands, 40 to 60% over many parts of Rajasthan, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, some parts of East Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, 60 to 80 % over remaining parts of the country.

Cloud amount 6 okta and above over most parts of Jharkhand, Orissa, some parts of Tripura, Chattisgarh, Coastal Andhra Pradesh, Raylaseema, Coastal & South Interior Karnataka, Andaman & Nicobar Islands, 4 to 6 okta over many parts of Manipur, Gangetic West Bengal, Chattisgarh, South India, some parts of Assam, Mizoram, Tripura, Orissa, Chattisgarh, Maharashtra, Madhya Pradesh, East Rajasthan, 2 to 4 okta over many parts of East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Madhya Pradesh, Konkan & Goa, Vidarbha, some parts of Himachal Pradesh, Rajasthan, Haryana, Bihar, Gangetic West Bengal, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Telangana, and 0 to 4 okta over remaining parts of the country.



Wind speed ranged between 4 to 8 knots at parts of West Madhya Pradesh, Marathwada, North Interior Karnataka, Konkan & Goa, Coastal Andhra Pradesh, Tamil Nadu, 2 to 4 knots over many parts of Saurashtra & Kutch, Maharashtra (except Vidarbha), South India, Andaman & Nicobar islands, some parts of Punjab, Rajasthan, Bihar, Jharkhand, Arunachal Pradesh, Coastal Orissa, Chattisgarh, Madhya Pradesh, Gujarat, 0 to 2 knots over some parts of Andaman & Nicobar islands, Coastal Andhra Pradesh, Madhya Pradesh and Bihar and most of the parts of Chattisgarh, Jharkhand, West Bengal, U.P, Gujarat, Rajasthan, Punjab, Haryana, Himachal Pradesh, Delhi, Uttarakhand and North

Eastern Region of country.