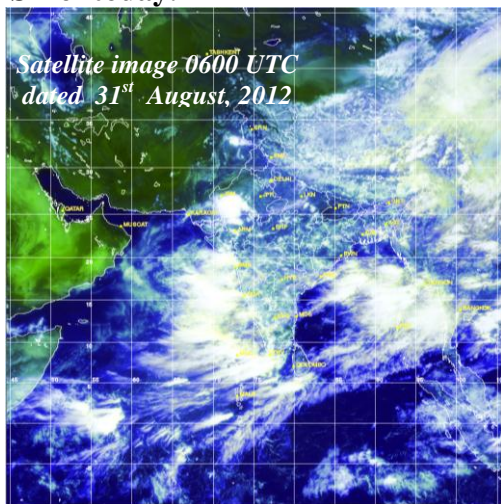


Southwest monsoon has been vigorous over coastal Andhra Pradesh and Kerala and active over Konkan & Goa and coastal & south interior Karnataka during past 24 hours ending at 0830 hours IST of today.



In the following sub-divisions moisture stress condition prevails and as a result, contingent planning has been advised:

- 1. Saurashtra & Kutch:** In North Saurashtra Zone of Gujarat State, where crop failed, farmers are advised to sow semi *rabi* sesame, dual purpose sorghum, castor, gram and ajwan as contingent crops after achieving optimum soil moisture after receiving sufficient rainfall. In Kutch region, farmers are advised to carry out sowing of maize, sorghum, lucerne, bajra, cowpea etc. for green fodder and vegetables like guar, cowpea, bottle gourd, bitter gourd after the receipt of sufficient rainfall. Increase the area under fodder crops.
- 2. Gujarat region:** In North Gujarat Zone, complete sowing of castor, fodder sorghum, maize, sesame and cluster bean utilising rainfall occurred during recent weeks. In Ahmedabad district farmers are advised to complete sowing of castor, after achieving optimum soil moisture after receipt of sufficient rain to protect the crop from the castor semi looper. Carry out sowing of short duration varieties of cluster bean and sorghum
- 3. South Interior Karnataka:** Due to severe dry condition in earlier weeks in Mandya, Chamarajnagar and Mysore districts, late sown crops which suffered from moisture stress and showed withering symptoms, is likely to recover due to receipt of rainfall during last couple of weeks. Farmers are advised to undertake sowing of South African tall and multi cut sorghum for fodder purpose after receipt of sufficient rainfall. Farmers in the Eastern dry zone are advised to take up sowings of short duration finger millet varieties, due to receipt of sufficient rain, upto end of August. Also undertake sowing of South African maize for fodder purpose. Farmers may also undertake sowing of minor millets like foxtail millet and cowpea upto 15th September.
- 4. North Interior Karnataka:** Most of the districts of the region received rain during last week. In North Dry Zone, undertake sowing of sunflower, niger, castor and horse gram during second fortnight of August utilizing recent rainfall. In North Transition zone, undertake sowing of sunflower with realized rainfall. Continue sowing of desi cotton. In North East Dry zone, farmers may undertake sowing of jowar, maize and bajra for fodder purpose. Castor and sunflower may be sown upto end of September and end of October, respectively.
- 5. Madhya Maharashtra:** As Ahmednagar, Dhule, Jalgaon, Pune, Sangli and Satara districts received deficient / scanty rainfall during last week, farmers are advised to undertake moisture conservation practices like mulching, inter-cultural operations and weeding in the crop fields on a non-rainy day.
- 6. Marathwada:** As Aurangabad and Osmanabad districts received insufficient rain during last few weeks, farmers of these districts are advised to undertake moisture conservation practices like mulching, weeding etc. As most of the remaining districts of Marathwada received rain during last week and, farmers are advised to undertake inter-cultural operations like weeding in late sown crops and apply remaining dose of Nitrogen after current spells of rain.



Issued by

National Agrometeorological Advisory Service Centre, Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.

The bulletin is also displayed in the website (<http://www.indagrmet.gov.in>) of the Division

Executive Summary

Significant rainfall occurred over all the districts in East Rajasthan, Gujarat region, Konkan, Vidarbha, Orissa, Sub Himalayan West Bengal & Sikkim, Coastal Karnataka, Kerala, Telangana and Rayalaseema, most of the districts in Arunachal Pradesh, Himachal Pradesh, Haryana, East Madhya Pradesh, West Madhya Pradesh, Chhattisgarh, West Uttar Pradesh, Uttarakhand, North Interior Karnataka and South Interior Karnataka, many districts in Assam, East Uttar Pradesh, Bihar, Jharkhand, West Rajasthan, Marathwada, Gangetic West Bengal, Coastal Andhra Pradesh and over a few districts in Punjab, Jammu & Kashmir, Saurashtra & Kutch, Madhya Maharashtra and Tamil Nadu. Rainfall for the above mentioned States during last week is given in Annexure – I.

Rainfall is likely to occur at most places over Kerala, Coastal Karnataka and Konkan & Goa, many places over South Rajasthan, Gujarat State, North Interior Karnataka, South Interior Karnataka, North Eastern States and Sub Himalayan West Bengal & Sikkim during next three days, North Andhra Pradesh, Chhattisgarh, Madhya Maharashtra and Marathwada during next 48 hours and Uttarakhand, Haryana, Delhi, Uttar Pradesh and Madhya Pradesh during next 24 hours. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these regions. Heavy rainfall would occur at one or two places over Haryana, South Rajasthan, West Uttar Pradesh and Uttarakhand during next 24 hours, South Chhattisgarh, Coastal Andhra Pradesh, Telangana, Konkan and Goa, Coastal Karnataka, Kerala, Gujarat region and North Eastern States during next 48 hours. Farmers in these regions are advised to arrange for adequate drainage in standing crops.

In the following sub-divisions moisture stress condition prevails and as a result, contingent planning has been advised:

7. **Saurashtra & Kutch:** In North Saurashtra Zone of Gujarat State, where crop failed, farmers are advised to sow semi *rabi* sesame, dual purpose sorghum, castor, gram and ajwan as contingent crops after achieving optimum soil moisture after receiving sufficient rainfall. In Kutch region, farmers are advised to carry out sowing of maize, sorghum, lucerne, bajra, cowpea etc. for green fodder and vegetables like guar, cowpea, bottle gourd, bitter gourd after the receipt of sufficient rainfall. Increase the area under fodder crops.
8. **Gujarat region:** In North Gujarat Zone, complete sowing of castor, fodder sorghum, maize, sesame and cluster bean utilising rainfall occurred during recent weeks. In Ahmedabad district farmers are advised to complete sowing of castor, after achieving optimum soil moisture after receipt of sufficient rain to protect the crop from the castor semi looper. Carry out sowing of short duration varieties of cluster bean and sorghum.
9. **South Interior Karnataka:** Due to severe dry condition in earlier weeks in Mandya, Chamarajnagar and Mysore districts, late sown crops which suffered from moisture stress and showed withering symptoms, is likely to recover due to receipt of rainfall during last couple of weeks. Farmers are advised to undertake sowing of South African tall and multi cut sorghum for fodder purpose after receipt of sufficient rainfall. Farmers in the Eastern dry zone are advised to take up sowings of short duration finger millet varieties, due to receipt of sufficient rain, upto end of August. Also undertake sowing of South African maize for fodder purpose. Farmers may also undertake sowing of minor millets like foxtail millet and cowpea upto 15th September.
10. **North Interior Karnataka:** Most of the districts of the region received rain during last week. In North Dry Zone, undertake sowing of sunflower, niger, castor and horse gram during second fortnight of August utilizing recent rainfall. In North Transition zone, undertake sowing of sunflower with realized rainfall. Continue sowing of desi cotton. In North East Dry zone, farmers may undertake sowing of jowar, maize and bajra for fodder purpose. Castor and sunflower may be sown upto end of September and end of October, respectively.
11. **Madhya Maharashtra:** As Ahmednagar, Dhule, Jalgaon, Pune, Sangli and Satara districts received deficient / scanty rainfall during last week, farmers are advised to undertake moisture conservation practices like mulching, intercultural operations and weeding in the crop fields on a non-rainy day.
12. **Marathwada:** As Aurangabad and Osmanabad districts received insufficient rain during last few weeks, farmers of these districts are advised to undertake moisture conservation practices like mulching, weeding etc. As most of the remaining districts of Marathwada received rain during last week and, farmers are advised to undertake intercultural operations like weeding in late sown crops and apply remaining dose of Nitrogen after current spells of rain.

In the following sub-divisions rainfall conditions improved during last 1-2 weeks; however farmers are advised to continue contingent planning:

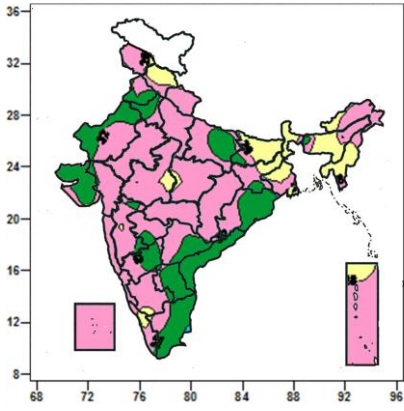
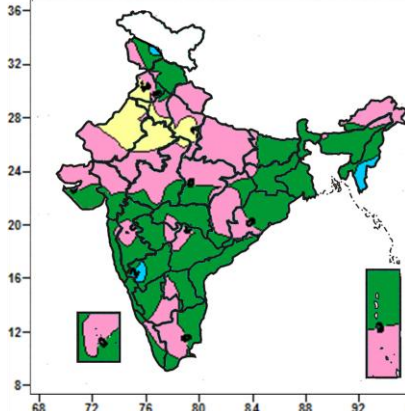
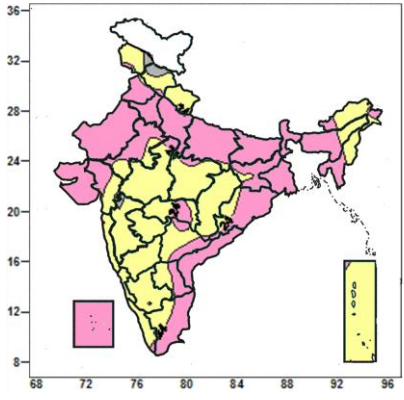
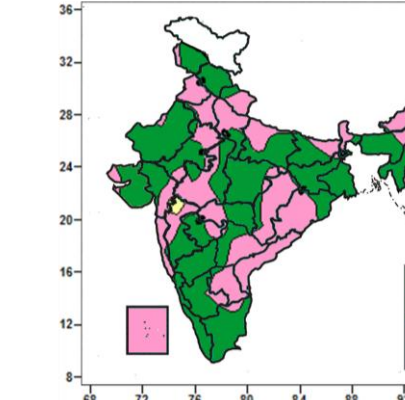
1. **Haryana:** Rainfall occurred in all the districts during last week. Farmers are advised to continue sowing of fodder crops (bajra, jowar, lobia & Sudan grass) in fallow land with the realised and expected rainfall.
2. **Delhi:** Transplanting of tomato, chilli, brinjal and cauliflower is continued. Sowing of coriander, spinach and radish is in progress under irrigated condition as well as utilizing the rainfall during last week.
3. **West Rajasthan:** Good rainfall occurred during last week. As per contingent plan, sowing of carrot, planting of tomato, brinjal, onion, cabbage and chillies continued.

4. **Bihar:** In the upland areas, where rice crop could not be transplanted, farmers can start sowing of September pigeon pea. Farmers are advised to adopt contingent crop planning such as short duration crops (sunflower, maize, urd, bhindi) on upland fields. Sowing of tobacco and vegetables is in progress.

In remaining parts of the country, due to receipt of adequate rainfall in terms of quantity and distribution in relation to agricultural operations as well as water requirements of the crops, sowing of *kharif* crops continued normally and state of the crops are normal, which is stated below:

1. **Rayalaseema:** For late sown groundnut, apply gypsum @ 200kg/hectare to increase the yield. For early sown groundnut, do needful intercultural operations.
2. **East Uttar Pradesh:** Undertake weeding in early sown direct seeded and transplanted rice. Complete sowing of *kharif* crops like jowar, bajra, urad, moong, soybean, groundnut and til.
3. **West Uttar Pradesh:** Undertake weeding, hoeing and top dressing of fertilizers in sugarcane, early sown *kharif* crops and vegetables after current spells of rain.
4. **Nagaland, Manipur, Mizoram & Tripura:** Farmers in Manipur are advised maintain 10-15 cm of water level at vegetative stage of late and short duration varieties of rice. Provide good drainage system to maintain the required amount of water in the field. Undertake sowing of early cauliflower, brinjal and radish in Tripura.
5. **Arunachal Pradesh:** Nursery preparation for early cruciferous crops may be done.
6. **Assam & Meghalaya:** Undertake transplanting of Luit, Kapili, Kolong, Dishang varieties of rice during 1st week of September. In already transplanted rice, replanting of dead hills or gap filling with seedlings of similar age should be done within 7-10 days of transplanting. Undertake sowing of early cauliflower, raddish, green gram, black gram and sesame etc.
7. **Sub Himalayan West Bengal:** Farmers are advised to maintain stagnant water (2 to 3 cm) upto 10 days in rice field after transplanting with the help of rain water. Increase the depth of stagnant water with age of crop. At the time of panicle initiation, maintain 5 to 7 cm water in the field.
8. **Sikkim:** Farmers are advised to maintain 3-4 cm standing water in tillering stage of rice.
9. **Gangetic West Bengal:** Seedbed preparation may be started for sowing of early cauliflower.
10. **Orissa:** Undertake hoeing and weeding in cotton. Undertake sowing of sesame, green gram and black gram in fallow up and medium lands.
11. **Punjab:** Drain out excess water from cotton fields. Continue sowing of vegetables like cauliflower (mid-season variety).
12. **Himachal Pradesh:** Ensure drainage in maize fields and impound water in rice field. Continue nursery sowing of cauliflower. In mid hill region, transplanting of cauliflower may also be undertaken.
13. **Jharkhand:** Farmers are advised to sow til, kulthi, green pea and grow African marigold or French marigold.
14. **Uttarakhand:** Drain out excess water from the crop fields to prevent the root damage of maize, soybean and pulse crops.
15. **Jammu & Kashmir:** Drain out the excess water from field of maize in view of recent rains.
16. **East Rajasthan:** Carry out weeding, hoeing and maintain plant population by thinning in timely sown crops like cluster bean, pearl millet, sesame, moong and groundnut on a non rainy day. Drain out excess water from field of maize, soybean and bajra in view of recent heavy rains.
17. **East Madhya Pradesh:** Drain out excess water from rice and maize field.
18. **West Madhya Pradesh:** Drain out water from rice and maize.
19. **Vidarbha:** Farmers are advised to maintain 5 cm water level in already transplanted rice field.
20. **Chhattisgarh:** At present rice crop is at tillering stage, farmers are advised for second dose of fertilizer application at tillering stage of rice for healthy tillers.
21. **Konkan:** Farmers are advised to maintain 5 cm water level in already transplanted rice field and complete earthing up in 35 to 40 days old groundnut.
22. **Coastal Andhra Pradesh:** Take up sowing of medium duration varieties of rice and pulses. If excess moisture situation exists in early sown pulses, maize and other vegetables, farmers are advised to undertake spraying of 2% urea. Due to non release of canal water in Krishna and Guntur districts, transplanting are still not under progress. If canal water is not released upto September, farmers are advised to undertake contingent crops like greengram, blackgram, *rabi* redgram, jowar and maize.
23. **Telangana:** Farmers are advised to undertake direct of seeding of rice under puddled conditions using drum seeder or broadcasting using sprouted seed of short duration varieties by the end of August.
24. **Tamil Nadu:** Undertake nursery sowing of *samba* rice.
25. **Coastal Karnataka:** Drain out excess water in rice fields.
26. **Kerala:** Undertake second top dressing of fertilisers in rice.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 29.08.2012

<p>Actual Mean Maximum Temperature (°C) in India for the week ending 29.8.2012</p> 	<p>Maximum Temperature (°C) Anomaly in India for the week ending 29.8.2012</p> 
<p>Actual Mean Maximum temperature ranged between 32 to 36⁰C over most parts of Haryana, Delhi, West Rajasthan, Saurashtra & Kutch, Coastal Orissa, Coastal Andhra Pradesh, Raylaseema, Tamil Nadu, some parts of Punjab, East Uttar Pradesh, Bihar, Jharkhand, Telangana, Gujarat, South & North Interior Karnataka, 24 to 28⁰C over most parts of Himachal Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Manipur, Mizoram, Tripura, some parts of Jammu & Kashmir, Gangetic West Benhal, Arunachal Pradesh, Manipur, Madhya Pradesh, North Interior Karnataka, Kerla and between 28 to 32⁰C over remaining parts of the country.</p>	<p>Actual Mean Maximum temperature anomaly ranged between 2 to 4⁰C and above over some parts of Jammu & Kashmir, Mizoram, Tripura, North Interior Karnataka, -4 to -2⁰C over most parts of Rajasthan, some parts of Punjab, Haryana, Delhi, West Uttar Pradesh, West Madhya Pradesh, -2 to 2⁰C over rest of the country.</p>
<p>Actual Mean Minimum Temperature (°C) in India for the week ending 29.8.2012</p> 	<p>Minimum Temperature (°C) Anomaly in India for the week ending 29.8.2012</p> 
<p>Actual Mean Minimum Temperature ranged between 24⁰C and above over many parts of Northwest India (except Jammu & Kashmir, Himachal Pradesh), East and Assam, Tripura, Gujarat, Saurashtra & Kutch, Coastal Andhra Pradesh, Rayalaseema, Coastal Tamil Nadu, Lakshadweep Islands, some parts of Jammu & Kashmir, Madhya Pradesh Vidarbha, Telangana, Kerala, 16 to 20⁰C over some parts of Jammu & Kashmir, Himachal Pradesh and between 20 to 24⁰C over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged between 0 to 2⁰C over most parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, East Madhya Pradesh, East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Assam, Mizoram, Tripura, Vidarbha, West India(except Konkan & Goa), South India (except Andhra Pradesh), some parts of Uttarakhand, West Uttar Pradesh, Sub-Himalyan West Bengal, Manipur, Orissa, Telangana, Raylaseema, Konkan, West Madhya Pradesh, Andaman & Nicobar Islands, below 0⁰C over remaining parts of the country.</p>

Distribution of rainfall of the country during week ending on 29.08.2012

State/Districts	Actual	% Dep
Arunachal Pradesh		
Anjaw	**	**
Changlang	29.9	-41
East Kameng	50.0	12
East Siang	47.0	-27
Kurung Kumey	120.4	-15
Lohit	**	**
Lower Dibang Valley	37.0	-59
Lower Subansiri	**	**
Papumpara	39.0	-22
Tawang	194.1	63
Tirap	86.0	-23
Upper Dibang Valley	46.8	-61
Upper Siang	105.9	7
Upper Subansiri	139.0	208
West Kameng	204.2	84
West Siang	46.0	-33
Assam		
Baksa	17.6	-88
Barpeta	40.1	-72
Bongaigaon	32.4	-76
Cachar	178.3	86
Chirang	34.5	-75
Darrang	6.0	-90
Dhemaji	79.0	-22
Dhubri	108.7	-4
Dibrugarh	39.5	-52
East Garo Hills	13.0	-83
East Khasi Hills	63.0	-73
Goalpara	38.5	-61
Golghat	33.5	-48
Hailakandi	119.8	67
Jaintia Hills	25.0	-90
Jorhat	17.1	-77
Kamrup(Metro)	62.5	11
Kamrup	14.6	-74
Karbi Analog	82.5	72
Karimganj	131.8	59
Kokrajhar	77.9	-57
Lakhimpur	96.3	-5
Morigaon	72.6	22
N.C.Hills	9.1	-82
Nowgong	63.4	-10
Nalbari	24.5	-67
Ribhoi	100.2	25
Sonitpur	116.1	49
Sibsagar	23.0	-68
South Garo Hills	62.0	-27
Tinsukia	8.7	-89
Udalgiri	136.8	133
West Garo Hills	67.3	-21
West Khasi Hills	**	**
Himachal Pradesh		
Bilaspur	77.6	44
Chamba	96.2	78
Hamirpur	91.2	16
Kangra	191.9	102
Kinnaur	12.4	39
Kullu	42.1	54

State/Districts	Actual	% Dep
Lahaul and Spiti	14.4	-49
Mandi	98.8	61
Shimla	79.8	151
Sirmaur	140.4	44
Solan	133.6	128
Una	101.9	79
Punjab		
Amritsar	71.3	137
Barnala	26.1	-9
Bhatinda	42.6	136
Faridkot	5.5	-65
Fatehgarh Saheb	4.0	-83
Ferozpur	6.3	-60
Gurdaspur	118.1	167
Hoshiarpur	22.3	-45
Jalandhar	41.4	32
Kapurthala	36.6	120
Ludhiana	21.7	-27
Mansa	1.8	-88
Moga	14.5	-27
Muktesar	0.0	-100
Nawashahar	30.5	-39
Patiala	31.8	-8
Ropar	126.5	260
Sangrur	18.8	-34
Mohali	22.5	-35
TarnTaran	6.0	-80
Haryana		
Ambala	104.0	140
Bhiwani	49.2	90
Chandigarh	55.6	19
Faridabad	36.0	23
Fatehabad	19.8	23
Gurgaon	126.3	260
Hissar	25.7	37
Jhajar	65.2	156
Jind	54.1	85
Katihah	26.6	-4
Karnal	186.4	256
Kurukshetra	40.5	20
Mahendragarh	90.0	207
Mewat	75.4	114
Palwal	53.4	82
Panchkkula	82.3	32
Panipat	103.7	162
Rewari	90.5	163
Rohtak	68.8	111
Sirsa	52.1	216
Sonepat	108.2	192
Yamunanagar	169.2	210
New Delhi	108.2	148
Jammu & Kashmir		
Anantnag	12.6	-12
Badgam	11.4	23
Bandipore	**	**
Baramula	22.8	51
Doda	23.0	35
Ganderwal	5.4	-47
Jammu	82.3	52
Kargil	0.0	-100
Kathua	98.0	64

State/Districts	Actual	% Dep
Kistwar	**	**
Kulgam	3.2	-78
Kupwara	32.9	243
Ladakh(Leh)	0.1	-94
Poonch	0.0	-100
Pulwama	34.7	185
Rajouri	57.5	28
Ramban	8.2	-52
Reasi	105.9	37
Samba	79.9	48
Shopian	0.0	-100
Srinagar	5.2	-49
Udhampur	87.4	13
East Madhya Pradesh		
Anuppur	48.2	-39
Balaghat	87.1	5
Chhatarpur	71.1	2
Chindwara	33.2	-42
Damoh	41.3	-44
Dindori	29.8	-59
Jabalpur	108.5	23
Katni	23.5	-70
Mandla	93.9	10
Narsingpur	46.7	-29
Panna	36.7	-52
Rewa	125.0	101
Sagar	88.8	14
Satna	57.9	4
Seoni	66.7	6
Shahdol	24.0	-62
Sidhi	341.0	413
Singrauli	149.1	195
Tikamgarh	54.5	-9
Umaria	67.1	-13
West Madhya Pradesh		
Alirajpur	34.4	-50
Asoknagar	37.3	-40
Badwani	16.2	-65
Betul	32.0	-37
Bhind	54.1	12
Bhopal	54.0	-21
Burhanpur	56.2	-12
Datia	44.1	-5
Dewas	36.1	-45
Dhar	47.9	-13
Guna	19.1	-75
Gwalior	29.7	-41
Harda	26.8	-59
Hosangabad	34.6	-62
Indore	47.8	-13
Jhabua	36.9	-37
Khandwa	12.3	-78
Khargone	9.1	-83
Mandsaur	35.3	-26
Morena	59.1	23
Neemuch	51.0	4
Raisen	42.4	-47
Rajgarh	17.1	-73
Ratlam	35.1	-44
Sehore	52.8	-32
Shajapur	37.8	-27

State/Districts	Actual	% Dep
Sheopur Kalani	93.9	110
Shivpuri	51.8	0
Ujjain	32.3	-47
Vidisha	92.8	13
Chattisgarh		
Bastar	91.0	28
Bijapur	42.6	-52
Bilaspur	85.5	41
Dantewara	50.3	-31
Dhamtari	7.6	-87
Durg	32.2	-47
Janjgir	27.7	-62
Jashpurnagar	45.9	-45
Kanker	49.7	-40
Korba	31.1	-56
Koriya	66.9	3
Kawardha	52.0	-12
Mahasumund	24.5	-61
Narayanpur	134.6	72
Raigarh	58.5	-1
Raipur	49.8	-14
Rajandgaon	48.9	-30
Surguja	32.2	-56
East Uttar Pradesh		
Allahabad	40.0	-31
Ambedkar Nagar	72.6	34
Azamgarh	90.4	44
Bahraich	96.4	42
Ballia	31.9	-44
Balrampur	199.1	160
Banda	23.0	-62
Barabanki	89.8	50
Basti	116.6	95
Chandauli	12.0	-77
Deoria	36.0	-44
Faizabad	59.1	-4
Farrukhabad	36.2	-40
Fatehpur	82.2	48
Gazipur	29.6	-48
Gonda	51.8	-24
Gorakhpur	85.9	26
Hardoi	95.5	55
Jaunpur	33.4	-47
Kannauj	91.0	35
Kanpur City	21.8	-59
Kanpur Dehat	64.3	7
Kaushambi	14.8	-74
Kheri	85.2	23
Kushi nagar	24.5	-68
Lucknow	76.5	43
Maharajganj	28.1	-63
Mau	11.5	-85
Mirzapur	104.3	82
Pratapgarh	46.8	-31
RaiBareilly	60.7	12
Sahuji		
Maharajnagar	83.0	18
Sant Kabirnnagar	92.0	44
Sant Ravidas Nagar	15.0	-72
Shrawasti	141.4	109
Sidharthnagar	166.5	139
Sitapur	70.3	6

State/Districts	Actual	% Dep
Sonbhadra	15.9	-72
Sultanpur	91.1	41
Unnao	43.0	-26
Varanasi	17.0	-72
West Uttar Pradesh		
Agra	70.1	22
Aligarh	60.9	0
Auraiya	86.3	65
Badaun	49.1	-34
Baghpat	98.3	96
Bareilly	103.1	34
Bijnor	33.3	-56
Bulandsahar	52.0	-15
Etah	47.7	-11
Etawah	81.9	58
Firozabad	51.7	-5
GBNagar	72.0	73
Ghaziabad	76.8	22
Hamirpur	48.4	-17
Jalaun	79.1	45
Jhansi	42.3	-24
Jotirba Phule Nagar	36.3	-52
Kanshiramnagar	30.4	-57
Lalitpur	60.0	-21
Mahamaya Nagar	122.2	144
Mahoba	25.8	-53
Mainpuri	37.5	-17
Mathura	65.9	29
Meerut	52.0	-21
Moradabad	66.3	-7
Muzzaffarnagar	91.3	76
Pilibhit	62.8	-24
Rampur	62.5	-19
Saharanpur	160.3	186
Shahjahanpur	75.1	-4
Uttarakhand		
Almora	27.3	-46
Bageshwar	43.0	-14
Chamoli	48.5	-9
Champawat	99.0	14
Dehradun	95.8	-26
Garhwal Pauri	77.7	-10
Garhwal Tehri	116.7	76
Haridwar	93.6	25
Nainital	54.7	-47
Pithorgarh	44.1	-57
Rudraprayag	77.4	-35
Udham Sing Nagar	41.4	-53
Uttarkashi	103.1	35
Bihar		
Araria	21.7	-77
Arwal	46.5	-11
Aurangabad	42.2	-29
Banka	11.5	-77
Begusarai	13.5	-74
Bhabua	49.6	-30
Bhagalpur	42.4	-23
Bhojpur	37.8	-42
Buxar	38.3	-26
Darbhanga	52.0	-22
East Champaran	55.1	-27

State/Districts	Actual	% Dep
Gaya	40.9	-34
Gopalganj	48.2	-27
Jahanabad	54.8	15
Jamui	5.5	-90
Kathihar	42.3	-41
Khagadia	49.5	-25
Kishanganj	35.6	-65
Lakhisarai	3.0	-96
Madhepura	52.3	-32
Madhubani	55.8	-16
Monghyar	21.3	-68
Muzaffarpur	68.9	-9
Nalanda	25.3	-57
Nawada	63.0	30
Patna	45.8	-27
Purnea	17.0	-77
Rohtas	39.0	-36
Saharsha	7.6	-90
Samstipur	28.3	-50
Saran	20.1	-72
Sheikpura	12.4	-76
Sheohar	21.0	-74
Sitamarhi	77.5	-3
Siwan	44.3	-34
Supaul	75.9	-4
Vaishali	85.9	38
West Champaran	41.1	-59
Jharkhand		
Bokaro	4.8	-92
Chatra	51.5	-15
Deoghar	73.5	44
Dhanbad	33.6	-47
Dumka	40.3	-33
East Singbhum	31.0	-54
Garhwa	35.0	-40
Giridih	17.3	-70
Godda	4.9	-90
Gumla	75.9	8
Hazaribagh	37.7	-32
Jamtara	43.5	-25
Khunti	19.1	-74
Koderna	36.0	-23
Latehar	9.8	-85
Lohardagga	36.6	-33
Pakur	78.7	27
Palamau	27.8	-55
Ramgarh	32.2	-42
Ranchi	8.4	-89
Sahebganj	102.2	85
Saraikela	29.5	-55
Simdega	59.1	-28
West Singbhum	22.7	-65
East Rajasthan		
Ajmer	39.6	36
Alwar	124.8	188
Banswara	45.1	-29
Baran	63.7	19
Bharatpur	144.5	188
Bhilwara	44.5	11
Bundi	40.0	2
Chittorgarh	55.5	-2
Dausa	169.9	321
Dholpur	112.3	141

State/Districts	Actual	% Dep
Dungarpur	44.8	-5
Jaipur	107.4	161
Jhalawar	32.7	-49
Jhunjhunu	114.5	242
Karauli	100.9	159
Kota	33.8	-31
Pratapgarh	76.6	40
Rajsamand	59.1	43
Sawai Madhopur	74.6	66
Sikar	251.6	696
Sirohi	54.1	-7
Tonk	61.9	70
Daipur	50.8	18
West Rajasthan		
Barmer	18.8	16
Bikaner	49.8	227
Churu	120.5	378
Hanumangarh	26.8	88
Jaisalmer	12.7	36
Jalore	8.5	-64
Jodhpur	26.6	33
Nagaur	135.0	367
Pali	43.3	37
Sri Ganganagar	35.8	235
Gujarat Region		
Ahmedabad	37.2	5
Anand	62.4	21
Banaskantha	19.4	-47
Baroda	41.5	-35
Broach	11.6	-74
DNH	141.9	8
Dahod	41.4	-31
Daman	31.6	-76
Dangs	130.0	3
Gandhinagar	88.0	140
Khed	59.3	21
Mehsana	32.2	-23
Narmada	57.2	-17
Navsari	51.0	-47
Panchmahal	51.1	-21
Patan	9.9	-70
Sabarkantha	36.6	-25
Surat	29.2	-57
Tapi	38.2	-60
Valsad	75.4	-24
Saurashtra, Kutch & Diu region		
Amreli	23.7	-11
Bhavnagar	41.0	18
Diu	11.2	-28
Jamnagar	18.1	-18
Junagarh	39.1	43
Kutch	8.3	-60
Porbandar	7.7	-59
Rajkot	20.5	-30
Surendranagar	5.2	-85
Maharashtra		
Konkan & Goa		
Goa	223.9	120
Mumbai	148.3	36
Raigad	231.5	43
Ratnagiri	312.5	102

State/Districts	Actual	% Dep
Sindhudurg	288.1	113
Thane	181.2	46
Madhya Maharashtra		
Ahmednagar	13.0	-44
Dhule	15.6	-45
Jalgaon	15.9	-60
Kolhapur	82.5	8
Nandurbar	33.0	-36
Nasik	60.6	23
Pune	13.8	-63
Sangli	6.2	-70
Satara	19.5	-33
Solapur	18.9	-22
Marathwada		
Aurangabad	17.0	-54
Beed	44.8	44
Hingoli	63.6	26
Jalna	31.5	-16
Latur	79.3	73
Nanded	37.6	-24
Usmanabad	16.0	-58
Parbhani	37.1	-28
Vidarbha		
Akola	34.0	-15
Amraoti	39.3	-12
Bhandara	137.1	93
Buldhana	32.8	-20
Chandrapur	102.4	39
Gadchiroli	108.6	34
Gondia	63.8	-25
Nagpur	45.4	-17
Wardha	12.8	-76
Washim	67.2	61
Yeotmal	26.5	-50
Orissa		
Angul	70.9	-9
Balasore	27.1	-63
Bargarh	41.7	-39
Bhadrak	23.7	-69
Bolangir	58.9	-25
Boudh	48.4	-40
Cuttack	51.9	-30
Deogarh	62.7	-21
Dhenkanal	77.3	-2
Gajapati	31.0	-44
Ganjam	59.3	9
Jagatsingpur	25.9	-62
Jajpur	13.0	-85
Jharsuguda	145.7	102
Kalahandi	26.9	-62
Kandhamal	83.9	4
Kendrapara	13.5	-82
Keonjhar	83.7	30
Khurda	42.6	-40
Koraput	42.9	-46
Malkangiri	87.4	5
Mayurbhanj	53.0	-28
Nawapara	38.4	-35
Nawarangpur	55.9	-35
Nayagarh	45.6	-33
Puri	32.4	-48
Rayagada	38.6	-33
Sambalpur	138.1	74

State/Districts	Actual	% Dep
Sonepur	61.5	-26
Sundargarh	120.5	71
West Bengal		
GWB		
Bankura	33.1	-46
Birbhum	13.7	-78
Burdwan	18.1	-68
East Midnapore	32.4	-60
Hooghly	22.1	-61
Howrah	22.1	-57
Kolkata	37.0	-50
Murshidabad	20.6	-61
Nadia	11.9	-74
24 Pargana (N)	35.2	-43
Purulia	38.0	-45
24 Pargana (S)	67.9	-28
West Midnapore	33.4	-51
SHWB		
Cooch Behar	169.1	4
Darjeeling	154.1	-3
East Sikkim	64.3	-33
Jalpaiguri	159.0	0
Malda	33.1	-50
North Dinajpur	15.9	-73
North Sikkim	61.7	-43
South Dinajpur	65.9	2
South Sikkim	51.8	-46
West Sikkim	116.0	8
Karnataka		
Coastal Karnataka		
Dakshin Kannada	302.4	116
Udupi	359.4	131
Uttar Kannada	179.1	73
North Interior Karnataka		
Bagalkote	31.9	104
Belgaum	19.7	-4
Bidar	63.6	38
Bijapur	39.4	79
Dharwad	8.2	-55
Gadag	35.2	90
Gulbarga	64.0	74
Haveri	9.7	-49
Koppal	44.1	86
Raichur	57.6	124
Yadgir	48.6	51
South Interior Karnataka		
Bangalore Rural	97.5	257
Bangalore Urban	90.4	225
Bellary	67.5	203
Chamarajnar	24.6	52
Chichballapur	62.6	160
Chickmagalur	110.0	78
Chitradurga	104.4	625
Davangere	68.5	274
Hassan	52.4	151
Kodagu	99.4	19
Kolar	63.5	211
Mandya	26.9	92
Mysore	28.3	115
Ramnagara	40.9	58
Shimoga	102.7	65
Tumkur	117.0	536

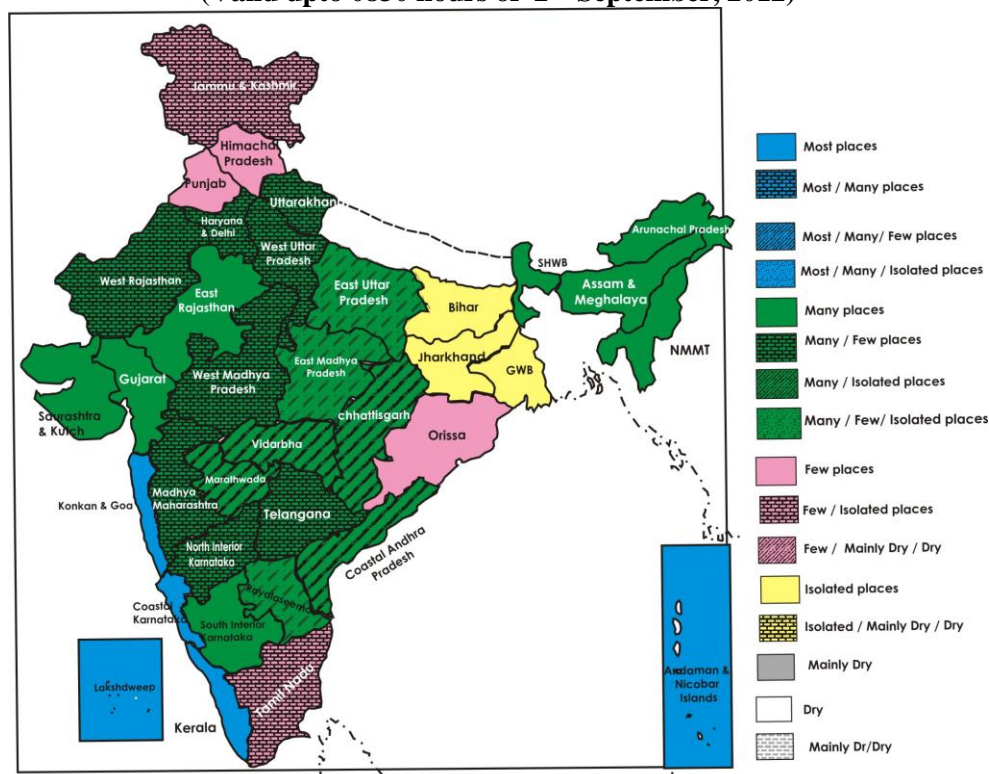
State/Districts	Actual	% Dep
Kerala		
Alappuzha	116.3	54
Kannur	190.1	97
Ernakulam	104.5	45
Idukki	127.1	37
Kasaragod	301.9	177
Kollam	57.2	-8
Kottayam	76.1	-4
Kozhikode	170.8	111
Malappuram	141.9	104
Palakkad	93.2	58
Pathanamthitta	59.7	-23
Thiruvananthapuram	30.2	-3
Thrissur	150.0	96
Wyanad	67.2	-31
Tamil Nadu		
Ariyalur	46.6	9
Chennai	34.2	-1
Coimbatore	14.2	20
Cuddalore	4.8	-88
Dharmapuri	67.0	137
Dindigul	29.8	53
Erode	18.2	1
Kanchipuram	41.5	-1
Kanyakumari	5.7	-62
Karikal	0.0	-100

State/Districts	Actual	% Dep
Karur	19.5	2
Krishnagiri	58.3	123
Madurai	18.1	-30
Nagapattinam	7.8	-72
Namakkal	14.0	-50
Nilgiris	54.7	60
Perambalur	7.5	-74
Puducherry	18.5	-39
Pudukottai	16.5	-51
Ramanathapuram	10.3	-34
Salem	56.1	59
Sivaganga	25.0	1
Thanjavur	14.9	-53
Theni	27.8	252
Tirunelveli	2.2	-63
Tirupur	40.6	310
Tiruvallur	42.2	25
Tiruvannamalai	49.7	36
Tiruvarur	5.8	-78
Toothukudi	0.4	-92
Trichy	26.7	-1
Vellore	26.7	-18
Villupuram	70.7	80
Virudhunagar	7.3	-51

Andhra Pradesh		
Coastal Andhra Pradesh		
State/Districts	Actual	% Dep
East Godavari	28.5	-29
Guntur	26.2	-31
Krishna	47.6	16
Nellore	28.0	41
Prakasam	33.0	22
Sirkakulam	45.4	-5
Visakhapatnam	38.7	-4
Vizianagram	60.2	21
West Godavari	38.3	-15
Telangana		
Adilabad	51.9	0
Hyderabad	81.0	133
Karimnagar	48.8	19
Khammam	70.3	43
Mehabubnagar	51.5	52
Medak	54.0	43
Nalgonda	37.4	14
Nizamabad	40.0	-26
Rangareddy	66.9	94
Warangal	66.0	51
Rayalaseema		
Anantapur	98.2	406
Chittoor	51.2	97
Cuddapah	50.3	102
Kurnool	84.2	199

	(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 2nd September, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 02nd September, 2012

- Rain/thundershowers would occur at most places over west coast, Andaman & Nicobar Islands and Lakshadweep.
- Rain/thundershowers would occur at many places over Uttarakhand, Haryana (Delhi & Chandigarh), Uttar Pradesh and Madhya Pradesh during next 24 hours and decrease thereafter.
- Rain/thundershowers would occur at many places over south Rajasthan, Gujarat state, interior Karnataka, northeastern states and Sub-Himalayan west Bengal & Sikkim.
- Rain/thundershowers would occur at many places over north Andhra Pradesh, Chhattisgarh and interior Maharashtra during next 48 hours.
- Rain/thundershowers would occur at a few places over rest parts of the country outside Bihar, Jharkhand and Gangetic West Bengal where it would be at one or two places.

Weather Warning during next 3 days

- Heavy rainfall would occur at one or two places over Haryana, south Rajasthan, west Uttar Pradesh and Uttarakhand during next 24 hours.
- Heavy rainfall would occur at one or two places over south Chhattisgarh, coastal Andhra Pradesh, Telangana, Konkan & Goa, coastal Karnataka, Kerala, Gujarat region and northeastern states during next 48 hours.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 06th September, 2012

- Rainfall would occur at many places over west coast and northeastern states with heavy falls at one or two places.
- Rainfall would occur at many places over western Himalayan region, north Andhra Pradesh, Madhya Maharashtra, Marathawada and central India.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** All districts of Arunachal Pradesh and all districts in Assam except Baksa, Darrang, East Garo Hills, Jaintia Hills, Kamrup, N.C.Hills, Tinsukia, Nalbari and Jorhat received significant rainfall during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the States of the region during the period.
- **Warning:** Heavy rainfall would occur at one or two places over North Eastern States during next 48 hours.
- **Advisories:**
 - As most of the districts of the States of the region received rainfall during last week and rain is also likely to occur at many places during the period, farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures to the crops. Farmers are advised to provide adequate drainage facilities in the standing crops to avoid waterlogging in view of occurrence of heavy rainfall.
 - Farmers in the areas where flood water has been receded, are advised to raise community nursery for late transplanting with old seedlings of the varieties like Profulla and Gitesh (if more than 50% area damaged) or nursery raising of the photo insensitive short duration variety like Luit for re-transplanting (in case of total damage). Farmers may also transplant traditional varieties of *sali* rice up to the end of August. Adopt submergence tolerance varieties like Jalashree and Jalkuwari for repeatedly flood prone areas.
 - In flood affected areas of Hill Zone of Assam, the short duration varieties of rice like Luit, Kapilee, Dichang etc. can be sown directly in puddled fields with sprouted seeds up to middle of September. Farmers can also sow sesame in August or green gram and black gram up to mid-September in medium and upland situation. Farmers can also raise community nursery, if individual farmer does not have suitable land for nursery due to inundation by flood water.
 - Farmers in Hill Zone and Lower Brahmaputra valley Zone of Assam are advised to continue transplanting of *sali* rice and gap filling with seedlings of *sali* rice within 7-10 days of transplanting. Farmers are also advised to undertake land preparation and sowing of black gram and green gram and transplanting of cauliflower.
 - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to transplant *sali* rice and apply the remaining part of recommended dose of urea for long duration varieties (120-150 days). Farmers are also advised to sow sesame.
 - Farmers in North Bank Plain Zone of Assam are advised to continue land preparation and sowing of green gram, black gram, early cauliflower and radish.
 - Farmers in Central Brahmaputra Valley Zone are advised to undertake sowing of black gram and intercultural operation of *kharif* sesame and arhar. Harvesting of *Olitorius* jute may be continued.
 - Farmers in Barak Valley Zone of Assam are advised to sow *Dolichos* bean and nursery sowing of early cauliflower. Select upland sandy loam soil for the cultivation of *Dolichos* bean (locally known as sheem). Farmers are also advised to undertake sowing of *kharif* sesamum under upland situation.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest matured black gram and green gram. Farmers are also advised to undertake nursery sowing of early cauliflower and cabbage.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to continue land preparation and sowing of black gram and nursery sowing of tomato and cole crops and undertake harvesting of okra, bean, cowpea etc. Also undertake hand weeding and earthing up in groundnut and soybean.
 - In Mild Tropical Hill Zone of Nagaland farmers are advised to harvest matured maize cob, cucumber, cowpea and beans. Remove the weeds around papaya plants.
 - Farmers in Sub Tropical Plain Zone of Manipur are advised to maintain 8-10 cm of water level in the rice fields at tillering stage, Top dressing may be done by applying 33kg Urea/ha at 25–30 days after transplanting. Continue land preparation for nursery sowing of cauliflower and cabbage. Undertake land preparation and sowing of black gram, French bean and broad bean.

- In Temperate Sub Alpine Zone of Meghalaya, farmers are advised to undertake nursery raising of cole crops. Water level may be maintained at 2-5cm in *ahu* rice fields and weeding followed by top dressing of urea @43kg/ha may be done.
- In Mild Tropical Plain Zone of Tripura, farmers are advised for nursery sowing of cauliflower, brinjal and sowing of radish and planting of banana may be done.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In Hill zone of Assam, infestation of rice hispa in *sali* rice at tillering stage may occur; Spraying with Quinolphos @ 2 teaspoonful /5 lits of water may be done if the infestation is noticed.
- In Lower Brahmaputra Valley Zone of Assam, attack of Hispa as well as leaf folder has been noticed in some parts. When there is one damaged leaf per hill due to attack of leaf folder or appearance of one adult hispa per hill is observed, farmers are advised to spray Chloropyriphos 20 EC or Monocrotophos 40EC @ 1.5ml per liter of water.
- In Mild Tropical Plain Zone of Tripura, due to prevailing weather conditions, there is chance of attack of sheath blight in upland rice. To control sheath blight, Bavistin 50 WP @ 1 g per liter of water may be applied.
- In Sub Tropical Hill zone of Arunachal Pradesh, stem borer may infest citrus plants; apply a paste made by mixing lime, water and 5% Malathion dust on the stems of the plants up to a height of about 1 m from the ground. Fruit drop also has been reported from different corners. For management spray a combination of GA 10 ppm + Carbendazim 0.1 % + 1 % Urea.
- In Sub Tropical Hill zone of Arunachal Pradesh, cases of attack of scary beetle in banana has been reported. Installation of light traps and hand collection of adults is advised.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In North Bank Plain Zone of Assam and Sub Tropical Plain Zone of Manipur, farmers are advised to vaccinate cattle and buffaloes against FMD, HS and BQ, pigs against swine fever. Farmers are advised to vaccinate poultry against Ranikhet and coccidiosis. Deworm goat and sheep against Fascioliasis and vaccinate against H.S.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to deworm cattle against Fascioliasis, vaccinate poultry against Ranikhet and Coccidiosis, deworm pig and vaccinate against swine fever.
 - Farmers in Sub Tropical Plain Zone of Manipur are advised to vaccinate poultry against Ranikhet and Coccidiosis.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to provide clean drinking water to the birds, vaccinate poultry against Ranikhet and apply ointment (like Himex-Topical application) to goat and sheep against wound and infection.
- **Pisiculture**
 - Farmers in Upper Brahmaputra Valley of Assam are advised to feed mustard, rice polish etc. to fish. Well sieved lime, free of pebbles can also be applied to the fish ponds. Application of urea which will enhance the algal growth and eventually become feed for the fishes can also be practiced.
 - Farmers in Manipur, Mizoram are advised to maintain 1.0-1.5m water depth in fish ponds.

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

- **Realised Rainfall:** Significant rainfall occurred in all of the districts of Orissa (except Jajpur, Kendrapara, Jagatsinhpur and Balasore), Gangetic West Bengal, (except Birbhum, Burdwan, Hooghly, Howrah, Nadia and Murshidabad), Sub Himalayan West Bengal, Sikkim (except North Dinajpur), Jharkhand (except Bokaro, Godda, Giridih, Khunti, Latehar, Ranchi, West Singhbhum) and Bihar (except Araria, Banka, Begusarai, Jamui, Lakhisarai, Purnea, Saharsa and Sheohar) during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Sub Himalayan West Bengal and Sikkim, at a few places over Orissa and isolated places over Jharkhand, Gangetic West Bengal and Bihar.
- **Advisories:**
 - As there was significant rainfall in all of the districts of Orissa (except Jajpur, Kendrapara, Jagatsinhpur and Balasore), Gangetic West Bengal, (except Birbhum, Burdwan, Hooghly, Howrah, Nadia and Murshidabad), Sub Himalayan West Bengal, Sikkim (except North Dinajpur), Jharkhand (except

Bokaro, Godda, Giridih, Khunti, Latehar, Ranchi, West Singhbhum) and Bihar (except Araria, Banka, Begusarai, Jamui, Lakhisarai, Purnea, Saharsa, Sheohar) during last week in the States of the region, farmers are advised to postpone irrigation to the standing crops. As rain is also likely to occur at many places over Sub Himalayan West Bengal and Sikkim, farmers are advised to postpone intercultural operation and application of fertilizers and plant protection measures.

- In Bihar, in the upland areas, where paddy crop could not be transplanted, farmers can start sowing of September pigeon pea, utilizing recent monsoon rainfall. Farmers are also advised to adopt contingent crop planning such as short duration crops (sunflower, maize, urad, bhindi) on upland fields. Sowing of tobacco and vegetables may also be undertaken. Weather is congenial for planting of onion, mango, litchi and guava. Farmers are advised to prepare pits and planting of seedlings may be done.
- Farmers of East and South Eastern Coastal Plain Zone of Orissa are advised to complete sowing of green gram, black gram, cowpea, planting of papaya and brinjal and nursery raising of tomato and planting of marigold.
- Farmers of North Central Plateau Zone are advised to sow rainy season vegetables like bhindi (lady's finger), bean, French bean, tomato, cauliflower and cabbage etc.
- Farmers of North Eastern Plateau Zone of Orissa are advised to complete the transplanting of rice at the earliest and prepare the field for sowing of rainy season vegetables like bhindi (lady's finger), bean, French bean, tomato, cauliflower, cabbage etc. and also planting of brinjal.
- Farmers of Mid Central Table Land Zone of Orissa are advised to undertake lemon planting.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to undertake short duration varieties of arhar, groundnut, urad, turmeric, jowar, soybean and okra for inter cropping. Farmers are also advised to sow til, kulthi, potato, green pea, grow African marigold or French marigold.
- In Western Plateau Zone of Jharkhand, farmers are advised to complete sowing of different *kharif* crops at an early date with early duration varieties; undertake sowing of short duration varieties of different *kharif* crops like rice, urad, groundnut, arhar, maize and rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage, brinjal, chilli etc. Farmers, who have not sown *kharif* crops in upland till now, may sow kulthi or safflower.
- Farmers in Coastal Saline Zone of West Bengal are advised to complete the transplanting operation of rice as soon as possible and also start transplanting of SRI rice in the main field. In uplands where paddy could not be transplanted due to deficiency of water, farmers are advised to sow black gram.
- In New Alluvial Zone of West Bengal, farmers may sow composite varieties of maize under upland to medium land situation.
- Utilizing recent monsoon rainfall, farmers in Laterite and Red Soil Zone of West Bengal are advised to complete transplanting of *aman* rice and take short to medium duration variety for delayed sowing. Farmers are advised to undertake sowing of monsoon vegetables like bhindi, beans, French bean, tomato and planting of marigold.
- Farmers in Old Alluvial Zone of West Bengal are advised to complete the transplanting operation of *aman* rice and also harvest already matured jute crop and start retting. Farmers are also advised to sow short duration varieties of rice, if *aman* rice is not yet sown, after harvesting of jute.
- Farmers in Hill Zone of West Bengal are advised to start seedbed preparation of early cauliflower.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In some areas of Western Plateau Zone of Jharkhand, crops like mung, urad, groundnut are attacked by hairy caterpillar, spray Dichlorvos (Nuvan) @ 5 ml per 10 litre of water and mix Tipol in the solution or prepare the solution in soap water and some crops are drying due to attack of termites. If the infestation is more, spray insecticide Chlorpyrifos near the root zone @ 2.5 ml per litre of water.
- In some pockets of Western Plateau Zone of Jharkhand, hybrid and improved varieties of rice are attacked by blast disease, spray Hinosan @ 1ml per litre of water.
- Ant attack in **groundnut** has been found in dry areas in Puri district of East and South Eastern Coastal Plain Zone of Orissa. The farmers are advised to go for soil drenching with 2 ml Chloropyrifos per litre water thoroughly. Leaf miner has also occurred in groundnut. Spray 2 ml Chloropyrifos / litre water to control it.
- There is incidence of *Alternaria* blight and bacterial leaf spot on **cotton** crop in some places of Western Undulating Zone (Bhavanipatana) of Orissa. The farmers are advised to Spray Mancozeb @ 2.5 g per

litre water for *Alternaria* blight and for bacterial leaf spot, spray Steptocycline @ 0.1 g with copper oxychloride @ 2.5 g per litre of water. Spray 500 litres of these solution for one hectre area. There is incidence of root rot disease in some place. Drench the root zone with Bavistin @ 2 g / litre of water to control the disease. To watch the movement of boll worm fix five nos. of pheromone traps and 20 nos. of bird perch per hectre.

- Fruit and shoot borer in **brinjal** has been found in Mid Central Table Land Zone of Orissa. Farmers are advised to install Pheromone traps @ 12 nos / acre. Alternately, spray 4 g Sevin WP or 2 ml Malathion in 1 litre water. Thrips in Chilli has been found. Spray 300 ml Ethion or 400 ml Carbosulphan in 200 litre water / acre.
- Infestation of thrips on **groundnut** crop has been occurred in Mid Central Table Land Zone and in Nayagarh district of East and South Eastern Coastal Plain Zone of Orissa. Spray 2 ml Endosulphan in 1 litre water. White ant and white grub attack has been found. Carry out thorough soil drenching with Chloropyriphos solution @ 2 ml / litre water. Bud necrosis has also been found. Spray Imidacloprid @ 4 ml / 10 litre water to control the vector.
- In Nayagarh district in East and South Eastern Coastal Plain Zone of Orissa, infestation of early shoot borer in **sugarcane** has been found. Release 50,000 *Trychogramma chilonis* parasite to control the borer. Otherwise install 4 to 5 pheromone traps per acre to attract the borer or spray 400 ml Monocrotophos or Quinalphos in 200 litres of water per acre.
- Under prevailing weather situation, in Laterite and Red Soil Zone and New Alluvial Zone of West Bengal, Gandhi bug may attack *aus* rice; apply Dichlorovos 76% or Malathion 2% per litre of water. Green leaf hooper may attack *aman* rice. Use Azadirectin 1% EC @ 3 ml, Chlorpyriphos 20% @ 2.5 ml or Acephate 75% @ 0.7 g. combined attack of Downy mildew and Mosaic may be seen in pointed and bitter gourd. Apply Ridomil –MZ @ 2 g per litre of water to control the attack. White fly has been reported in okra leading to the spread of yellow mosaic virus. Spray Difenthiuron @ 0.75g per litre of water to prevent the further spread of the disease.
- In Hill Zone of West Bengal, fruit and shoot borer may infest tomato, okra, chilli and brinjal. To manage fruit and shoot borer, spraying should be done with Malathion @ 1 ml / litre or Dichlorovos @ 1 ml / litre of water. Tea may be infested by mites. For protection, the crops may be sprayed with Dicofol @ 1 ml / litre of water. Stem borer, leaf folder, blast or brown spot may be found in rice. For protection against the stem borer and leaf folder, spray either with Chlorpyriphos @ 2.5 ml / litre or Monocrotophos @ 1.5 ml / litre of water and for blast or brown spot, spray Ediphenphos @ 1ml / litre of water.
- As there is possibility of rain and high humidity in Terai Zone of West Bengal, sheath blight and may be found in rice and collar rot in chiili. For sheath blight, spray Carbendazim 1 g per litre of water or validamycin @ 2 ml per litre of water. For collar rot spray Carbendazim 12% + Mancozeb 64%, 2 gram per lt of water Apply plant protection measures after current spells of rain. Yellow vain mosaic can be found in ladies finger. To control this white fly may be controlled. To control whitefly spray Imidacloprid 1 ml/4 lt of water.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- Farmers of North Eastern Plateau Zone and North Central Plateau Zone in Orissa are advised to provide clean and concentrate feed to the cattle, and mix with dry and green fodder. Insure for enrich diet having protein, carbohydrate, fat, vitamins. Arrange for vaccination to prevent from Foot and Mouth disease. Use potassium permanganate @ 5 ml per liter of water to clean the infected parts of the animals, as a precautionary measure. Vaccinate cattle against Anthrax disease, and arrange medicine against worm infection during rainy season. During the present monsoon season, there are low light duration due to cloudy weather condition on most of the days and hence, farmers are advised to increase light duration in poultry farms.

Pisciculture

- Farmers of North Eastern Plateau Zone and North Central Plateau Zone Orissa are advised to apply Mahua Oil cake @ 1 ton / ac to kill the predator fishes, where the pisciculture activities are to be taken in new water bodies. Collect 4000 no. of fish fry / acre in the ratio of 4:3:3 (Catla : Rohu : Mrigal). For Ph correction of water add 250 kg of lime / 1 hamt of water.
- Cattle may be attacked by black quarter and worm infection in Coastal Saline Zone of West Bengal. If black quarter occurred then promptly give penicilin and tetracyclin into the site of lesion. Prohibit the cattle from free grazing for avoiding worm problem.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** All districts of Konkan, most of the districts of Marathwada, Vidarbha and Kolhapur and Nashik districts of Madhya Maharashtra received normal to excess rain during last week. All districts in Gujarat region except Patan and Borach districts and all districts in Saurashtra and Kutch region except Kutch, Diu, Porbandar and Surendranagar received moderate rain during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at most places over Konkan, at a many places over interior Maharashtra during next 48 hours. Rain/thundershowers would occur at many places over Gujarat State.
- **Warning:** Heavy rainfall is likely at one or two places over Konkan & Goa and Gujarat region during next 48 hours.
- **Advisories:**
 - In Konkan region, farmers are advised to maintain 5 cm water level in already transplanted rice field. Intercultural operations may be done to keep crop weed free. They are also advised to apply plant protection measures and fertilizers after current spells of rain.
 - As Ahmednagar, Dhule, Jalgaon, Pune, Sangli and Satara districts in Madhya Maharashtra and Aurangabad, Osmanabad districts in Marathwada received deficient / scanty rainfall during last week, farmers are advised to undertake moisture conservation practices like mulching, intercultural operations and weeding in the crop fields on a non-rainy day. They are also advised to apply plant protection measures on a non rainy day.
 - Farmers of Nasik district (western ghat region) are advised to undertake weeding in rice and maintain proper water level in transplanted rice. They are also advised to apply top dressing with 20 kg N/ ha to finger millet. Grape farmers are advised to remove new vegetative growth of grape to accumulate food material.
 - As most of the districts of Marathwada and West Vidarbha received light to moderate rain during last 2-3 days and scattered rain is expected during next 2-3 days, farmers are advised to undertake intercultural operations like weeding in late sown crops and apply remaining dose of Nitrogen.
 - As cotton is at vegetative / floral bud initiation stage, farmers of North Madhya Maharashtra are advised to spray 2 % DAP for better development of cotton boll and preventive measures against red leaf may be taken.
 - As scattered/ fairly wide spread rain is expected during next 2-3 days, farmers of Pune and Solapur region are advised to plant early maturing marigold, okra, guar, cucumber, snake gourd, bitter gourd, bottle gourd and undertake sowing of fodder crops like jowar and maize.
 - In North Saurashtra Zone of Gujarat State, where crop failed, farmers are advised to sow semi *rabi* sesame, dual purpose sorghum, castor, gram and ajwan as contingent crops after achieving optimum soil moisture after receiving sufficient rainfall.
 - In Kutch region, farmers are advised to carry out sowing of maize, sorghum, lucerne, bajra, cowpea etc. for green fodder and vegetables like guar, cowpea, bottle gourd, bitter gourd after the receipt of sufficient rainfall. Increase the area under fodder crops.
 - In North Gujarat Zone, complete sowing of castor, fodder sorghum, maize, sesame and cluster bean utilising rainfall occurred during recent weeks. Carry out intercultural operation and hand weeding followed by application of nitrogen @ 40kg/ha as a supplementary dose in the standing crops. In Ahmedabad district, farmers are advised to complete sowing of castor, after achieving optimum soil moisture after receipt of sufficient rain to protect the crop from the castor semi looper. Carry out sowing of short duration varieties of cluster bean and sorghum.
 - Farmers in South Saurashtra Zone of Gujarat are advised to carry out hand weeding and apply irrigation to vegetables. Continue sowing of castor with irrigation and also apply irrigation in cotton if irrigation facility is available.
 - In North Gujarat Zone, carry out sowing of short duration varieties of cluster bean and sorghum.
 - In South Gujarat Heavy Rainfall Zone of Gujarat, continue sowing of maize. As Valsad and Dangs districts received isolated heavy to medium rainfall, farmers are advised to make arrangement for drainage in vegetables. Drain out excess water from the low land areas and also carry out intercultural operation in castor on a non rainy day.
 - In Middle Gujarat Zone, farmers are advised to continue transplanting of tobacco @ 90 cm X 75 cm spacing. Complete sowing of castor.
 - In Bhal and Coastal Zone of Gujarat, farmers are advised to complete sowing of castor. Carry out sowing of cluster bean and sowing of sorghum. Carry out plantation of different horticultural crops.

- In South Gujarat heavy rainfall zone, due to low temperature and high humidity, there is chance of attack of viral disease transmitted by jassid. For controlling them, farmers are advised to spray Methyl-odematon or Dimethoate @ 10ml/10 liter water.
- Cloudy condition and humid weather in North Gujarat Zone and South Gujarat Heavy Rainfall Zone is favourable for attack of sucking pest in cotton and vegetables. Farmers are advised to spray Methyl-odematon or Dimethoate @ 10 ml / 10 liters of water.
- Due to cloudy weather in North Gujarat Zone, there is infestation of Gujarat hairy caterpillar, farmers are advised to spray 0.15% Monocrotophos at 15 day interval to manage the pest.
- Continuous cloudy weather is congenial for attack of white fly, aphids and jassids in cotton in Western Maharashtra Scarcity zone, spray Acetamidrid @ 4g+sticker in 10 litres water.
- Prevailing weather is favourable for infestation of tikka and rust in groundnut in Pune division, spray Mancozeb @ 25g in 10 litres water.
- There may be attack of aphids and jassids in cotton in Marathwada region, spray Thiomethaxam 20 % @ 2.5 g or Acetameprid @ 2 g in 10 litres water. For control sap sucking pest in cotton in East Vidarbha, spray Dimethoate 30 % @ 10 ml or Thiomethaxam 25 % @ 4 ml in 10litres water.
- Prevailing weather is favourable for attack of leaf cater pillar in soybean in central Vidarbha Zone, spray Fenvalerate 20% @5 ml or Indoxacarb 14.5 % @ 6 ml in 10 litres water. For control of powdery mildew in green gram, spray Dinocap @10 ml or Tridemarf @ 10 ml in 10 litres water.
- Varieties of *kharif* crops are mentioned in Annexure II.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Himachal Pradesh (except Kinnaur, Lahaul and Spiti), Amristar, Bhatinda, Gurdaspur, Jalandhar, Kapurthala, Nawashahar, Patiala and Ropar districts in Punjab, most of the districts in Haryana, Delhi, Jammu, Kathua, Kupwara, Pulwama, Rajouri, Reasi, Samba and Udhampur districts of Jammu & Kashmir, many districts in East Uttar Pradesh, most of the districts in West Uttar Pradesh, most of the districts of Uttarakhand, all districts of East Rajasthan and most of districts in West Rajasthan.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over South Rajasthan during next three days and Uttarakhand, Haryana, Delhi and Uttar Pradesh during next 24 hours and decrease thereafter. Rainfall would occur at a few places in remaining States of the region.
- **Warning:** Heavy rainfall would occur at one or two places over Haryana, South Rajasthan, West Uttar Pradesh and Uttarakhand during next 24 hours.
- **Advisory:**
 - As significant rainfall occurred in most of the districts of Himachal Pradesh (except Kinnaur, Lahaul and Spiti), Amristar, Bhatinda, Gurdaspur, Jalandhar, Kapurthala, Nawashahar, Patiala and Ropar districts in Punjab, most of the districts in Haryana, Delhi, Jammu, Kathua, Kupwara, Pulwama, Rajouri, Reasi, Samba and Udhampur districts of Jammu & Kashmir, many districts in East Uttar Pradesh, most of the districts in West Uttar Pradesh, most of the districts of Uttarakhand, all districts of East Rajasthan and most of districts in West Rajasthan, farmers are advised to postpone irrigation to the standing crops.
 - As rain / thundershowers would occur at many places over South Rajasthan during next three days and Uttarakhand, Haryana, Delhi and Uttar Pradesh during next 24 hours, farmers in are advised to postpone weeding, intercultural operation and application of fertilisers to the standing crops in the above States of the region. In view of occurrence of heavy rainfall in one or two places over Haryana, South Rajasthan, West Uttar Pradesh and Uttarakhand during next 24 hours, arrange for adequate drainage in standing crops to avoid stagnation of water.
 - In Rajasthan, heavy rainfall observed in Eastern part (Jaipur, Ajmer, Sikar, Jhunjhunu, Tonk) and flood like condition is occurred in Jaipur and Shekhawti region (Sikar, Jhunjhunu, Churu). In South Rajasthan, condition of *kharif* crops are good but in Eastern part crop may be damaged due to heavy rainfall. Farmers are advised to drain out excess water in standing crops at Eastern part. Top dressing with urea in standing maize and sorghum crop, weeding, hoeing in *kharif* crops may be done. In West Rajasthan, where *kharif* crops have not been sown with the recent rains, farmers are advised to keep the land fallow and conserve the moisture to take up the early *rabi* crops like toria, taramira, mustard and chickpea depending on the soil type.
 - Farmers in Flood prone Eastern plain zone (Bharatpur) in East Rajasthan are advised to undertake transplanting of marigold, balsom, bougainvilla and xenia utilizing realized rainfall during last week. Transplanting of dhaincha (sesbania) in fallow land may be done for green manuring purpose. Undertake sowing of early radish,

transplanting of onion seedlings and early cauliflower may be done. Carry out weeding and maintain plant population by thinning in timely sown crop like cluster bean, pearl millet, sesame, moong and groundnut.

- In (Banswara) Southern humid plain zone of Rajasthan, farmers are advised to apply last dose of urea for maize & upland paddy and also advised to bury down the green manuring crops for conservation of rain water.
- Farmers in Semi Arid Eastern Plain Zone (Jaipur) in East Rajasthan are advised continue sowing of early radish, okra, spinach, sweet potato and raising nursery of cauliflower, planting of fruit crops like mango, plum, pomegranate and Aonla. Undertake hoeing and weeding and top dressing in pearl millet, maize and sorghum and irrigated groundnut. In Transitional Plain Zone of Inland drainage (Fatehpur) of West Rajasthan, farmers are advised to undertake hoeing and weeding in timely sown *kharif* crops.
- In Arid Western Plain Zone (Jodhpur) in West Rajasthan, farmers are advised to continue sowing of carrot and undertake planting of tomato, brinjal, onion, cabbage and chilly.
- In Cold Arid Zone of Jammu & Kashmir, farmers are advised to continue sowing of legumes as fodder or pea mixed with maize and millets to enrich the soil.
- In Intermediate zone of Jammu & Kashmir, farmers are advised to continue nursery sowing / transplanting of knol-khol, cabbage and cauliflower and sowing of bhindi, radish, pumpkin, bitter gourd, bottle gourd, sponge gourd, carrot and turnip. Also advised to undertake top dressing in rice, maize, bajra, pulses and late sown maize. In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake transplanting of seedlings of cole crops (cauliflower and cabbage) and sowing of root crops.
- Farmers in East Uttar Pradesh are advised complete sowing of *kharif* crops like jowar and bajra Farmers are advised for intercropping of pigeon pea with jowar. Undertake weeding in early sown direct seeded and transplanted rice.
- Farmers in West Uttar Pradesh are advised to complete transplanting of rice and sowing of sorghum and bajra. It is also advised for transplanting of early varieties of tomato, brinjal, cauliflower and celery. Weeding, hoeing top dressing of fertilizers in sugarcane, early sown *kharif* maize, rice, sorghum and vegetables may be done.
- Farmers in Himachal Pradesh are advised to continue sowing of French bean, sowing cole crops in polyhouses, nursery sowing of cauliflower and direct sowing of medicinal plants like ashwagandha. In mid hill region transplanting of cauliflower may also be taken. Maintain 4-5 cm standing water in rice field. Prepare bed for sowing of peas. Weeding in rice and maize may be done.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to start sowing of recommended varieties of vegetable pea, tomato and Arkel at high hills under optimum soil moisture. Start sowing of fodder crops like sorghum, maize and lobia etc. Farmers are advised to go for planting of new plants of litchi at a distance of 10 m apart. Continue tying of Sugarcane crop and maintain proper drainage. Maintain proper drainage in all standing field crops like soybean, groundnut, maize, pigeon pea, gahat, kutoo mandua and madira and remove weeds during this week. Complete transplanting of seasonal grasses for fodder to animals.
- In (Ranichuri) Hill zone of Uttarakhand, farmers are advised for sowing of high yield variety of toria utilizing realized rainfall during last week.
- In Delhi, farmers are advised for transplanting of brinjal, tomato, chilli, cauliflower, cabbage and onion. It is suitable time for preparation of nurseries of cauliflower for mid season (Nov.-Dec.). Farmers are advised to prepare nursery for cauliflower. Prepare field and undertake sowing of sarson, radish and spinach. Weeding and hoeing may be done in all crops and vegetables. Intercultural operations in sugarcane are advised to remove the weeds. Proper drainage of water may be done from nurseries of vegetables, maize, urd, moong and lobia.
- Farmers in Punjab are advised to continue sowing of leguminous and non-leguminous fodder crops in mixture i.e. maize + cowpea, sorghum + guara. Continue sowing of cauliflower with mid season varieties in one marla bed area.
- Farmers in Eastern Zone of Haryana are advised to continue sowing of fodder crops (bajra, jowar, Makchari, lobia & Sudan grass) in fallow land where sufficient rain occurred at the earliest. Farmers in Western Zone of Haryana are advised to keep rice crop weed free and apply recommended dose of fertilizers and intercultural operations may be done. Avoid water stagnation for extended period in existing vegetable crops. Stages of major crops are mentioned in Annexure I.
- In Transitional Plain Zone of Inland drainage (Fatehpur) of West Rajasthan, bacterial blight attack on green gram, moth bean and cowpea are observed. Spray Streptocyclin @ 1 gm and copper fungicide@ 20 gm per 10 litre water. Okra crop may be suffered from yellow mosaic disease. This disease is spread by white fly attack. Spray Melathion 50 EC @ 1.0 ml per litre water before & after flowering.
- In Bhabar and Tarai Zone of Uttarakhand, due to prevailing weather conditions, there are chances of stem borer in rice. If the incidence is more than 5 % then spray 250 g of 50 WP Cartop Hydrochloride dissolved in 200 to 250 liters of water per acre and incidence of tikka disease is likely in groundnut. It is advised to spray 800 g of Indophil M-45 dissolved in 400 liters of water for one acre. Also due to light rainfall and increased temperature conditions, there are chances of incidence of several sucking insects in standing soybean crop. If the incidence is

more than 10 %, then farmers are advised to go for spraying of Trizophos 40 EC @ 250 ml dissolved in 200 liters of water per acre.

- In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, weather is conducive for blast in paddy, for control spray the crop with Blitox 50 (Copper oxychloride) with 2.250 kg Blitox 50 or 750 g Bavistin 50 WP or 750 ml Hinosan in 750 litre of water/ha. Fruit borer is also observed in brinjal, okra and tomato, for control spray Carbaryl @ 2g /litres. Weather is conducive for attack of white fly in cucurbits, tomato and French bean, for control spray Acephate @0.05% (7g/litres of water) and direct the spray on lower leaves.
- In Mid hills sub humid Zone of Himachal Pradesh, weather is conducive for the attack of red pumpkin beetle and fruit fly in cucurbits. For control of fruit fly spray Malathion 1ml/litre + 50 gram gur or sugar. Also the ensuing weather is congenial for spread of fruit rot in tomato, chilli and Shimla mirch, for control apply Dithane M-45 @ 2-3 g per litre of water in 10-15 days interval. Fruit borer is also observed in brinjal, okra and tomato, spray carbaryl @ 2g /litre. Weather is conducive for attack of white fly in cucurbits, tomato and French bean, for control spray Acephate @0.05% (7g/litres of water) and direct the spray on lower leaves.
- Due to humid weather conditions in Delhi, there may be increase in population of insect pests of cotton. Farmers are advised to install pest specific pheromone traps in the fields. Under present weather conditions, damage by leaf folders in paddy crop is reported by farmers. To control the pest, mechanical methods, such as rope method (to dislodge the larvae) is advised.
- In Western Zone of Punjab, attack of jassid on bhindi is observed, farmers are advised to spray 560 ml of Malathion 50 EC in 100-125 litres of water per acre.
- **Animal Husbandry**
 - In Sub humid sub tropic of Uttarakhand, it is advised to vaccinate the animals for various diseases as they are more prone to diseases in this weather. For the control of cough use Piperazine citrate @ 30-50 ml/animal. Vaccination for Ranikhet disease in poultry should be done.
 - In Barbar & Tarai zone of Uttarakhand, farmers are advised to maintain proper cleanness in animal sheds for avoiding incidence of diseases. Farmers are advised to use Iron case in poultry house for birds. It will give more eggs & will increase feed efficiency of birds. Proper care should be taken for cattles because the chance of Foot Mouth disease is more during rainy season. Green forages is more available at this time but it should be mixed with wheat straw in 30: 70 ratio for feeding. Proper vaccination of all cattles and hens/bird should be during this period.
 - In Transitional Plain Zone of Inland drainage (Fatehpur) of West Rajasthan farmers are advised to that, mastitis disease may be seen in milch animals. In this disease, mammary glands & teats become swollen & blood spots in milk may be seen. Treat the affected animal under the guidance of veterinary Doctor.
 - Farmers in Semi Arid Eastern Plain Zone (Jaipur) in East Rajasthan are advised due to changing environment milch and baby animals are likely to be affected with infection of respiratory tracts. If symptoms like droppings from nose, fever etc. are seen in animals, a three days course of Cproflaxin, Anorflaxin or Sulpha may be given under the guidance of veterinary doctor.
- **Horticulture :**
 - In Himachal Pradesh, give support to the branches of apple so that branches should not break due to fruit load. Good rains already received and also expected in next week, so keep the basins of the plants free from weeds and well drained. It is time for plantation of evergreen plants like mango, litchi, guava, citrus, loquat and amla. Plant the saplings in 3x3x3 cubic feet pit. Add 40-50kg FYM+SSP300g + Chlorpyriphos 10ml/10litres of water per pit before planting. The ensuing weather is conducive for the attack of leaf miner in new growth of citrus. For its control, spray 10 ml Matasystox or Malathion 10 ml in 10 litre of water. The new growth appearing below bud union may be cut.
 - In valley temperate zone of Jammu & Kashmir, do budding operations in apple trees. Use well grown bud material from known mother plants. Harvest apple and pear when they attain proper size and develop at least 50 % of the variety color. Harvest grapes when they berries in the bunch have attained proper size, develop variety color and sweetness.
 - Flood prone Eastern plain zone (Bharatpur) in East Rajasthan, prepare check basin around the young plant of last year transplanting for efficient rain water utilization.
 - In irrigated northwestern plain zone of Rajasthan, farmers are advised to prepare nursery for kinnow fruit.
- **Apiculture :**
 - In Sub Tropical (Chatha) Zone and Intermediate (Pahalgam) Zone of Jammu & Kashmir, farmers are advised to check ants by placing leg of bee hives stand in water pots & feed the colonies with sugar water solution in the ratio of 2:1. Check ectoparasitic mite infestation by dusting sulphur. Keep bee colonies in shade or cover with wet gunny bags. Provide ventilation by placing a small stock in between brood chamber. Kill wasps with a wooden flapper and also by dusting or spraying with insecticides.
 - In Intermediate zone of Jammu & Kashmir, dust sulphur @ 1 g/frame on top bars to control ectoparasitic mite. Control wax both by fumigating frames with aluminium phosphide tablets before using them. Destroy wasp nests by dusting or spray insecticides and kill wasps colonies by wooden flappers.

- **Floriculture :**

- In Himachal Pradesh it is advised to control of mites in carnation by spray of diclofol @ 1 ml per litres of water and repeat spray in 15 days interval if problem persists. In already planted summer annuals, pinching is advised. Weather is conducive for appearance of red spider mites in carnation, for control spray Cypermethrin or Nuvacron @0.05%. A heavy rain is expected so skip irrigation and ensure proper drainage to flowers beds. Weather is conducive for attack of blue beetle in roses and balsam, for control spray Metacid @ 0.05%.

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

- **Realised Rainfall:** Almost all the districts in Kerala, Rayalaseema, Telangana, Coastal Karnataka, most of the districts in Coastal Andhra Pradesh except East Godavari, Guntur and Nellore, North Interior Karnataka except Belgaum, Dharwad and Haveri, South Interior Karnataka except Mandya and Mysore, Ariyalur, Chennai, Erode, Kancheepuram, Krishnagiri, Salem, Nilgiris, Tiruppur, Tiruvallur, Tiruvannamalai and Villupuram in Tamil Nadu received good rainfall during last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at most places over Kerala and Coastal Karnataka, many places over North Interior Karnataka and South Interior Karnataka during next three days and North Andhra Pradesh during next 48 and at few places over rest of the region.
- **Warning:** Heavy rainfall would occur at one or two places over Coastal Andhra Pradesh, Telangana, Coastal Karnataka and Kerala during next 48 hours.
- **Advisories:**
 - Due to severe dry condition in earlier weeks in Mandya, Chamarajnaragar and Mysore districts, late sown crops which suffered from moisture stress and showed withering symptoms, is likely to recover due to receipt of rainfall during last couple of weeks. Farmers are advised to undertake sowing of South African tall and multi cut sorghum for fodder purpose after receipt of sufficient rainfall.
 - Farmers in the Eastern dry zone are advised to take up sowings of short duration finger millet varieties, due to receipt of sufficient rain, upto end of August. Also undertake sowing of South African maize for fodder purpose. Farmers may also undertake sowing of minor millets like foxtail millet and cowpea upto 15th September. Farmers in Eastern Dry Zone of Karnataka are advised to take up intercultural operations in the plantation crops like, coconut, sapota, guava and pomegranate etc. and provide staking to the newly planted horticultural crops in view of high wind speed.
 - Most of the districts of the region received rain during last week. In North Dry Zone, undertake sowing of sunflower, niger, castor and horse gram during second fortnight of August utilizing recent rainfall. In North Transition zone, undertake sowing of sunflower with realized rainfall. Continue sowing of desi cotton. In North East Dry zone, farmers may undertake sowing of jowar, maize and bajra for fodder purpose. Castor and sunflower may be sown upto end of September and end of October, respectively. Farmers in the Coastal Zone of Karnataka are advised to drain out excess water from rice fields, since heavy rain were received in some parts in the last couple of days.
 - As almost all the districts in Kerala, Rayalaseema, Telangana, Coastal Karnataka, most of the districts in Coastal Andhra Pradesh except East Godavari, Guntur and Nellore, North Interior Karnataka except Belgaum, Dharwad and Haveri, South Interior Karnataka except Mandya and Mysore, Ariyalur, Chennai, Erode, Kancheepuram, Krishnagiri, Salem, Nilgiris, Tiruppur, Tiruvallur, Tiruvannamalai and Villupuram in Tamil Nadu received good rainfall during last week, postpone irrigation to the standing crops and drain out excess water from fields in the above districts. Apply irrigation to standing crops in the remaining districts where no significant rainfall occurred.
 - Farmers in Cauvery Delta Zone of Tamil Nadu are advised to undertake field preparation by using the rainfall received last week for sowing of rainfed maize and cotton.
 - Farmers in the South Zone of Tamil Nadu are advised to select drought tolerant varieties of cotton, pearl millet, sorghum, green gram and sunflower for sowing in the ensuing North East Monsoon season.(Varieties given in Annexure-I).
 - Farmers in the North Western Zone of Tamil Nadu are advised to undertake seed onion crop in areas which received good amount of rain last week and they can be transplanted during the third week of October using the NE monsoon rains.
 - Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to adopt field sanitation and preventive sprays of fungicides and complete sowing of vegetable crops.
 - Farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake combined application of systemic and contact fungicides for banana to restrict the spreading of diseases, basin preparation for pepper, clove, nutmeg and cinnamon for better rain water harvest, grafting and cutting of horticultural crops and planting of pepper.
 - Farmers in the Southern Telangana Zone of Andhra Pradesh are advised not to raise the rice nurseries and go for direct seeding of rice in puddled soil with short duration varieties after receipt of sufficient in flows into the

reservoirs. In case of further delay in the inflows to the reservoirs, farmers can plan early *rabi* crops with irrigated dry crop with 4-5 irrigations by carefully monitoring the reservoir in flows. In areas of prolonged dry spell, irrigate cotton and maize crop, if water is available.

- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to go for medium duration varieties of rice. Due to non- release of canal water, transplanting of paddy is still not in progress. If canal water is not released upto September, the farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to go in for contingent crops like green gram, black gram, *rabi* red gram, jowar and maize.
 - Farmers in the Central Zone of Kerala are advised to start transplanting in rice after puddling and when the seedlings are in the optimum age or direct wet seeding can be done using pre germinated seeds. For dry sown rice it is the time for top dressing of chemical fertilizers. In adult coconut plantations, basins may be opened for sowing of green manure seeds. Planting of coconut seedlings, arecanut seedlings, pepper vines, colocasia, yams etc. can be started with the onset of rain. Coconut basins can be covered with mulch materials or coconut husk for conservation of water and the bunches can be tied.
 - Farmers in the Southern Zone of Kerala advised to undertake planting of vegetables as an inter crop in coconut plantation. They are also advised to drain the rice field at least a week prior to harvest to ensure uniform maturity of grains.
 - In Cauvery Delta Zone of Tamil Nadu, stem borer incidence is noticed in *kuruvai* paddy. Farmers are advised to spray profenophos at 400 ml/acre (or) apply Cartarp hydrochloride 4 G @ 6 kg/ac for effective control of stem borer.
 - Farmers in the Western Zone of Tamil Nadu are advised to monitor the incidence of red hairy caterpillar in groundnut, early shoot borer in sugarcane, stem borer in maize and follow appropriate plant protection measures.
 - Sucking pests particularly whitefly in cotton, green leaf eating caterpillar in soyabean and case worm and stem borers have been noticed in paddy crop in the North East Transition Zone of Karnataka. Farmers are advised to spray the crop with imidachloropid 0.3 ml or pride 0.5 ml dissolved in one liter of water to control sucking pests, Quinolphos @ 2 ml per liter of water to control leaf eating caterpillar and 2.0 ml Chloropyriphos or 1.5 ml Monocrotophos dissolved in one liter of water to control case worm and stem borers.
 - Farmers in the Coastal Zone of Karnataka are advised to control the vectors of yellow vein mosaic in lady's finger, since present cloudy and low temperature and continuous rainfall favours its attack.
 - Farmers in the North Transition Zone of Karnataka are advised to check the vegetative growth in bt hybrids crop of 85 to 90 days old, reduce sucking pest incidence, monitor mired bug in cotton crop which is at peak square formation stage and apply fertilizer to *desi* cotton crop sown during first week of this month @ 40:25:25 N:P:K kg/ha if not applied at the time sowing.
 - Farmers in the Southern Dry Zone of Karnataka are advised to undertake plant protection measures to control sheath rot disease in banana, sheath rot, bud rot disease and black headed caterpillar in coconut and mealy bug in papaya.
 - In Southern Telangana Zone of Andhra Pradesh, delayed sowing of paddy nurseries and transplanting will result in gall midge incidence. Farmers may select gall midge resistant varieties for sowing after sufficient inflows from reservoir. Incidence of semi-looper is noticed in castor, fruit fly and downy mildew is noticed in gourds and prevailing weather conditions are congenial for incidence of aphids in maize, sucking pests and spodoptera in cotton. Farmers are advised to undertake plant protection measures.
 - Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to undertake plant protection measures against stem borer in maize, sucking pest in cotton, *Helicoverpa* in red gram, early shoot borer in sugarcane, mites and shoot and fruit borer in brinjal and thrips and mites and chaenophora blight in chillies.
 - The present weather condition is most favorable for the incidence of stemborer, BPH, leaf roller, sheath blight and bacterial leaf blight disease and bud rot diseases in coconut and leaf spot and fruit fall diseases in nutmeg in the Problem Area Zone of Kerala. Farmers are advised to take appropriate plant protection measures.
 - Farmers in the Central Zone of Kerala are advised to undertake plant protection measures gall midge, leaf roller and stem borer attack in rice, sigattoka leaf spot diseases in banana.
- **Livestock**
 - Farmers in the Northern Zone of Kerala are advised to undertake vaccination and de-worming for the animals.
 - Farmers of the North Dry Zone and Southern transition zone of Karnataka, Southern Telangana zone of Andhra Pradesh and North eastern zone of Tamilnadu are advised to vaccinate livestock against Foot and Mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and Haemorrhagic Septcaemia, sheep and goats against Enterotoximia.
 - Farmers in the Eastern Dry zone of Karnataka are advised to maintain optimum room temperature in silkworm and poultry rearing houses.

- Farmers in the Coastal Zone of Karnataka and Southern Transition Zone of Karnataka are advised to provide sufficient light (heat) to maintain body temperature because low temperature requires high feed to maintain body temperature.
- Farmers in the North Western Zone of Tamil Nadu are advised to test sunflower cake before use, as the sunflower cake contains higher level of aflatoxins and feed intake and egg production would be normal in this comfortable weather.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of East Madhya Pradesh, West Madhya Pradesh and Chhattisgarh.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over East Madhya Pradesh, West Madhya Pradesh during next 24 hours and decrease thereafter and Chhattisgarh during next 48 hours.
- **Warning:** Heavy rainfall would occur at one or two places over South Chhattisgarh during next 48 hours.
- **Advisories:**
 - Farmers in Madhya Pradesh and Chhattisgarh are advised to postpone irrigation to the standing crops as there was significant rainfall during last week and likely to continue during next 1-2 days. Postpone weeding, intercultural operation and top dressing of fertilisers in the region. Farmers in South Chhattisgarh are advised to provide adequate drainage facilities in the standing crops to avoid waterlogging due to heavy rainfall.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to complete sowing of niger crop and undertake nursery sowing / transplanting of tomato, brinjal, onion, chilli and cauliflower. Farmers are also advised to do weeding in rice and arhar and apply top dressing of urea in rice. Drain the water from rice field then top dressing of urea may be done. Impound the water in the paddy field after three days after top dressing.
 - Farmers in Gird Zone of Madhya Pradesh are advised to do weeding and intercultural operations in soybean, urad, moong and groundnut.
 - Farmers in Jhabua Hills of Madhya Pradesh are advised to prepare drainage channels in soybean, maize, cotton, vegetables and pulses.
 - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to undertake nursery sowing/transplanting of tomato, brinjal, onion, chilli and cauliflower.
 - Farmers in Nimar Valley Zone of Madhya Pradesh are advised to apply urea in already sown *kharif* crops. Make proper drainage arrangement in maize, jowar and arhar. Farmers are also advised to complete weeding and intercultural operations in groundnut.
 - In Bundelkhand region of Madhya Pradesh, there is report of attack of semi lopper in the soybean, farmers are advised to spray Quinalphos 25E.C. @ 2.0 ml per litre of water. Farmers are advised to regularly monitor the crops for the pest.
 - Farmers in Satpura Plateau of Madhya Pradesh are advised to apply top dressing of urea in cotton, maize, sugarcane and jowar etc. Cultural operations like weeding, intercultural operations, earthing and application of plant protection measures may be done in sugarcane. Sowing of niger and seasmum may be done as early as possible. Prepare/repair bunds for soil and water conservation. Transplanting of brinjal, tomato, cauliflower, *kharif* onion etc. may be done.
 - Farmers in Vindhyan Plateau Zone of Madhya Pradesh are advised for second dose of fertilizer application at tillering stage of rice for healthy tillers. Farmers are also advised to maintain 5 cm standing water in the transplanted rice field.
 - Incidence of bihar hairy caterpillar, tobacco caterpillar and semilooper is seen in the soybean, moong, and urd crops in Kymore Plateau and Satpura Hills region of Madhya Pradesh due to prevailing weather condition. Use of light traps in the field, and if possible destroy egg and larval masses by hand picking. Spray Chlorpyrifos (20 EC) at 1.5 lit/ha; or Triazaphos at 800 ml/ha, or Quinalphos at 1.5 lit/ha on these crops.
 - Present weather conditions are suitable for the sowing of nursery of early varieties of cabbage, tomato, brinjal, chilli etc. in a raised nursery of about 6 inch with proper drainage system in Chhattisgarh Plain Zone. Farmers are advised to undertake sowing / transplanting of vegetables utilizing the realized rainfall during last week.

- Farmers in North Hill zone of Chhattisgarh are advised to complete sowing of maize.
 - Farmers in Bastar plateau zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and *kharif* vegetables like bottle gourd, bitter melon, okra and short duration beans, cabbage, cauliflower utilising the realised rainfall during last week. Farmers are also advised for planting of cassava, colocasia, ginger, elephant foot yam and dioscorea and support may be given by bamboo sticks.
 - Farmers in Bastar plateau zone in Chhattisgarh are advised to undertake transplanting of rice and sowing of niger, horsegram (kulthi), urad, vegetables etc. and due to availability of sufficient moisture, castor crop sowing may also be done in the marhan and tikra farming situations.
 - Tobacco caterpillar is likely to damage soybean, black gram, pigeon pea etc. in Chhattisgarh plain zone. Hence farmers are advised to keep watch over the crop and it is better to collect the insect and destroy it at early stage. For effective control spraying of Quinalphos @ 1.25 l or Fenvalerate 20EC @ 375 ml per hectare is advised.
 - In the maize crop, the attack of stem borer is being observed in Dantewada and Bijapur districts of Chhattisgarh. For its control, Carbofuran 3 G may be applied @ 2-3 grains/ per plant or this can also be applied @ 10 kg/ acre at the time of earthing up operation.
 - Attack of caterpillars and semiloopers is being observed in Bastar Plateau Zone in Chhattisgarh in castor, spray Prophenophos @ 1-1.5 ml/ litre of water.
- **Animal Husbandry & Poultry**
 - Farmers in Central Narmada Valley Zone and Satpura Plateau Zone are advised to vaccinate cattle against Foot and Mouth Disease.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to vaccinate cattle against Anthrax disease and provide deworming tablets against worm's infection.
 - Farmers in Jhabua hills of Madhya Pradesh are advised to vaccinate their goats by CCPC vaccine and keep them in clean, dry and well ventilated place.
 - In the present monsoon season, low light duration due to cloudy weather condition, farmers in Chhattisgarh are advised to increase light duration in poultry farms.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (transplanting / early tillering / tillering), *Capsularis* and *Olitorius* jute for seed (sowing), ginger / turmeric (vegetative), arhar (vegetative), *kharif* sesame (sowing / early vegetative), groundnut (vegetative / flowering / pegging), black gram, green gram (sowing), maize (vegetative), cauliflower (nursery raising/transplanting) in Assam.
- WRC rice (flowering / grain formation), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (vegetative), sesame (vegetative) in Arunachal Pradesh.
- *Kharif* rice (early vegetative/ tillering), soybean, groundnut (vegetative), *kharif* maize (cob formation/cob maturity), cucurbits, chilli and okra (fruiting / harvesting), tomato (seedling / transplanting), cauliflower (nursery sowing), rice bean, pea (sowing) in Manipur.
- *Ahu* rice (panicle initiation), *Kharif* rice (early vegetative /tillering) maize (cob formation/cob maturity), groundnut (vegetative), tomato (flowering / fruiting / maturity), potato (tuber formation), soybean (vegetative / flowering), turmeric, ginger (vegetative / rhizome formation), banana (planting / vegetative) and vegetables like bottle gourd, ash gourd (vegetative / flowering) in Meghalaya.
- Rice (vegetative / tillering), soybean, groundnut (vegetative), *kharif* maize (vegetative / tasseling / silking), cauliflower, tomato (nursery preparation) and ginger / turmeric (vegetative / rhizome formation) in Mizoram.
- *Jhum* rice (dough / maturity), Wet land rice (tillering/panicle initiation), maize (maturity / harvesting), okra (flowering / fruiting), soybean (sowing), cowpea / bean (pod formation / maturity / harvesting), papaya (vegetative) in Nagaland.
- Upland *kharif* rice (tillering / panicle initiation), *aman* rice (tillering), groundnut (vegetative / flowering), maize (tasseling / silking), sesame (vegetative / flowering), *kharif* vegetables like okra, *kharif* cucurbits (sowing / vegetative), early sown cucurbits, okra (flowering / fruiting) in Tripura.

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

- Sugarcane (vegetative), fodder crops like sorghum, bajra, maize, meth, kalai, boda and dinanath grass (sowing / early vegetative / vegetative), *kharif* rice (transplanting / tillering), urad, arhar, bajra etc. (sowing / early vegetative), onion, mango, litchi, guava (planting) in Bihar.
- Turmeric and ginger (vegetative), upland rice (tillering / panicle initiation), maize, arhar, groundnut, rice, urad, jowar and soybean, til (sowing / vegetative), *kharif* vegetables like okra, beans, French bean, tomato, cauliflower, cabbage etc. (sowing / vegetative), kulthi, African marigold, French marigold (sowing) in Jharkhand.
- Sugarcane (grand growth), banana (vegetative), jute (harvesting), maize, groundnut, arhar, ragi, cotton, direct seeded rice, sunflower (early vegetative / vegetative), rice (transplanting / tillering), green gram, black gram, cow pea (sowing), *kharif* vegetables like okra, French bean, tomato, cauliflower, cabbage etc. (sowing / vegetative) and fruit crops (planting / seedling) in Orissa.
- *Aus* rice (flowering / grain filling), *aman* rice (transplanting / tillering / panicle initiation), jute (harvesting / retting), banana(vegetative), maize, sweet corn (vegetative / flowering), cauliflower (seedling), marigold (seedling), bitter gourd and pointed gourd, cucurbits (fruiting), yam and betel vine (vegetative) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (tillering) in Sikkim.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering / elongation), sugarcane new pre-seasonal (active tillering), sugarcane new *suru* (active tillering in Madhya Maharashtra and Marathwada), new *adsali* (plantation), *kharif* rice (active tillering in Konkan, Kolhapur Division, early tillering in Nashik, Pune and East Vidarbha Division), cotton (vegetative/floral bud initiation), soybean (flowering/pod formation), groundnut (flowering/pegging), bajra (vegetative/flag leaf initiation in Madhya Maharashtra and Marathwada), red gram (vegetative) in Maharashtra.

- Cotton (vegetative / flowering / boll formation), groundnut (vegetative / flowering / pegging), *kharif* rice (transplanting / tillering), pulses (early vegetative / flowering), sugarcane (vegetative / elongation), sesamum, castor (sowing / emergence), vegetables (seedling / transplanting / vegetative), green gram, black gram (flowering / pod formation), red gram (germination / vegetative), pearl millet (panicle emergence / flowering), sorghum, cow pea (sowing / emergence) in Gujarat.

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

- Vegetables [bhindi, cucurbits], peas (germination/vegetative), mirch, brinjal (seedling/germination/vegetative), cucurbits viz. cucumber, summer squash, khira, bitter gourd, bottle gourd (transplanting/ early vegetative/vegetative), tur, Shimla mirch, and tomato (vegetative/maturity), apple and other temperate fruits (vegetative), radish, arbi, amaranthus, turmeric, dhaincha, chari, bajra, barley, red and white clover, bell pepper, garlic, ginger, coriander, knol khol, cabbage, cauliflower, lettuce (germination/ early vegetative), maize(vegetative/silking), soybean (vegetative/flowering), rice (early tillering/panicle initiation) in Himachal Pradesh.
- Rice (vegetative), chilli, tomato, brinjal, cauliflower (seedling/vegetative), spinach, coriander, radish (seedling / vegetative), maize, urd, moong, lobia (vegetative/flowering), bajra, til, sorghum (vegetative), sugarcane (vegetative), cotton (vegetative/flowering), sugarcane (vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccolli (vegetative), sugarcane (planting), papaya (planting), sunflower (germination), maize (Normal sown -vegetative stage, early sown- tassel emergence / silking stage), lobia, sunnhemp, cowpea, jowar for green fodder (vegetative), garlic, cucurbits, okra(seedling), French bean, maize (seedling/vegetative), rice (tillering/vegetative), summer fodder (maize + cowpea + jowar) (vegetative), maize (sowing / emergence / early vegetative / vegetative / knee high stage), *kharif* pulses (flowering /pod formation), radish (sowing), cabbage, cauliflower(nursery sowing), carrot, turnip (sowing), knol-khol, cole crops(transplanting) in Jammu & Kashmir.
- Rice(panicle initiation /ear head emergence), finger millets (vegetative), groundnut, sorghum, pigeon pea, urad, moong, rajma, arhar and ginger (early vegetative/vegetative), soybean (flowering and pod formation), maize(early vegetative/cob formation) in Uttarakhand.
- Rice (tillering/panicle initiation), sugarcane (vegetative growth), sunflower, fodder maize, lobia, (germination/early vegetative), Sanai, Dhaincha (sowing / early vegetative / vegetative), summer sugarcane (tillering/grand growth), cotton, soyabean and urd (early vegetative/vegetative), sunflower, jowar, bajra, arhar, (sowing/seedling), maize(tasseling to silking), vegetables [cucumber, pumpkin, tomato, brinjal, cabbage, lady's finger, chilly, cucurbits](sowing/vegetative), groundnut(seedling/ early vegetative) in Uttar Pradesh.
- Rice (tillering), spring sugarcane (sprouting / tillering), radish (sowing/germination), carrot, turnip, cauliflower (transplanting / vegetative), tomato, sunflower (sowing), cotton (early vegetative/flowering), okra, chilli, brinjal (sowing / transplanting), maize, mung, mash, tur(sowing) in Punjab.
- Rice (tillering), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), fodder ((maize + cowpeas) (vegetative)), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), radish, cotton (sowing), turnip (sowing) in Haryana.
- Cauliflower, cabbage, onion (transplanting / germination), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, Narma kapas, American Cotton) (early vegetative), pearl millet, jowar and bajra mixed with guar, Sudan grass, oats, sorghum etc. for green fodder (vegetative), maize(knee high/tasseling), mirch, simla mirch, guar, vegetable (tinda, water melon, pumpkin, cucumber, coriander, bhendi, ridge gourd) (sowing), *kharif* onion (transplanting), *kharif*, rice (tillering), other *kharif* crops viz. pearl millet, sorghum, maize, green gram, cowpea and groundnut (early vegetative), short duration moth and guar (seedling/ early vegetative) in Rajasthan.

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

- Sugarcane (vegetative), rice (tillering/ vegetative /panicle initiation), fodder maize (vegetative/silking/tasseling), sunflower (sowing), groundnut (sowing/early vegetative), cowpea (sowing), vegetables (flowering/fruit formation), turmeric, ginger (vegetative), green gram/black gram (maturity), soybean (flowering), pigeon pea (vegetative), maize (silking/tasseling), *desi* cotton (sowing), cotton (vegetative/flowering) and chilli (flowering/fruited) in Karnataka.
- Sugarcane (January to March planted) (grand growth), sugarcane (April planted) (formative), banana (vegetative), vegetables (all stages), direct seeded rice (seedling/tillering), jowar (vegetative), bajra (vegetative/flowering), maize (vegetative/tasseling), ragi (vegetative), finger millets (vegetative), castor (seedling/vegetative/flowering), early sown groundnut (vegetative/flowering), late sown groundnut (vegetative/flowering), green gram/black gram

(flowering/pod formation), red gram (early vegetative), sesamum (pod filling/harvesting), rainfed cotton (vegetative/flowering), Bt. cotton (vegetative / fruiting) in Andhra Pradesh.

- Pepper (flowering/new planting), ginger (vegetative), irrigated banana (planting/harvesting), cardamom (planting), sugarcane (grand growth), vegetables (flowering/harvesting), virippu paddy (tillering/panicle initiation/milky), coconut (flowering) in Kerala.
- *Kuruvai* rice (flowering), *Samba* rice (sowing), rainfed maize and cotton (sowing), rainfed groundnut (sowing/flowering), cotton (vegetative/flowering/boll formation), irrigated maize (silking/tasseling/maturity), sugarcane (grand growth stage), pulses (vegetative/flowering), vegetables (vegetative/fruiting) in Tamil Nadu.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (tillering/panicle initiation), maize, jowar, arhar and soybean (early vegetative/vegetative), *kharif* vegetables i.e. tomato, brinjal, chilli etc. (early vegetative/vegetative), fodder crops (vegetative), ladies finger, cucurbits (early vegetative/vegetative) in Madhya Pradesh.
- Rice (tillering), 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, dioscorea, elephant foot yam, cassava (planting) in Chhattisgarh.

Annexure II

List of Varieties

Himachal Pradesh :

Pepper : Surjmukhi,

Cauliflower: Pride of India, Shweta, Madhuri, Himrani.

Cucumber : Kiyan seedless/243, Matgaura, Maliniseeded

Pea: Ageta – 6 or Arkal pea

Jammu & Kashmir

Vegetables : Pumpkin: Arka Suryamukhi and Arka Chandan, Bittergourd: Pusa Domousami & Pusa Vishesh

Bottlegourd: Pusa Summer Prolific Long, Pusa Summer Prolific Round, Spongegourd: Pusa Chikni and Pusa Supriya, Pusa Nasadar Radish: Japanese white, Pusa Chetki Carrot: Nantes,

Turnip: Purple Top White Globe, **Spinach:** All green, Beans: Contender, Pusa Parvati and Arka komal, Methi: Pusa Early Bunching and Kasuri methi.,

Knol-khol: White Vienna and Purple Vienna, Cabbage: Golden Acre and Pride of India, Pusa Mukta

Brinjal: Pusa Purple Long, Pusa Purple Cluster, Cauliflower: Pusa Snowball, Pusa Snowball K-I

Til: Punjab Til-1

Okra: (Varsha Uphar, Parbhani Kranti and A-4), Pumpkin (Arka Suryamukhi & Arka Chandan)

Punjab & Haryana

Punjab :

Okra: Punjab-8, Punjab-7 and Punjab Padmani

Radish: Punjab Ageti & Pusa Chetki.

Cauliflower: Punjab Giant 26

Delhi

Radish: Versa ki rani, summer long, long chetaki, Pusa chetaki

Spinach: All green

Coriander: Pant Haritama or hybrids

Cauliflower: Pusa sharad, Pusa hybrid-2, Pant shubra.

Sarson saag: Pusa saag-1;

Rajasthan

Vegetables : Tomato : Pusa Ruby, Pusa early dwarf, Roma, Brinjal: Pusa long, Meghdoot, Arka Bahar, Pusa summer and prolific round, Cucumber: Balam, Pusa Sahyog, Early Radish: Pusa Chetki, Carrot: Pusa Kesar,

Early cauliflower : Pusa hybrid-2, Improved chinese and Pusa Himjyoti,

Sweet potato: Pusa Safed, Pusa Lal, Pusa Sunhari & L-20,

Mid season cauliflower: Improved Japanese, Pusa hybrid-2 & Himjyoti

Ashwaghandha : Improved varieties - Ashwaghandha-20 and Ashwaghandha-134.

Uttarakhand

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

Fodder Maize: African Tall, Jawahar or Kisan Variety

Tomato: Pant Bahar, Pusa Rubi, Navin

Toria: PT-303, PT-507.

Uttar Pradesh

Moong : Type-44, Pant Moong-1,2, Narendra Moong-1, PDM-11, MUM-2, Malviya Jagruti, Samrat, Pusa Vaishakhi K. , K-851, JM-721 etc.

Urad : Azad Urd-1,2, Bhokhar-1,2, Type-9, Uttara etc. JT-9, Pant U-19, Narendra ; Pant U-35

Arhar : U.P.A.S.-120 and T 21.

Karnataka

Finger millet: Indaf-5, Indaf-9, GPU-48, KMR-204, MR-365 and GPU-28.

Fodder Maize: Deccan-103

Sunflower : Morden, BSH-1.

Aerobic rice: MAS-946-1, Rasi and KRH-2

Redgram: BRG-1 and BRG-2.

Rice: MTU-1010, IR-64, Raksha, BPT-5204 and JGL-1798
Cotton: Jayadhar, DDHC-11 and RAHS-14, KC 3 and PA 255
Cow pea: TVX-944, KBC-1 and KBC-2.
Field bean: HA-3 and HA-4
Sorghum: K 8 and K 11
Green gram: CO 6
Sunflower and coriander: CO 4
Pearl Millet: CO (Cu) 9
Gingelly: TMV 3

Andhra Pradesh

Rice : (Swarna, Chatanya, Krishnaveni, Sambamasuri, Bapatlasannalu, Amara, Sriranga, NLR-T-145 (Swarnamukhi), LNLR-9674 for salt affected areas: Deepthi, Vikal, Vedagiri and Somaseela.

Tamil Nadu

Late samba and Thaladi: ADT 38, ADT 46, ADT 49, Improved white ponni, IR 20, Ambai 19, Paiyur1, Trichy 1, Trichy 3, Co 48, Co 49 and Co 50.

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

Assam

Sali rice: Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal, Masuri, Monohar (**for typical lowland rice area**), Satya and Basundhara (**for medium lowland area**).

Rice for flood affected areas: Profulla and Gitesh.

Short duration rice for flood affected areas: Luit, Kapilee, Dichang etc.

Traditional sali rice for flood affected areas: Sonamukhi, Manohar Sali, Bordha, Andru Sali, Solpona.

Submergence tolerance Sali rice varieties: Jalashree and Jalkuwari.

Sesame: Punjab Til No. 1, Gouri, Vinayak, Madhabi, ST-1683.

Early cauliflower: Early Kunwari, Pusa Katki, Pusa Deepali.

Dolichos bean: Asina

Green gram: T-44, Kopergaon, K-851, ML-56, ML-131.

Black gram: T-9, T-27, Pant U-19, T-122, Saonia Mah (SB123), KU 301, USJD113.

Manipur

Cauliflower: White Shot.

Orissa

Okra: Utkal Gourav, Arka Anamika, Varsha Uphar, Parvani Kranti and all available hybrid varieties.

Kharif rice:

Early maturing varieties: Parijat, Khandagiri, Vandana, Jogesh, Siddant.

Medium maturing varieties: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Lalata, Kharavela, Naveen, Surendra, MTU-1001, MTU1010, Abhisek.

For flash flood areas: Swarna Sub-1, Barsadhan.

Hybrid varieties: CRHR-32, Ajay, Rajalaxmi, BS6444G, JKRH-401, ARIZE 6444G, JKRH-3333.

Green gram: PDM-11 & 54, K-851.

Black gram: T-9, Pant U-11, Pant U-19, Pant U-30.

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.

Lemon: Ureka, Lisbon, Bhillafranka of lemon and Kagazi lembu, Mexican lime, Sarbati lime and Tahita of lime.

West Bengal:

Aman rice: IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Cauliflower: Kanwari, Jowhar, Moti, Early Patna.

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

Jharkhand:

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

Urad: Pant Urad -19, Birsa Urad -1.

Til: Kanke Safed and Krishna.

Horse gram: Birsa kulthi-1, G.H.G.-20.

African Marigold: Pusa Narangi, Pusa Basanti.

French Marigold: Petite Orange, Petite Yellow, Rusty Red, Lemmon Drop.

Niger: Birsa niger – 1 or Birsa niger- 2

Green Pea: Arkel, Kashi Nandini, PE-6, Azad pea, Birsa Matar

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

Bihar

Urd: T-9.

Arhar: Bahar, Narendra Arhar 1, Malviya 13.

Pigeon pea: Navin

Gujarat:

Castor: GAUCH-1, GCH-2, 4, 5, GCH-5, 6 or 7 for dry land

Maize: GM-1, 2.

Sesamum: GT-1, 2, 3, 4, Purva-1.

Green gram: GM-3, GM-4, K-851. Meha, GG 4

Black gram: T-9, GU-1.

Cowpea: Gujarat Cowpea-1, 2, 3,4,Pusa Falguni.

Pigeon pea: GT-1, GT-100, GT-101, T-15-15, BDN-2, IPCL-87, Pusa Ageti, GTH-1.

Cluster bean: HG-75 or G.C.-1, G.Guar-2, SG-74

Urad: T- 9, GUB- 1

Sorghum: GJ-39, GJ-40 GJ-41 and GFS-4, GFS-5

Dual purpose sorghum: Gundari

Ajwan: Guj. Ajwan-1 & Guj. Ajwan-2

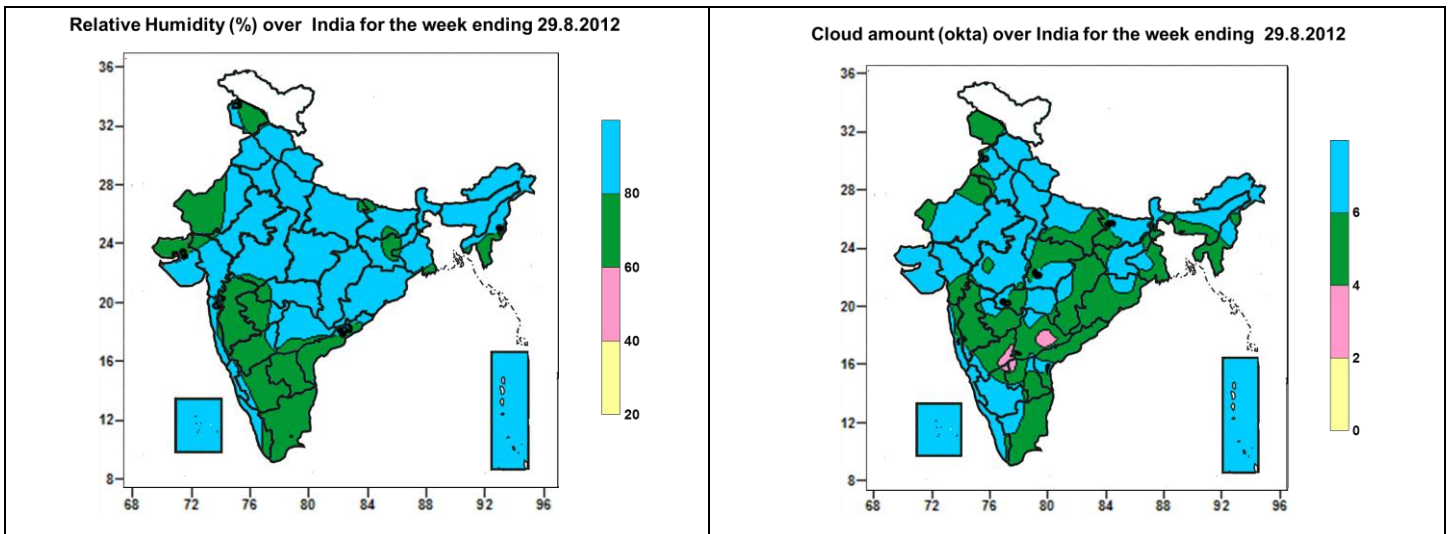
Maharashtra

Jowar: Ruchira, Phule Amruta and gaint bajra and African tall

Maize: Manjari composite

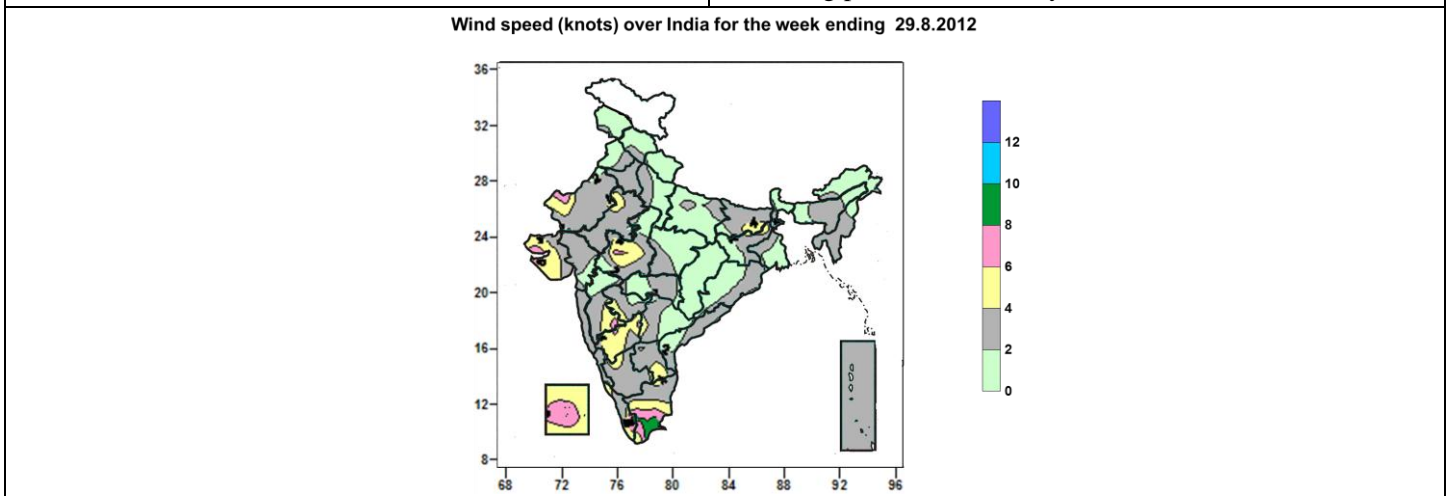
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 29.08.2012



Relative humidity ranged between 60 to 80 % over most parts of Jammu & Kashmir, West Raasthan, Madhya Maharashtra, Marathwada, North & South Interior Karnataka, Coastl Andhra Pradesh, Tamil Nadu, some parts of East Uttar Pradesh, Bihar, Jharkhand, Tripura, Konkan & Goa, Gangetic West Bengal, Saurashtra, Tripura, Kerala, 80 % and above over remaining parts of the country.

Cloud amount 4 to 6 okta over most parts of Jammu & Kashmir, East Uttar Pradesh, Gangetic West Bengal, Tripura, Orissa, Chattisgarh, Andhra Pradesh, North Interior Karnataka, Maharashtra, Tamil Nadu, some parts of Punjab, Haryana, Delhi, West Rajasthan, Gujarat, Assam, Nagland, Mizoram, Bihar, Jharkhand, Sub-Himalayan West Bengal, South Interior Karnataka, Kerala and 6 okta and above over remaining parts of the country.



Wind speed ranged between 8 to 10 knots and above over some parts of Coastal Tamil Nadu, 6 to 8 knots over some parts of West Rajasthan, Saurashtra & Kutch, Madhya Maharashtra, South Interior Karnataka, Tamil Nadu, Kerala, Lakshdweep Islands, and below 6 knots over remaining parts of country.