



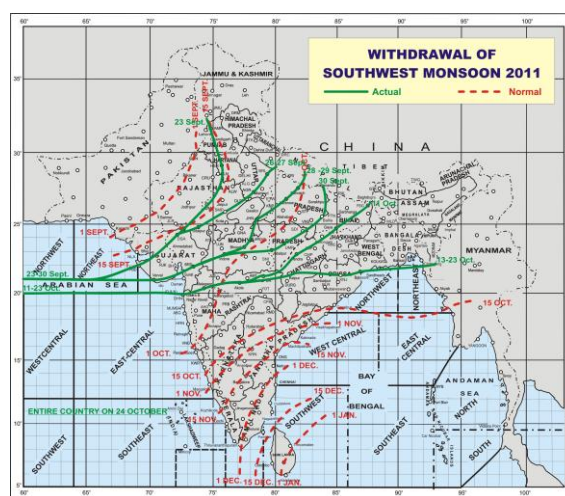
National Agromet Advisory Bulletin

Thursday, 27th October, 2011

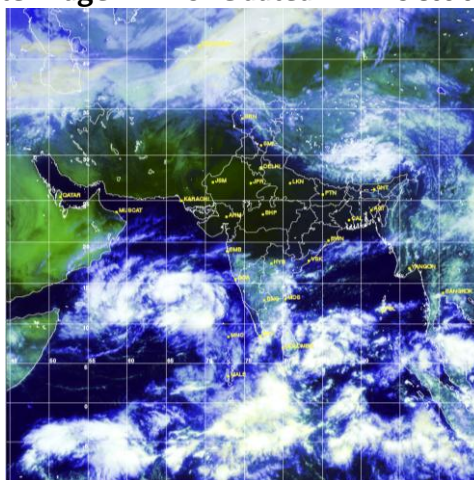
(For the period 27th to 31st October, 2011)

Monsoon Watch

Southwest Monsoon has withdrawn from entire country on 24th October. Simultaneously, the Northeast Monsoon rains have commenced over Tamilnadu and adjoining areas of Andhra Pradesh and Karnataka states.



Satellite image 0600 UTC dated 28th October, 2011



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.imdagrimet.gov.in>) of the Division

Executive Summary

The northeast monsoon remained vigorous over coastal Tamil Nadu and active over interior Tamil Nadu and Kerala with isolated heavy to very heavy falls over coastal Tamil Nadu. As excess rainfall occurred in many districts of Tamil Nadu, drain out excess water from the fields and undertake land preparation and sowing of sowing of rainfed *rabi* crops viz., sorghum, maize, pearl millet, cotton etc after draining out of water.

Dry weather prevailed over most parts of the country. Farmers are advised to undertake harvesting of matured *kharif* crops. In the areas where late sowing of *kharif* crops was undertaken, arrange for supplementary irrigation as the crops are now at critical stages for irrigation. After harvesting of *kharif* crops, undertake minimum tillage for preserving residual soil moisture and sowing of *rabi* crops.

Due to favourable weather condition, farmers are advised to undertake land preparation and sowing of mustard, niger, rainfed groundnut and sunflower in Orissa, mustard and toria and winter vegetables like cauliflower, cabbage, chilli, tomato etc in Jharkhand, mustard, spices like coriander, cumin, fennel and fenugreek in West Bengal, wheat, gram, toria, onion, garlic, tomato, brinjal, chilli in Madhya Pradesh, sowing/transplanting of tomato, brinjal, chilli, niger, horsegram, ramtil, toria, cauliflower, cabbage, niger, kulthi in Chhattisgarh, gram, sorghum, safflower, green pea and nursery sowing of rabi vegetables eg. cauliflower, cabbage, tomato etc in Madhya Maharashtra, maize, jowar, Lucerne, mustard, cluster bean and sweet corn in Gujarat, onion, garlic, brinjal (early varieties), cauliflower (early varieties), cabbage, knoll khol, tomato, radish, country bean, Dolichos bean, niger, bulk wheat, rapeseed and mustard etc. in Assam, rapeseed, mustard, pea etc in Nagaland

Due to prevailing weather, incidences of stem borer and gall midge in paddy, red palm weevil, rhinoceros beetle, coried bug, bud rot, stem bleeding in coconut, mahali disease in arecanut and pollu and phytophthora foot rot in pepper in Kerala below economic threshold level are reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

Distribution of rainfall of the country during last week

State/Districts	Actual	26.10.11
Arunachal Pradesh		
Changlang	0	-100
East Kameng	0.4	-99
East Siang	15.9	-58
Lohit	26.5	5
Lower Subansiri	11	-57
Papumpara	2	-88
Tawang	9	-66
Tirap	33	20
Upper Siang	12.4	-75
Upper Subansiri	5.8	-60
West Kameng	3	-89
Assam		
Barpeta	2	-90
Bongaigaon	13.8	-48
Cachar	18.4	-21
Chirang	0.4	-98
Dhubri	2.6	-84
Dibrugarh	3.9	-80
East Garo Hills	1	-97
East Khasi Hills	5.2	-89
Goalpara	8	-60
Golghat	20.5	45
Hailakandi	12	33
Jaintia Hills	9	-71
Jorhat	9	-45
Kamrup (metropolitan)	10.7	-36
Kamrup	0.3	-98
Karbi Analog	0.9	-94
Karimganj	12.2	-44
Kokrajhar	9.2	-55
Lakhimpur	1.5	-91
Morigaon	32.8	46
N.C.Hills	0	-100
Nowgong	6.1	-72
Nalbari	0.2	-98
Ribhoi	16.9	11
Sonitpur	4.3	-80
Sibsagar	21.5	89
Tinsukia	7	-63
Udalgiri	3.2	-82
Himachal Pradesh		
Bilaspur	0	-100
Chamba	8.5	1
Hamirpur	0.2	-95
Kangra	3.1	-25
Kinnaur	0.1	-99
Kullu	2.7	1
Lahaul and Spiti	9.3	-3
Mandi	0.1	-97
Shimla	0	-100
Sirmaur	0	-100
Solan	0	-100
Una	0	-100
UttaraKhand		
Almora	0.1	-94
Bageshwar	5.6	211
Chamoli	0.5	-79
Champawat	0	-100
Dehradun	0	-100
Garhwal Pauri	0	-100
Garhwal Tehri	1.0	-80
Haridwar	0	-100

Nainital	0.3	-84
Pithoragarh	5.7	54
Rudraprayag	27.5	919
Udham Sing Nagar	0.0	-100
Uttarkashi	1.6	-82
Bihar		
Araria	0	-100
Arwal	0	-100
Aurangabad	0	-100
Begusarai	45.5	423
Bhagalpur	1.1	-89
Bhojpur	0	-100
Buxar	0	-100
Darbhanga	12	67
East Champaran	0	-100
Gaya	0	-100
Gopalganj	0	-100
Jahanabad	0	-100
Jamui	0	-100
Kathihar	1.5	-89
Khagadia	2.6	-76
Kishanganj	0	-100
Lakhisarai	9.3	-24
Madhepura	1.4	-76
Monghyar	10	-18
Muzaffarpur	14.5	145
Nalanda	3.6	-47
Nawada	0	-100
Patna	1.3	-83
Purnea	1.2	-88
Rohtas	0	-100
Saharsha	0	-100
Saran	0	-100
Sheikpura	15	97
Sheohar	13	81
Sitamarhi	4.2	-42
Siwan	0	-100
Supaul	0.2	-98
Vaishali	2.8	-49
West Champaran	0	-100
Jharkhand		
Bokaro	41.9	176
Dhanbad	10.7	-32
East Singbhum	24.8	94
Giridih	5.6	-56
Godda	0	-100
Hazaribagh	0	-100
Jamtara	29.4	51
Pakur	27	62
Palamau	0	-100
Ramgarh	25.2	63
Ranchi	20.2	72
West Singbhum	0	-100
Orissa		
Angul	21.9	30
Balasore	18.2	-37
Bargarh	0	-100
Bhadrak	7.5	-41
Bolangir	1.2	-90
Boudh	0	-100
Cuttack	10.2	-24
Deogarh	16.1	45
Dhenkanal	31.4	61
Gajapati	24	73
Ganjam	39.6	16
Jagatsingpur	28.7	117

Jajpur	3.8	-75
Jharsuguda	0	-100
Kalahandi	0	-100
Kandhamal	19.5	25
Kendrapara	0.3	-99
Keonjhar	13.9	-4
Khurda	1.4	-95
Koraput	25.3	-6
Malkangiri	0	-100
Mayurbhanj	17.8	26
Nawapara	0	-100
Nawarangpur	0	-100
Nayagarh	0	-100
Puri	3.1	-89
Rayagada	11.9	59
Sambalpur	4.9	-56
Sonepur	0.2	-98
Sundargarh	13.1	88
West Bengal		
GWB		
Bankura	8.9	-31
Birbhum	2.1	-89
Burdwan	22.7	38
East Midnapore	17.5	-46
Hooghly	10.9	-36
Howrah	2.6	-77
Kolkata	10.0	-55
Murshidabad	1.4	-90
Nadia	7.5	-45
24 Pargana (N)	29.8	-57
Purulia	10.5	-9
24 Pargana (S)	31.5	-11
West Midnapore	3.4	-79
SHWB		
Cooch Behar	13.8	-13
Darjeeling	19.8	118
East Sikkim	23.6	86
Jalpaiguri	25.7	54
Malda	12.4	-18
North Dinajpur	5.4	4
North Sikkim	18.6	-52
South Dinajpur	3.2	74
South Sikkim	12.8	1
West Sikkim	13.0	-67
Karnataka		
Coastal Karnataka		
Dakshin Kannada	101.2	134
Udupi	37.2	-5
Uttar Kannada	30.1	18
North Interior Karnataka		
Bagalkote	14.4	-32
Belgaum	12.0	-45
Bidar	0.0	-100
Bijapur	4.5	-79
Dharwad	24.4	21
Gadag	15.2	-40
Gulbarga	0.5	-97
Haveri	13.8	-38
Koppal	6.9	-67
Raichur	2.2	-88
Yadgir	1.8	-93
South Interior Karnataka		
Bangalore Rural	25.8	-13
Bangalore Urban	40.6	41
Bellary	10.4	-53
Chamarajnagar	46.2	41

Chichballapur	39.9	60
Chickmagalur	22.5	-33
Chitradurga	12.3	-49
Davangere	4.8	-78
Hassan	35.1	10
Kodagu	70.3	71
Kolar	30.0	21
Mandya	41.9	45
Mysore	79.4	140
Ramnagara	41.7	32
Shimoga	15.7	-36
Tumkur	26.1	-6
Kerala		
Alappuzha	60.0	-22
Kannur	72.3	39
Ernakulam	36.7	-45
Idukki	142.4	72
Kasaragod	80.8	69
Kollam	35.6	-58
Kottayam	104.7	42
Kozhikode	85.1	39
Malappuram	78.4	24
Palakkad	122.6	103
Pathanamthitta	82.8	-10
Thiruvananthapuram	34.9	-49
Thrissur	121.7	92
Wyanad	90.5	58
Tamil Nadu		
Chennai	112.3	34

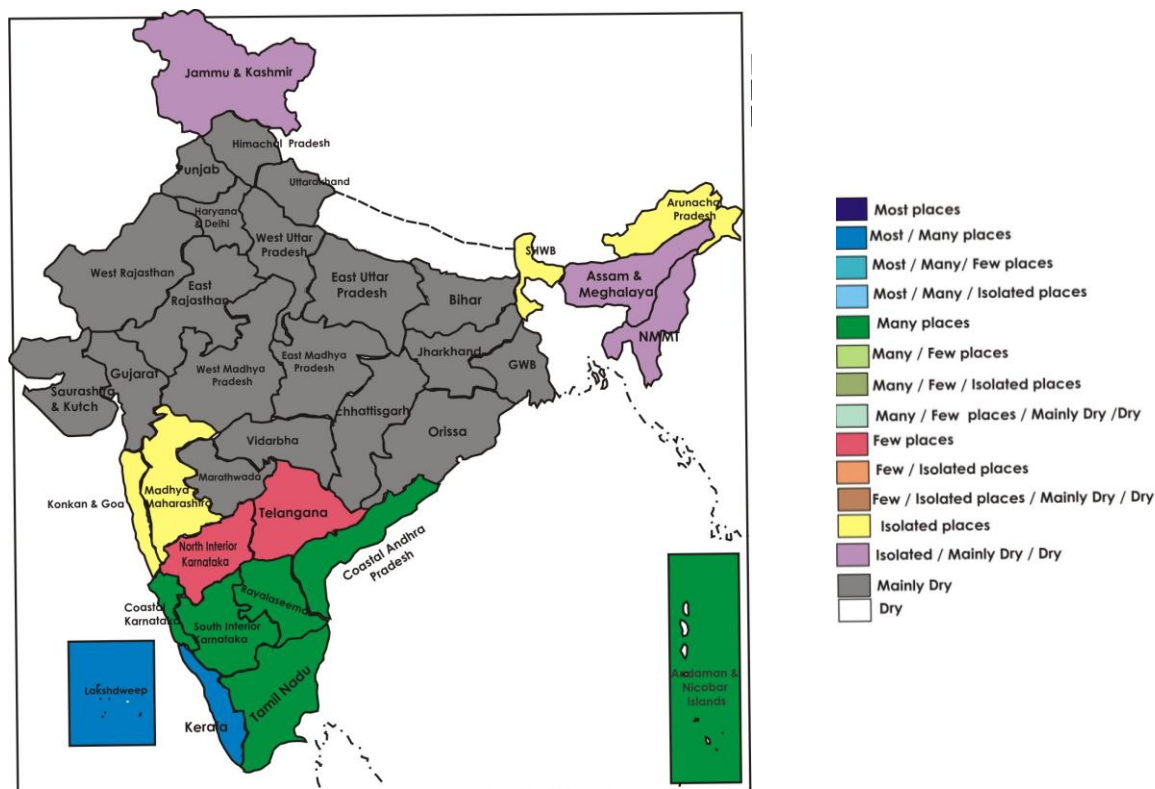
Coimbatore	62.6	50
Cuddalore	88.7	32
Dharmapuri	37.6	-7
Dindigul	45.2	0
Erode	89.8	133
Kanchipuram	87.1	21
Kanyakumari	47.9	-31
Karur	16.1	-54
Krishnagiri	35	-3
Madurai	16	-67
Nagapattinam	65.6	-16
Namakkal	32.9	-2
Nilgiris	83.2	44
Perambalur	23.3	-52
Puducherry	27.2	-71
Pudukottai	11.1	-71
Ramanathapuram	81.6	50
Salem	30	-28
Sivaganga	46.5	-7
Thanjavur	36	-24
Theni	41.1	-8
Tirunelveli	31.8	49
Tiruvallur	53.5	-8
Tiruvannamalai	32.5	-35
Tiruvarur	92.6	46
Toothukudi	91.1	90
Trichy	21.3	-42
Vellore	27.6	-23
Villupuram	43.9	-16

Virudhunagar	31.2	-33
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	30	-28
Guntur	21.1	-32
Krishna	16.2	-50
Nellore	63.7	-8
Prakasam	46.8	25
Sirkakulam	21.6	-44
Visakhapatnam	8.4	-79
Vizianagram	44	11
West Godavari	10.5	-73
Telangana		
Adilabad	0	-100
Hyderabad	0.1	-99
Karimnagar	0	-99
Khammam	4.1	-76
Mehabubnagar	0.1	-99
Medak	0	-100
Nalgonda	4.9	-73
Nizamabad	0	-100
Rangareddy	0.8	-95
Warangal	0	-100
Rayalaseema		
Anantapur	13.1	-37
Chittoor	25	-35
Cuddapah	30.2	9
Kurnool	7	-61

	(20% or more) excess rainfall
	(-19 to +19%) normal rainfall
	(-20 to -59%) deficient rainfall

	(-60 to -99 %) scanty rainfall
	(-100%) no rainfall
**	Data not available

Weather Forecast (Valid upto 1430 hours of 30th October, 2011)



Major Feature of Weather Forecast upto 1430 hours IST of 30th October, 2011

- Rain/thundershowers would occur at most places over Kerala and Lakshadweep during next 24 hours and decrease thereafter.
- Rain/thundershowers would occur at many places over Tamilnadu, coastal Andhra Pradesh, Rayalaseema, coastal & south interior Karnataka and Andaman & Nicobar Islands and at a few places over remaining parts of south peninsular India.
- Rain/snow would occur at one or two places over Jammu & Kashmir after 24 hours.
- Rain/thundershowers would occur at one or two places over northeastern states, Sub-Himalayan West Bengal & Sikkim, south Konkan & Goa and south Madhya Maharashtra.
- Mainly dry weather would prevail over remaining parts of the country.

Weather Warning

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

Weather Outlook up to 1430 hours IST of 1st November, 2011

- Rain/thundershowers would occur at many places over extreme south peninsular India.
- Rain/snow would occur at a few places over Jammu & Kashmir and at one or two places over Himachal Pradesh and Uttarakhand.
- Weather would be mainly dry over remaining parts of the country.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Either mainly dry weather / no significant rainfall occurred / prevailed over the states of the region during last week.
- **Rainfall Forecast:** Either mainly dry weather / isolated rain may occur over the states of the region during next three days.
- **Advisory**
 - As there is no significant rain during last couple of weeks in most of the districts of the States of the region and no significant rainfall is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
 - In Assam, farmers are advised to complete sowing of onion, garlic, brinjal (early varieties), cauliflower (early varieties), cabbage, knoll khol, tomato, radish, country bean, Dolichos bean etc. Start land preparation and sowing of niger, bulk wheat, rapeseed and mustard etc.
 - Farmers in Karbi Anglong region in Assam are advised coconut planting in low lying areas with irrigation facility by sub- surface planting method.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest matured maize cobs and WRC crops (rice-IR-8 cultivar) and dry properly before storing.
 - Farmers in Arunachal Pradesh are advised to start land preparation and sowing for *rabi* crops and transplanting of vegetables.
 - Farmers in Mid Tropical Hill Zone in Nagaland are advised to undertake sowing of *rabi* crops like rapeseed, mustard, pea etc. Undertake harvesting of upland rice. Farmers are advised to drain water from the rice field about 7-10 days before harvest to facilitate harvesting.
 - Farmers in Mid-tropical plain zone of Tripura are advised to prepare nursery for sowing of early cauliflower, other cole crops, turmeric, radish and brinjal (early).
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue to prepare bed for raising nursery of tomato, onion, cabbage, cauliflower etc.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Central Brahmaputra Valley Zone in Assam, there is attack of gundhi bug in panicle initiation stage of *Sali* rice; to control the attack, apply Malathion 5% dust @ 20 kg / ha.
 - In Hill Zone of Assam, there is chance of infestation of blast where the crops are at panicle initiation stage; farmers are advised to monitor *sali* rice and spray Hinosan @ 1 ml / litre of water to control the attack.
 - In upper Brahmaputra Valley Zone in Assam, there is attack of stem borer and caseworm at maximum tillering and panicle initiation stages of rice; farmers are advised to monitor the crops and spray Chloropyrifos (20%) @ 2 ml / litre of water to control the attack.
 - In Sub Tropical Plain Zone of Manipur, there is chance of occurrence of disease like neck blast and insects like stem borer and brown plant hoper in rice; farmers are advised to monitor and spray Tricyclazole @ 6 g / 10 litres of water against neck blast, spray Fipronil 80% WG @ 2 g / 15 litres of water against stem borer and brown plant hopper.
 - In Mild Tropical Plain Zone of Tripura, due to the prevailing weather condition, there is chance of attack of bacterial wilt, sucking insects / pests, leaf roller and disease like blast in *aman* rice; farmers are advised to spray streptomycin @ 1-2 g in 5 liters of water and Cereson 0.5% @ 2.5 g in one liter of water against bacterial wilt; undertake dusting in rice with Folidol @ 20-25 kg / ha in the morning hours when the is leaf wet

to control the attack of sucking insects / pests; spray Cypermethrine + Prophenofos @ 1.5 ml per liter of water to manage the attack of leaf roller and Benlate or mancozeb @ 0.25% against blast.

- Stages of major crops are mentioned in Annexure I.

Animal Husbandry:

- In Mizoram and Tripura, due to prevailing weather conditions, there is chance of infestation of round worm, flukes and tapeworms in cattle; farmers are advised to de-worm cattle by using appropriate de-wormer like Albendazole, Rafoxanide and Praziquantel, respectively. All pigs should be vaccinated against swine fever at the age of 2-4 weeks. Breeding pigs should be tested for brucellosis and leptospirosis.
- In Nagaland, due to ingestion of contaminated feed and water, there is chance of effect of Foot and Mouth Diseases in livestock. To control the disease, apply Bonoglycerine on mouth lesions, mouthwash with 1% KMnO₄, foot wash with 2% copper sulphate or 2-4% sodium carbonate solution.
- In Manipur, cattle farmers are advised to de-worm and vaccinate cattle against Black Quarter, poultry against Ectoparasites, Coccidiosis, Ranikhet, pig and goat against Endoparasites, FMD, Ectoparasites etc.

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

- **Realised Rainfall:** No significant rain occurred in most of the districts of the States of the region during last week.
- **Rainfall Forecast:** Isolated rain is likely to occur over Gangetic West Bengal and mainly dry weather will prevail over remaining parts of the region during the period.
- **Advisories:**
 - As there is no significant rain during last couple of weeks in most of the districts of the States of the region, farmers are advised to apply irrigation to the standing crops in West Bengal, Bihar, Jharkhand and Sikkim.
 - Undertake sowing of oilseed crop like mustard immediately in Western Undulating Zone of Orissa utilizing residual soil moisture.
 - Farmers are advised for sowing of pre-*rabi* green gram, niger, rainfed groundnut, cole and sunflower in the fallow uplands and also the weather is optimum time of sowing of fodder oat in irrigated up-medium and medium land in East and South Eastern Coastal Plain Zone of Orissa.
 - Taking the advantage of relatively dry weather, harvest the pods of *kharif* green gram and black gram in Orissa.
 - As weather is likely to be dry, farmers in North Bihar and South Bihar Alluvial Zone are advised to undertake weeding / hoeing and top dressing of urea in early transplanted cauliflower, chilli, brinjal, tomato etc. Weeding and earthing-up should also be carried out for newly planted fruit trees as well as old ones. Start sowing of oilseeds, *rabi* pulses, potato.
 - In North West Alluvial Zone of Bihar, farmers are advised to prepare the land in upland areas for sowing of rapeseed.
 - As the temperature condition is favourable, farmers in the districts of north Bihar are advised to continue sowing of yellow sarson (mustard). Farmers are also advised to carry out land preparation and sowing of other *rabi* crops in these districts.
 - Farmers in Central, Western and North Eastern Plateau Zone of Jharkhand are advised to continue sowing of toria, niger, bell pepper, green pea, tomato, cabbage, cauliflower, capsicum, potato etc.
 - Farmers in Central Plateau Zone of Jharkhand are advised to grow African marigold or French marigold.
 - In Western Plateau Zone of Jharkhand, farmers are advised to sow mustard and toria after harvesting of *kharif* crops. It is the time for sowing of winter vegetables like

cauliflower, cabbage, chilli, tomato etc. Farmers are advised to raise the seedlings of these vegetables.

- Farmers in South Eastern Plateau Zone of Jharkhand are advised to undertake sowing of green pea in fallow medium land for the utilization of residual soil moisture.
- Farmers in Laterite and Red soil Zone of West Bengal are advised to Maintain stagnant water of 5 cm throughout Grain filling stage of Aman paddy. irrigation can be given as per requirement. At this time farmers can also go for the sowing of carrot, radishes with little moisture during germination. cut the existing Aus crop as early as possible because no rainfall has been forecasted for coming four days.
- Farmers in New Alluvial Zone of West Bengal are advised to Mustard can be sown within 15th Oct. – 15th Nov. Start sowing seeds of mustard utilizing the stored soil moisture. Keep provision of good drainage for future.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Weather is conducive for the attack of stem borer in turmeric and ginger in South Eastern Plateau Zone of Jharkhand; spray Roger @ 1 ml per litre of water and also remove affected parts. Collar rot disease is seen in elephant foot yam; spray Carbendazim @ 1g + Thirum @ 2 g per litre of water.
- Cool and high humid weather condition may favour the spreading of false smut disease in rice in South Eastern Plateau Zone of Jharkhand; spray Tilt @ 1 ml per litre of water. Clear sky with cool and high humid condition may also favour gundhi bug infestation in rice; spray Chlorpyrifos 20 EC @ 0.6 litre per acre or Carbaryl 50 percent WP @ 1 g or Carbaryl 5 percent dust @ 10 kg per acre during dusk or evening time. In late transplanted rice crop attack of case worm is seen heavily; spray Chlorpyrifos 20 EC @ 0.6 litre per acre.
- Present weather situation also favours occurrence of Anthracnose disease in cucurbitaceous crops in South Eastern Plateau Zone of Jharkhand; spray Blitox 50 @ 3 g per litre of water.
- Timely sown crop of maize is at maturity stage in South Eastern Plateau Zone of Jharkhand; hence, to prevent grains of cob from parrot attack, fence with shining wire around the field, which act as a repeller.
- Infestation of spotted boll worm in cotton in East and South Eastern Coastal Plane Zone of Orissa is reported; spray 200 LE HNVP along with gur, if it crosses the ETL level of 5 –10 % of affected twigs and install pheromone trap in the middle of the field at 1 ft above the crop height.
- In some places of South Bihar Alluvial Zone, infestation of gundhi bug in rice is reported; for its control apply Methyl parathion / Ekalex (2% dust) early in morning @ 20-25 kg / ha.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- In North Eastern and Central Plateau Zone of Orissa, to control ticks and mites in animals, spray Butox @ 2 ml per litre on animals' body and 1-3 ml per litre in the shed. RD vaccine should be given immediately to the chicks which are 7 days old. To prevent coxidirosis disease, spray antibiotic solution named Kohrsolin-TH in the poultry house. Periodic vaccination viz. FMD, HS & BQ may be carried out to protect the dairy animals. Clean and hygienic water should be fed to dairy animals. Keep the animal shed clean. Produce and use Azolla as animal feed. Feed the milch animals @ 1 kg feed in two litres of water mixed in 50 g mineral salt.

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

- **Realised Rainfall:** Mainly dry weather prevailed over the region except Uttarakhand where non-significant rainfall occurred during last week.
- **Rainfall Forecast:** Isolated rain/thundershowers would occur over Jammu & Kashmir after 24 hours. Mainly dry weather would prevail over rest parts of the region during next three days.
- **Advisory:**
 - As there was no significant rainfall in most of the districts over the region during last week, apply irrigation to the standing crops.
 - In view of present dry weather farmers in Delhi are advised to undertake harvesting of rice crop. Present weather is favourable for sowing of mustard, pea, *rabi* onion, garlic, potato, gram, sarson saag, radish, spinach, fenugreek, coriander, turnip and oat, barseem for fodder. Transplant mature seedlings of cauliflower, cabbage, broccoli, tomato and chrysanthemum and marigold in raised beds. Nursery preparation should be started for late crops which will be mature in December or January. Sow gladiolus in prepared fields.
 - As weather is expected to be dry in coming days, farmers in Punjab and Haryana are advised to complete harvesting of paddy crop and also can start picking of cotton balls. Present weather is favourable for sowing of wheat, kabuli gram (except in humid areas of Gurdaspur, Hoshiarpur and Ropar districts in Punjab), oil seeds like raya, African sarson, gobhi sarson, vegetables like mid season pea, radish, carrot, turnip, Lucerne and oats, senji, barseem for fodder. Complete planting of sugarcane and start transplanting of main season varieties of cabbage and cauliflower. Prepare nursery bed for sowing of tomato.
 - In Sub Tropical Zone of Jammu & Kashmir farmers are advised to go for sowing of barley, early variety of wheat, under rainfed and irrigated area due to presence of sufficient moisture in the soil. But before sowing treat the seed with vitavax or bavistin or agrozim @ 2g/kg of seed in order to avoid the crop from seed borne disease. Apply recommended dose of fertilizer as basal dose in both conditions. Also advised for sowing of mustard, vegetable crop like radish, carrot, turnip, garlic, spinach and methi, and also advised transplanting of cauliflower and knol khol from nursery to field site during this period.
 - Farmers in Bhabar and Tarai Zone of Uttarakhand are advised to continue harvesting & threshing of matured rice, soybean, groundnut, moong & urd crops. This week temperature conditions will also remain favourable for sowing of potato, barley, oats, Autumn Sugarcane crop, Temperature conditions will remain also congenial for sowing of Berseem as green fodder crop for animals during this week.
 - In Southern Humid Plain Zone, due to bright sun shine, crop damages due to excess rains is expected to cover to some extent with extended maturity period specially in soybean & cotton, irrigation as per need at square formation is advised to farmers.
 - In Semi Arid Eastern Plain Zone, Mustard crop is likely to be affected by the attack of Painted bug & mustard saw fly farmers are advised to apply Endosulfan 4% or Methyl parathion 2% @ 20-25 kg ha⁻¹ for the control of same insects. Also, blight disease may spread in tomato, chilli & brinjal crops. Farmers are advised to spray Mencozeb @ 2 gm per litre water.
 - In Sub Tropical Zone of Jammu & Kashmir prevailing weather conditions may favorable for the infestation of flea beetle in toria crop under such situations farmers are advised to spray the crop with Carbaryl 50 WP @ 2gm/lt or Malathion @ 0.05 %. Also apply 2nd second dose of urea in toria due presence of sufficient moisture in the soil.
 - Farmers in the high hill temperate dry zone of Himachal Pradesh are advised to spray Imadachloprid for wooly aphid and orchard oil for mites control in apple orchards. Do not spray chlorpyrifos if mites are problem in orchard. For the control of rats use carbafluron granules near trunk before the snow fall.

- In New Delhi present weather is favourable for attack of fruit borer and diamond back moth in vegetables like brinjal, cauliflower, cabbage, tomato etc. Spray Spinosad 1.0 ml / 4 litre of water for control of above pest and also there may be attack of mite and jassid on ladyfinger, brinjal and chilli. Spray phosmite @ 1.5 - 2 ml per litre of water to control mite and Dimethoate 30 EC @ 2 ml per liter of water to control jassid.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandary**
 - In Punjab the crossbred animals are more susceptible to various diseases associated with change in climatic conditions. These animals and their calves are likely to get diarrhoea may be due to internal parasites. Seek veterinary advice immediately and get the calves dewormed and diarrhoea treated.
 - Due to changing environment milch and baby animals are likely to be affected with infection of respiratory tracts in In Semi Arid Eastern Plain Zone of Jaipur in Rajasthan. 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. Looking to the forecast of falling night temperature, are advised to protect their infant animals from pink cold. They are also suggested for deworming of animals.

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

- **Realised Rainfall:** Most of the districts of Coastal and South Interior Karnataka, Kerala, Coastal Andhra Pradesh, Tamil Nadu received rainfall. No significant rainfall received in remaining parts of the region.
- **Rainfall Forecast:** Fairly widespread / widespread rainfall is likely to occur in all the States of the region except over Telangana and North Interior Karnataka where scattered rainfall is likely to occur. Heavy rainfall is likely at one or two places in Tamil Nadu and Kerala during next 24 hours
- **Advisories:**
 - Good rainfall occurred in many districts of Tamil Nadu during last week. Farmers are advised to undertake land preparation and sowing of crops. Drain out excess water from the fields to avoid water stagnation.
 - As there was sufficient rainfall in Coastal and South Interior Karnataka, Kerala, Coastal Andhra Pradesh, Tamil Nadu, postpone irrigation to the crops. Apply irrigation to the crops in the remaining parts of the region.
 - Farmers in the Eastern Dry Zone of Karnataka are advised to undertake operations like weeding, thinning of excess population in ragi and gap filling of same age seedlings and also earthing up in ragi crop.
 - Farmers in the North transition zone of Karnataka are advised to continue sowing of rabi sorghum, wheat, Bengal gram and safflower.
 - Farmers in the North East Dry Zone of Karnataka are advised to undertake inter cultivation in cotton and red gram and weed removal for better aeration of the soil. Farmers are also advised to undertake sowing of rabi crops like safflower, rabi jowar & sorghum, Bengal gram. As most of the area is under moisture deficit status, apply protective irrigation to crops like pigeon pea, cotton, sunflower and groundnut which are under stress.
 - Farmers in the coastal zone of Karnataka are advised to postpone the harvesting of paddy as showers are expected in the coming few days.

- Since North East monsoon has commenced over Cauvery Delta Zone of Tamil Nadu and moderate rainfall is expected in the next five days, top dressing in Samba fields and basal application in Thaladi paddy fields may be postponed. The fertilizer application may be done immediately after the rain is over.
- Farmers in the North Eastern Zone of Tamil Nadu are advised to maintain sufficient amount of water in the paddy field, since it is in the growing stage.
- As there is forecast for heavy rain and high humidity in the week ahead, farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to scheduled irrigation accordingly, prophylactic sprays are to be given when there are no showers and ensure good drainage and field sanitation.
- Farmers in the North Western Zone of Tamil Nadu are advised to be ready with selected seeds for sowing as North East monsoon has commenced and the monsoon is expected to have good initial spell of activity.
- Farmers in Kerala are advised to continue transplanting and water management in Mundakan Paddy crop. Second dose of lime @250 Kg/ha. may be applied one month after planting. Mulching with husk, intercropping, interculture, harvesting according to the stage of nuts may be continued in coconut. In areas where surface run off is more, small mounds may be taken in the field and level them after the cessation of the monsoon. Harvesting according to the stage of nuts and fertilizer application may be continued in arecanut. Weeding, mulching with husk and shading may be done in pepper. Weeding, fertilizer application may be done in banana. Fertilizer may be applied @ 30g of N for nendrans just after complete emergence of bunches. Tapping may be continued. Fertilizer application and nursery operations may be continued. Second split application of fertilizers may be done (@450 g/tree of 10:10:10 mixture).
- Pod borer eggs in pigeon pea were noticed in North East Transition Zone of Karnataka. Farmers are advised to take up ovicidal insecticide such as profenophos 2 ml or Thiodicarb 0.6g or Methomyl 0.6g per litre of water to control pod borer eggs.
- Incidence of sucking pests, leaf reddening, Boll worm is noticed in cotton in the North Transition zone of Karnataka. Farmers are advised to spray NSK 5 per cent or oxydemeton methyl (25 EC) @ 1.50 ml / Dimethioate (30 EC) @ 2 ml per litre for sucking pests, drain out the excess water and spray with MgSO₄ @ 10 g per litre for leaf reddening, release Trichogama @ one lakh per acre (two times at 7 days interval at flowering and boll formation stage) for controlling bollworm. To control young ones, after 5 days of release of predator, spray NSKE (5 %)or endosulphan (35 EC) @ 2.7 ml/ L.
- In the scarce rainfall Zone of Rayalaseema of Andhra Pradesh farmers are advised to control leaf folder in paddy by applying Chloripyriphos @ 2.5 ml per liter of water.
- In Kerala, incidence of stem borer and gall midge in paddy; red palm weevil, rhinoceros beetle, coried bug , bud rot, stem bleeding in coconut; mahali disease in arecanut ; pollu disease, phytophthora foot rot is seen in pepper; pseudostem weevil / rhizome weevil, leaf spot is seen in banana. Carbofuran 3G @ 1.8 kg/ha. may be applied against the attack of stem borer and gall midge. Pheromone trap can be used @ one trap per two hectare to control red palm weevil. Leaf axil filling with 25 gm Sevidol 8G and 200 gm fine sand may be done on hot days to control rhinoceros beetle. If the attack of coried bug is severe, spray carbaryl @4g/lit. of water using rocker sprayer. Cut and remove bud rot affected portions and apply 1% Bordeaux mixture on cut surfaces. For the control of stem bleeding disease, drench the basin with calyxin @ 25ml in 25 li of water per palm. Repeat the application in every 30 days interval till the symptom disappears. Apply 1% Bordeaux mixture to control mahali disease. To control pollu caused by flea beetle spraying with 0.5% quinalphose may be done during berry formation period. All the vines may be

drenched over radius of 40 – 50 inches with 0.2 % copper oxy chloride @ 5-10 l / vine for the control of phytophthora foot rot. To control pseudostem weevil and rhizome weevil adopt strict field sanitation. If the attack is severe, remove the outer sheath of the pseudostem of all infested and uninfested plants and spray any of the insecticides quinalphos 0.05% or chlorpyrifos 0.03% or carbaryl 0.2%. Spraying / drenching may be done on all the leaf axils, rhizome, surrounding soil and all round the entire pseudostem inserting the nozzle of the sprayer through the bore holes made by the larvae. Repeat the treatment after 3 weeks, if infestation persists. Apply 1% Bordeaux mixture to control leaf spot.

- Undertake plant protection measures after spells of rain in the region.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** No significant rainfall occurred over the region.
- **Rainfall Forecast:** Rain/ thundershowers would occur at isolated places over Konkan, Madhya Maharashtra. Mainly dry weather would prevail over remaining region.
- **Advisories**
 - As no significant rain is expected during next 3-5 days over the State, farmers are advised to apply irrigation to sugarcane, vegetables and orchard crops.
 - Farmers in Madhya Maharashtra, Marathwada and Vidarbha region of Maharashtra are advised to continue harvesting of matured black gram and soyabean crop. Farmers in South Konkan region are advised to continue harvesting of matured early rice varieties. Farmers in Madhya Maharashtra are advised to start harvesting of matured groundnut.
 - Planting of pre-seasonal sugarcane may be carried out in Madhya Maharashtra. Also undertake field preparation and sowing of rainfed wheat and gram.
 - Farmers in Madhya Maharashtra and Marathwada are advised to undertake sowing of *rabi* jowar with the help of optimum moisture in the field. Farmers are also advised to complete preparatory tillage and undertake the sowing of safflower after harvesting of *kharif* crops.
 - Farmers in Nasik district in Madhya Maharashtra are advised to prepare the land for *rabi* crops and undertake the sowing of rainfed gram and sorghum and nursery sowing of *rabi* vegetables eg. cauliflower, cabbage, tomato etc.
 - As prevailing weather is favourable, farmers of Madhya Maharashtra are advised to undertake sowing of green pea.
 - As there was no significant rain during last few weeks and no significant rainfall is likely in South Gujarat Zone, South Gujarat Heavy Rainfall Zone, Bhal and Coastal Zone and North Gujarat Zone, farmers are advised to apply irrigation to sugarcane, cotton and vegetables crops.
 - Taking the advantage of dry weather, farmers in Middle Gujarat Zone, South Gujarat Heavy Rainfall Zone and North West Zone are advised to continue harvesting of maize, green gram, cowpea and pearl millet.
 - As there is no significant rain during last week and no significant rain is likely to occur, farmers in North Gujarat Zone and North West Zone are advised to irrigate groundnut crop.
 - Farmers in Middle Gujarat Zone are advised to complete sowing of mustard, cluster bean and undertake sowing of sweet corn and preparation of tobacco nursery.
 - Under prevailing dry weather, farmers in South Saurashtra Zone of Gujarat are advised to complete harvesting of groundnut.
 - North West Zone of Gujarat are advised to undertake sowing of maize, jowar and lucerne.

- Farmers in North Sourashtra Zone are advised to apply second dose of urea @ 41 kg./ha in castor, if not applied. Irrigation should be given as and when required and post pone interculturing after flowering stage.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Under prevailing weather condition there may be attack of cotton boll rot in cotton in Madhya Maharashtra, spray Propiconazol @ 10 to 20 ml + streptomycin Sulphate @ 3 g (300 ppm) or Copper oxychloride 30 g + streptomycin sulphate @ 5 g in 10 liter of water. Due to prevailing weather there may be attack of stem borer and midge fly in rice in East Vidarbha region of Maharashtra; spray Quinolphos 25% WS @ 32 ml or Fenitrothion 50% WS @ 30 ml per 10 litres of water. Also there may be attack of nodal blast in rice in South Konkan; spray Carbendazim @ 10 g or Copper oxychloride 25 g per 10 litres of water.
- As there was rain and humid weather during last week in Western Maharashtra Scarcity Zone, there may be attack of thrips, jassids and white fly in cotton; to control spray Aciphate 20 g + Monosil @ 20 ml in 10 litres of water.
- Prevailing weather condition is favorable for infestation of downy mildew on the leaves of okra in Pune division, spray water soluble sulphur 80 % @ 20g per 10 litre of water.
- Due to prevailing favourable weather downy mildew may spread in grapes in Madhya Maharashtra, spray Metalaczil-Mancozeb (0.2%) or Siamoczyanil-Mancozeb (0.2%) five times at an interval of 12 days.
- Prevailing weather may cause fruit dropping in Sapota in North Konkan region of Maharashtra; spray Redomil (Metalaxyl 8% + Mancozeb 64%) at @ 20g per 10 litres of water.
- Due to increase of maximum temperature the infestation of sap sucking pests in bhindi may increase in Madhya Maharashtra which would lead to yellow vein mosaic; farmers are advised to monitor the crop and undertake plant protection measures.
- For the control of citrus canker in lemon in North Sourashtra Zone, copper oxychloride 40 gm. or streptocycline 5 gm. in 10 liter of water should be sprayed at an interval of 15 days.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- For control of external parasites like ticks, spraying of cattle shed by using 1 to 1.5 ml neon per litre of water is advised. For control of fly and mosquito in cattle shed, spray Malathion dust and clean the shed frequently in Gujarat.
- Farmers in North-West Zone of Gujarat are advised to give antibiotic R to B @ 0.5 ml to the poultry birds and antibiotic dose to the animals.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the region.
- **Advisory:**
- In Bundelkhand Zone of Madhya Pradesh in view of available moisture, farmers are advised to sow mustard in already prepared field. Also looking towards the possibility of dry weather and clear sky condition during in this week, farmers are advised to start harvesting and threshing of the mature crops of soybean, moong and urd etc and perform sun drying. Farmers are advised to sow potato, pea, chickpea and lentil in already prepared field, and also considering the possibility of dry weather and decreasing moisture in fields, farmers are advised to do irrigation in vegetable crops.
- In Kymore Plateau and Satpura Hill Zones in Madhya Pradesh farmers are advised to prepare field for sowing of rabi crops and transplant cauliflower in main fields.

- Farmers in Satpura Hill Zone are advised to harvest matured crop of soybean, maize etc. considering moisture and temperature, sow mustard, gram and sugarcane and prepare nursery for vegetable crops like cauliflower and cabbage and transplant seedling in main field at optimum moisture level in the field.
- Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised to prepare the field for sowing of early pea and potato.
- Farmers in Malwa Plateau Zone of Madhya Pradesh are advised for sowing of potato and prepare nursery for onion, brinjal, chilli, tomato, etc. Also transplanting of tomato, brinjal, chilly etc. can be done with proper seedlings. Farmers in Vindhya Plateau Zone of Madhya Pradesh are advised for sowing of wheat and gram.
- Farmers in Gird Valley Zone of Madhya Pradesh are advised to transplant the winter sown varieties of cauliflower in the field. Also the farmers may start mustard sowing from 10th October according to moisture availability.
- Farmers in Bastar Plateau Zone are advised for sowing of niger, kulthi (horegram), toria, cauliflower and cabbage. Also prepare nursery for rabi vegetables.
- Looking to the monsoon withdrawal situation, farmers in Chattisgarh Plain Zone are advised to store water in the rice fields particularly in medium and long duration rice varieties. Also weather is congenial for proper germination of linseed and gram. Hence, farmers are advised for sowing of linseed and gram after the harvesting of soybean and sowing of nursery of cauliflower, tomato, brinjal, chilli etc. in a raised nursery of about 6 inch with proper drainage system.
- Weather is congenial for leaf curl in chilli, fruit and stem borer in brinjal in Bundelkhand Zone of Madhya Pradesh, farmers are advised to spray Methyl Demeton @ 2.0ml per litres of water and spray Melathyon 50 E.C. 2.0 ml per litre of water. Also Flume moth is seen in pigeon pea crops, farmers are advised to spray of Quinolphos 20 EC @ 2 ml per litres of water.
- Weather is also congenial for sucking pest i.e. jassid, aphid and boll worm in cotton in Jhabua Hill Zone of Madhya Pradesh, spray Acitamepid 0.3ml/l (5.0 ml/pump) of water and for boll worm in non BT cotton, spray Profenophos 40 EC @ 2.5 ml/l of water.
- In Bastar Plateau Zone of Chattisgarh where niger sowing has taken place, white insect attack is being observed, spray Confidor @ 0.5 g per litre of water.
- In Bastar Plateau Zone of Chattisgarh, stem borer attack in late sown maize is being observed. For its control, Carobofuran 3 G should be used @ 2-3 grains/ plant or this can be also applied at the time of earthing up @ 10 Kg./ acre.
- **Animal Husbandry & Poultry**
- In Bundelkhand Zone of Madhya Pradesh, animals should be protected from high day and low night temperature. So keep them in animals' shed.
- Farmers should vaccinate their animals for Foot & Mouth Disease in Jhabua Hill Zone of Madhya Pradesh. For control of Ranikhet disease in chicks vaccinate with F-1 or Lasota Strain vaccine.
- Provide de-worming to the calf of dairy animals and keep them in dry and clean shade in Central Narmada Valley Zone of Madhya Pradesh and also advised to do vaccination against PPR disease in Goats.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (maximum tillering / panicle initiation / flowering), sesame (vegetative / flowering / pod formation / seed formation), groundnut (pegging / pod formation), arhar, radish, knoll khol, brinjal (early variety), Dolichos bean, country bean (sowing / early vegetative / vegetative), jute (for seed production) (vegetative), early cauliflower and cabbage (nursery sowing / seedling / transplanting / vegetative), winter vegetables (nursery bed preparation / sowing / transplanting), ginger / turmeric (vegetative), black gram / green gram (vegetative), onion, garlic (sowing / planting), khasi mandarin (flowering/Fruiting) and niger, bulk wheat, rapeseed and mustard (land preparation / sowing) in Assam.
- Rice (harvesting), tuber crops (vegetative), soyabean and groundnut (pod formation / seed filling), cabbage, cauliflower, knolkhol etc. (nursery preparation / transplanting), ginger and turmeric (maturity) and maize (harvesting) in Arunachal Pradesh.
- *kharif* rice (grain filling / maturity), ginger and turmeric (rhizome formation), tomato (nursery raising), early cauliflower and cabbage (nursery sowing / transplanting / vegetative), onion (nursery raising), brinjal (flowering / fruiting), French bean, broad bean, pea (sowing / vegetative) in Manipur.
- *Kharif* rice (flowering / grain formation / maturity), arhar (pod formation), *sali* rice (milk / dough / maturity), *rabi* maize (vegetative / flowering), pea, garlic and lettuce (sowing), ginger and turmeric (late sown) (vegetative), *toria* (vegetative), groundnut (pod formation), onion (vegetative), potato (vegetative), *Khasi* mandarin (flowering / fruiting) and banana (vegetative), lentil, mustard, rapeseed (vegetative), broccoli (sowing), winter vegetable (sowing / transplanting / vegetative), jute, mesta (maturity) in Meghalaya.
- Rice (booting / flowering / milk / dough / harvesting), groundnut (pegging / pod formation), soyabean (flowering / pod formation), okra (harvesting), ginger and turmeric (rhizome formation / maturity / harvesting), *khasi* mandarin (vegetative / fruiting / harvesting), French Bean, rice bean, urd and moong bean (maturity / harvesting), banana (vegetative / fruiting / maturity / harvesting), cucurbits (flowering / fruiting / harvesting), cole crops and tomato (nursery preparation) in Mizoram.
- Soyabean (flowering / pod formation), groundnut (flowering / pegging / pod formation), green gram and black gram (vegetative), finger millet (flowering), okra (flowering / fruiting), lowland rice (milk / dough), upland rice (maturity / harvesting), banana (fruiting), colocasia (flowering), cabbage (transplanting), cowpea (vegetative), pigeon pea (pod filling), rapeseed-mustard (land preparation / sowing), *rabi* crops (sowing), broccoli (transplanting), mandarin (planting) and papaya (transplanting) in Nagaland.
- *Aman* rice (panicle initiation / flowering / milk), groundnut (pegging / pod formation), upland / jhum rice (dough / maturity), cucurbits and other vegetables (flowering / fruiting), maize (cob formation / maturity), ginger and turmeric (rhizome formation), cole crops (nursery preparation / sowing), radish, brinjal (early) (sowing) and sesame (vegetative / flowering / pod formation) in Tripura.

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

- Sugarcane (vegetative), rice (grain formation / maturity), *kharif* maize (cob formation / maturity), *kharif* arhar, sorghum, jowar, (flowering / pod formation / grain formation), sesame (flowering / pod formation / seed formation), lobia for green fodder, mishrikand

(vegetative), onion, radish (sowing), cauliflower (sowing), fruit trees (transplanting) and sweet potato (planting), mustard, toria (sowing) in Bihar.

- Rice (dough / maturity), finger millet (grain formation), maize (silking / grain formation / grain filling / maturity), pigeon pea (vegetative / flowering / grain formation), pulses (urd bean, moong bean) (grain formation / maturity), groundnut (pegging / grain formation/ harvesting), turmeric and ginger (vegetative / rhizome formation), elephant foot yam (tuber elongation), potato (land preparation / sowing), sweet potato (vegetative / stem elongation), mustard, toria, green pea (sowing), cauliflower, cabbage, chilli, tomato (transplanting), niger (sowing), papaya (transplanting), African or French marigold (sowing) in Jharkhand.
- Arhar (vegetative / flowering / grain formation), maize (cob formation), papaya, marigold, tuberose (planting), cowpea (sowing / early vegetative), *kharif* vegetables (flowering / fruiting), sugarcane (vegetative), *kharif* rice (panicle initiation / flowering / grain formation / maturity), groundnut (pegging / pod formation / maturity), turmeric and ginger (planting / early vegetative), yam (sowing), sesame, green gram, black gram, niger, other pulses (flowering / pod formation / seed formation / harvesting), mango, banana, lemon, cashew nut and marigold (planting), sunflower (sowing), groundnut (land preparation / sowing) in Orissa.
- *Aman* rice (Grain Filling Stage), *aus* rice (harvesting), *kharif* maize (tasseling / silking / cob formation), mango, coconut, guava, banana (planting) and *kharif* vegetables (flowering / fruiting / harvesting), winter vegetables (Emergence Stage) in West Bengal.
- Large cardamom (new) (transplanting of suckers from nursery), Large cardamom (old) (capsule formation / grain maturity), *rabi* vegetables (sowing / nursery sowing / transplanting), orange (fruiting / maturity), ginger (late vegetative), rice (flag leaf initiation / flowering) and maize (harvesting) in Sikkim.

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

- Rice(vegetative), brinjal, tomato, chilli, cauliflower, cabbage, radish, spinach, coriander, onion (vegetative), cucurbits crops (flowering/fruiting), lentil (pod formation), maize, hybrid cluster bean, baby corn, Pigeon pea (sowing/ vegetative), green gram and black gram(flowering / fruiting), cotton (sowing), Sugarcane(sowing), guar, bajra(flowering/grain filling), Soyabean(flower initiation) in Delhi.
- Vegetables (fruiting / harvesting), garlic, ginger (planting), bhindi, (transplanting), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, and tomato (transplanting), Apple (maturity), pomegranate (fruit development), ginger, arbi, amaranthus, turmeric, rice, maize, barley (sowing/transplanting) in Himachal Pradesh.
- Wheat (land preparation/sowing), Berseem (sowing / emergence), cucurbits (vegetative / flowering/maturity/harvesting), onion (seed bed preparation), winter vegetable crops viz. potato, radish, carrot, turnip, garlic, spinach, methi (sowing), cole crops viz. early cauliflower, cabbage, knoll khol, broccoli (field preparation/ nursery sowing), early sown maize, bajra (maturity / harvesting), maize (grain filling and development), *kharif* pulses, mash (flowering / pod development / maturity), moong (maturity / harvesting), rice (grain filling / maturity / harvesting), *Kharif* oilseed (groundnut, sunflower, summer brassica etc.) (flowering / seed development / maturity, groundnut – pegging initiation stage), *Rabi* oilseeds i.e. toria, gobi sarson (emergence/vegetative), rabi mustard, pulses, fodder crops (selection / land preparation/sowing) citrus, guava, apple (fruiting) in Jammu & Kashmir.

- Chilli, capsicum, cauliflower, broccolli (transplanting), lahi (flowering / fruiting), sugarcane (planting), Early planted rice (maturity / harvesting), late planted rice (panicle initiation / milking), litchi, loquat, peach, citrus (flowering / fruiting), mango (early varieties) (flowering), maize (cob formation/cob maturity), soyabean (maturity/harvesting), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric, (sowing / planting), toria, pea (sowing), papaya (planting), sorghum, pigeon pea, early vegetable pea, urd, potato, mustard and pearl millets(sowing), barley, Autumn sugarcane, fodder barseem, sarson(sowing) in Uttarakhand.
- Rice (tillering / flowering / milking), winter sugarcane (vegetative growth / formative), summer sugarcane (initial growth / formative stage), cucurbits like gourd, bitter gourd, cucumber, etc. and another vegetables like lady's finger, tomato, brinjal, chilli etc. (sowing / flowering/fruiting), black gram, baby corn/ maize / fodder maize, vegetables (flowering/fruiting/maturity/harvesting), groundnut, jowar lobia, (vegetative), til, bajra urd moong, (vegetative / maturity / harvesting), arhar, toria (sowing /early vegetative / flowering), tomato, brinjal, bhindi (vegetative / fruiting), cabbage, garlic, cauliflower(sowing/transplanting), barseem, potato, (sowing) in Uttar Pradesh.
- Rice (Irrigated area, Basmati) (grain formation/heading), rice (maturity/ harvesting), spring sugarcane (sprouting), barseem (vegetative), sugarcane(grand growth/maturity), Sugarcane autumn (sowing), cotton (boll maturity/picking), fodder lucerne, oats, senji (sowing), gram, potato, peas (sowing), radish, carrot, turnip, cauliflower (sowing/transplanting), Rape seed, mustard(sowing) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative), barseem (vegetative), pulses, moong, mash, pigeon pea (vegetative), rice (earhead emergence/ maturity/ harvesting), cauliflower, cabbage, carrot, potato(transplanting) sarson, raya, radish, turnip (sowing) in Haryana.
- Rice (tillering/vegetative), narma cotton, desi cotton (flowering / boll formation/picking in Sriganaganagar), sweet potato, saunf (sowing), pearl millet, sorghum (vegetative / maturity / harvesting), moong, cowpea, urd (maturity / pod picking), early sown maize (harvesting), maize, soybean, chilli and cluster bean (vegetative), mustard, barley, wheat, sarson, garm, lentil, vegetables (potato, fenugreek, tomato, brinjal, cauliflower, cabbage, radish, carrot, phalak, green pea (landpreparation/sowing) in Rajasthan.

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

- Samba / thaladi rice (transplanting/vegetative), cotton (sowing/vegetative/ harvesting), vegetables (nursery / transplanting), sugarcane (vegetative/ grand growth/maturity), maize (sowing), sorghum (vegetative), red gram (vegetative), pulses (sowing) in Tamil Nadu.
- Sugarcane (grand growth), cotton (boll development), hybrid jowar, maize (maturity / harvesting), ragi, sunflower (maturity), bengal gram (sowing), red gram (bud initiation / flowering stage), rabi jowar (sowing), late planting paddy (grain formation) and horticultural crops (vegetative growth/ flowering/ fruit development) in Karnataka.
- Maize (maturity / harvesting), jowar, cotton (maturity), rice (transplanting/tillering), groundnut (pod maturity/harvesting), bajra (harvesting) in Andhra Pradesh.
- Black pepper (berry maturing/harvesting), ginger (vegetative), mundakan rice (transplanting / vegetative), Rubber (tapping) in kerala.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (new *adsali* - early vegetative / old *adsali* - grand growth / elongation), sugarcane (pre-seasonal- planting), sugarcane (*suru*- vegetative), *Kharif* rice (grain maturity / harvesting in early maturing varieties in South Konkan, grain formation in

medium and late maturing varieties and panicle initiation / flowering in late maturing varieties in Konkan, Kolhapur, Pune and Nashik Division and panicle initiation / flowering / grain formation in East Vidarbha), jowar (grain formation / grain maturity in early sown crop), soyabean (pod maturity / harvesting), groundnut (pod maturity / harvesting), cotton (flowering / boll formation), red gram (branching), Safflower and Green Pea (sowing) in Maharashtra.

- *Kharif* bajra (harvesting), vegetables (flowering / fruiting / harvesting), sugarcane (vegetative), groundnut (maturity / harvesting), *kharif* pulses (flowering / grain formation / maturity / harvesting), maize (harvesting), cotton (boll formation / development), Castor (flowering), cluster bean, mustard, cauliflower, sweet corn (sowing) in Gujarat.

CENTRAL INDIA[M.P., CHHATTISGARH]

- Sugarcane (vegetative), vegetables (flowering and fruiting), moong, urad, maize, soybean, sesame, groundnut, jowar, groundnut, pigeon pea (maturity/harvesting), onion, brinjal, tomato and chilli etc. (vegetative), rice (grain formation), this is proper time of sowing/transplanting of wheat, gram, toria, onion, garlic, tomato, brinjal, chilly in Madhya Pradesh.
- Rice (grain development / maturity), sugarcane (planting), groundnut, arhar, green gram and sesame (vegetative), ginger, turmeric, papaya, mango and guava (vegetative) cauliflower, potato (sowing), proper time for sowing/transplanting of tomato, brinjal, chilli, niger, horsegram, ramtil, toria, cauliflower, cabbage, niger, kulthi in Chhattisgarh.

Annexure II

List of Varieties

Assam

Early cauliflower:

Mid-season varieties: Improved Japanese, Pusa Synthetic, Pusa Snowball.

Early maturing cabbage varieties: Golden Acre, Pride of India, Pusa Mukta.

Others: Early Kunwari, Pusa Katki and Pusa Deepali.

Cabbage: Golden Acre, Pride of India, Pusa Mukta (Sel-8).

Tomato: Punjab Suhara, Avinash, Pusa Ruby.

Radish: Pusa Desi, Pusa Himani, Pusa Chetki, Japanese White, Bombay Red.

Brinjal:

Long varieties: Cluster, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long, Longai.

Round varieties: Pusa Purple Round, Pusa Vairab, JC-2, BWR-12.

Knolkhol: White Vienna.

Onion: Pusa Red, Pusa Ratnar, Pusa White, N-53.

Garlic: Eknalio and T-56-4 and other local varieties.

Sesamum: SP-1181 (Madhabi), Gauri, Binayak, ST 1683, Punjab Tall No. 1.

Dolichos Bean: Pusa Early Profile and SD-18.

Rapeseed and mustard: M-27, TS-36, TS-38 and TS-46.

Niger: NG-1, GA-5.

Manipur

French bean: Pant Anupam, Tangkhul Hawaii (local).

Pea: Arkel, Azad.

Cabbage: Rare Ball.

Cauliflower: White Flash.

Onion: Nasik Red.

Tripura

Brinjal: Pusa Kranti, Pusa Purple Long.

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

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

Broccoli: Everest, Ayeshwaria.

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

Mizoram

Tomato: Avinash -2, Pusa Divya, Arvind, Rita.

Cabbage: Golden Acre, Ryozeeki, Harnil.

Broccoli: Pushpa, Pusa Broccoli, Aishwarya and Fiesta.

Cauliflower: Pusa Early Synthetic, Pusa Shubhra, Pant Gobhi - 2 and Patna Ageti.

Orissa

Rice:

Medium land close to sea where water is drained out by October: Lalat, Surendra, MTU-1001, MTU-1010, Konark, Gajapati.

Different crops in upland areas affected by excess rainfall:

Sesame: Kanak, Kalika, Uma, Usha, Tilottama, Neelima and Prachi.

Green gram: K-851, PDM-54, PDM-11, OUM 11-5.

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

Niger: Deomali and IGP-76.

Horse gram: Urmi, DS 1-2-2, DS 1-2.

Brinjal: Utkal Madhuri, Green Round, Green Long, Sufala, Suchitra, Supriya.

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

Groundnut: Smruti, TAG-27, TAG – 24 and JL-24.

Beans: Bush bean and Runner bean

West Bengal

Banana: Mortoman, Chapa, Kathali, Singapuri.

Cauliflower: Pusa Deipali, Pusa Chetaki.

Tomato: Baisali, Indam 1116, Akash.

Mustard: Sita, Vagirathi, Baruna, Agrani, Panchali, Sarama varieties like B-54, Sanjukta etc.

Jharkhand

Lentil : P.L.- 406, P.L.-639, D.P.L.- 15, D.P.I.-62 etc.

Green Pea: Swarn Rekha, Arkel, Azad Pea, Kashi Nandini, PE-6, Birsa Matar.

Sweet Potato: Birsa Sakarkand-1 and Sri Bhadra.

Potato: Kufri Ashoka, Kufri Pukhraj, Kufri Surya and Kufri Puskar.

Short duration: Kufri Ashoka and Kufri Pukhraj.

Long duration: Kufri Surya and Kufri Puskar.

Toria: T-9, P.T.-303, Panchali and Bhavani.

Niger: Birsa Niger-1, Birsa Niger-2.

Bell peper: California Wander, Bharat, Arka Basant, Arka Mohini, Arka Gaurav, Allowander, Bombi, Indra, Nan-3020.

Tomato: Pusa Ruby, Swarna Sampda, Swarn Lalima.

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

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

Papaya: Pusa Giant, Pusa Dwarf, Honey Dew, Pusa Majesty.

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

African Marigold: Pusa Narangi, Pusa Basanti.

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

Bihar

Onion: N-53, Agrifound Dark Red and Baswant 780.

Radish: Pusa Chetki, Pusa Deshi, Pusa Himani, Pusa Reshmi, Japani Safed, Arka Nishant.

Sweet Potato: Rajendra Shakarkand-5, Krash-4, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Shri Bhadra, Kalmegh, Rajendra Shakarkand-92.

Cauliflower: Aghani, Pusa Dipali, Pusi, Patna Main, Pusa Shuvra.

Rapeseed: RAUTS-17, PT-303, Panchali and Bhawani.

Mustard: Rajendra Sarson-1 and Swarna.

Toria: RAUTS-17, PT-303, Bhawani and Panchali.

Potato: - Kufri lalima, kufri Kuber ,Kufri Alankaar khufri jyoti, khufri chandramukhi, Ranjendra aloo 1, 2 and 3, khufri badshah.

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

Lentil : BR 25,Pant L406, 639,Malika ,Arun.

Peas- Ratna, Aprna,Harbhajan, malbai.

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

Rai -Baruna, Pusa bold and Kranti.

Sarson :-Rajendra Sarson-1,Swarna etc.

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

Delhi**Mustard:** Pusa Jai Kisan, Pusa Jagannath, Pusa Tarak.**Pea:** Azad Matar-1, Pant Matar-3 and Bourneville.**Garlic:** G-1, G-41, G-50, G-282.**Potato:** Kufri Badshah, Kufri Bahar, Kufri Aanand, Chipsona-1, Chipsona-2, Chipsona-3.**Carrot:** Pusa Rudhira and Pusa Kesar.**Oat:** J.H.O-822, O.L.-9, Pusa oat-5**Barseem :**Vardan, Buland Barseem-1, Masakali, B.L., J.B-3**Gram:** Kabuli type - Pusa 267, Pusa 1003, Pusa Chamatkar; local type – C235, Pusa 246, P.B.G. 1, **Pusa 372****Sarson Saag:**Pusa Saag-1; Bathua- Pusa Bathua-1;**Radish;**Japani White, Hill queen, French Radish;**Spinach:**All Green, Pusa Bharti;**Fenugreek:**Pusa Kasuri;**Coriander-** Pant Haritama, Hybrids;**Turnip-** Pusa Swati, Local Red variety.**Himachal Pradesh****Lettuce:** Iceberg**Brinjal :** Arka Nidhi, PPC**Ageti bhindi :** P-8, Prabhini kranti, Arka anamika**Frenchbean :** Contender**Pepper :** Surjmukhi**Broccoli:** Palam Samridhi**Rajmash :** Triloki,Jwala,baspa Kailash**Jammu & Kashmir****Wheat:** PBW-396, PBW-175, IWP-72 and RSP-81 (jitto) for rain fed areas (PBW-396, PBW-175, IWP-72 and RSP-81 (jitto) for rain fed areas and HD2428, HD2329 and CPAN3004 under rainfed and irrigated area**Mustard:** RLM-514, RLM-619, Kranti, Varuna and RH –30

Gram (var. C-235, K-468, Gourav and PBG-1) and field pea (var. T-163, PG-2, Rachna, HFP-3)

Vegetable crop like **radish** (var. Pusa chetki, Japanese white & Pusa reshmi), **carrot** (var.Pusa kesar), **turnip** (var PTWG), **garlic** (var. local, large segmented), **spinach** (prickly seeded) and **methi** (P.E.B.K methi).**Punjab****Wheat:** PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943,PDW 314, PDW 291, PDW-274 and PDW-233 under irrigated conditions and PBW-527, PBW-175 under rainfed conditions.**Kabuli gram:** GLK 25104, L 550 & BG-1053**Gobhi sarson:**GSC-5, GSL-1, GSL-2, PGSH-51, Hyola (PAC-401)**African sarson:** PC-5,**Mid season pea:** Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.**Raya:** PBR-210 and PBR 91 for South Western regions only.**Tomato:** TH-2312, TH-802, Punjab Tropic and Punjab NR-7**Radish:** Punjab Safed, Punjab Pasand and Japenese White**Turnip:** L-1**Carrot:** Selection 21 and PC-34**Sugarcane:** CoJ85.CoJ64,CoJ83

Haryana

Wheat: PBW 621, DBW-17, PBW-502, PBW-343, WH-542, HD 2967 and durum wheat WHD 943, PDW 314, PDW 291, PDW-274 and PDW-233 under irrigated conditions and PBW-527, PBW-175 under rainfed conditions.

Kabuli gram: GLK 25104, L 550 & BG-1053

Gobhi sarson: GSC-5, GSL-1, GSL-2, PGSH-51, Hyola (PAC-401)

African sarson: PC-5,

Mid season pea: Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.

Raya: PBR-210 and PBR 91 for South Western regions only.

Tomato: TH-2312, TH-802, Punjab Tropic and Punjab NR-7

Radish: Punjab Safed, Punjab Pasand and Japanese White

Turnip: L-1

Carrot: Selection 21 and PC-34

Sugarcane: CoJ85, CoJ64, CoJ83

Uttarkhand:

Barley like Jyoti, Vijaya, or Jagrati and Oat varieties like UPO-50, UPO-212, JHO-822, Kent Etc..

Potato: Kufri Bahar, Kufri Jawahar, Kufri Ashok, Kufri Anand.

Wheat: UP-2584, UP-2338, UP-2572, UP-2526 (irrigated) UL-802, 804A, BL-719, BL-832, BL-892(non-irrigated).

Serson: BLJ 56, 85, 01, Pant JS 01, Pant Masoor 4, 5, BL masoor 125, 126, BL matter 3, 7,

Potato: e Kufri badshah, Kufri lalimaa, Kufri sindhuri, Kufri Sutlej and K.bahar

Uttar Pradesh:

Toria: Pitambri kanti type-9(black). Type-36(yellow), PT-303, PT30, Bawani, T9, PT303

Gram : K-850, Avarodhi, Radhey, Pant G-144, K.W.R.-108, K.D.G.-1168, Kabuli chana- Sadabahar, Pragati L-550, Pusa-267

Jai : Kent U.P.O.-94, O.S.-6, J.H.O.-822, 851, U.P.O.-212

Rabi Mustard:- Vaibhav, Varuna(Ta-59), Vardan

Barseem: Bundelkhand berseem(J.H.T.B.-146)

Sugarcane : KBHA-8436, 88230, 96268, 98231, KS-95436, 00235, 03234, 01235, KJ-64

Tomato-Azad type-5,6

Potato : Kufri Chandramukhi, Kufri Bahar, Kufri Pokharaj, Kufri Ashoka

Rajasthan

Wheat: Raj-3765, Raj-3077, Raj.4037, Raj-1482 & Lok-1 are improved varieties of wheat. Likewise RD-2052, RD-2508, RD-2035, RD-2592, RD-2624 & RD-2552 are improved varieties of Barley.

Mustard: T-59, Bio-902, Laxmi and Vasundhara.

Gram: RSG 44, Dahod yellow, GNG 16, ICCV 10, RSG 888 and Pratap chana 1.

Mustard :

Normal sown (irrigated) - Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, NRCDR 2, NRCHB 506(hybrid).

Normal sown (rainfed) -Arawali,RGN48, Geeta and PBR97

Saline sodic soils - CS52, CS54, CS56, Narendra Rai 1

Taramira - Karan Tara, Narendra Tara

Yellow Sarson - NRCYS-05-02, YSH401

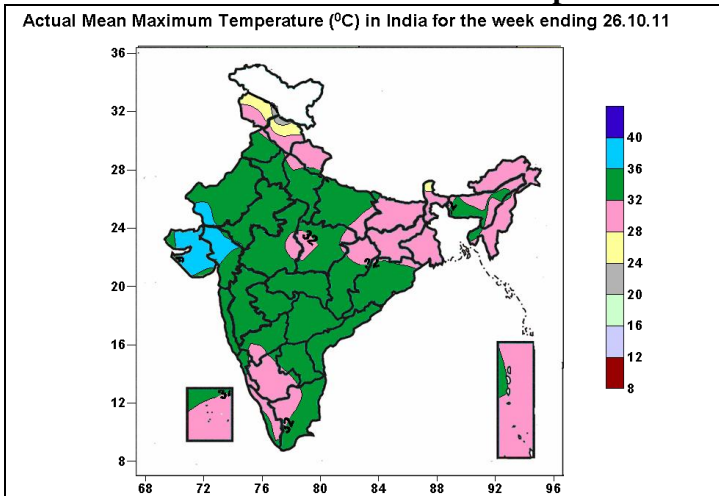
Onion: Pusa Red, Pusa Madhavi, Arka, Niketan, Local Red and Pusa white.

Barley: RD 2035, RD 2052, RD 2503, RD 2668, BL 2

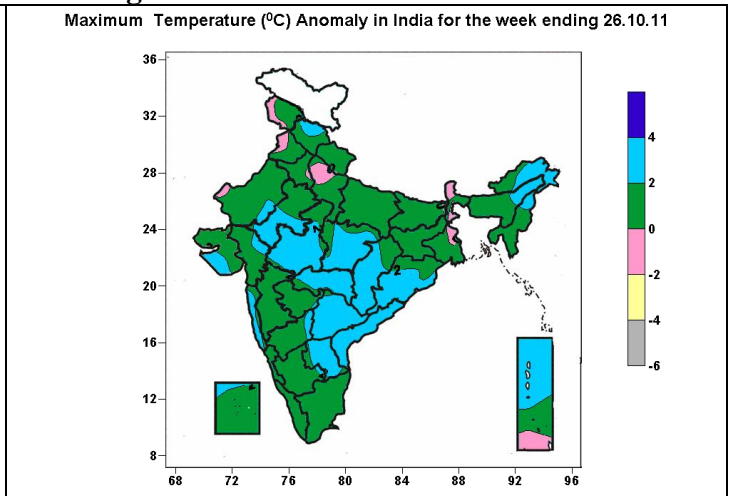
Wheat : HD-2329,WH147, PBW502, RAJ 1482] RAJ 3077] RAJ 3765 and LOK 1]

Karnataka**Sunflower:** Modern, KBSH-41, 42 &44**Cowpea:** C-152, PKB-4, KM-5**Horse gram:** KBH-1, PHG-9, GPM-6**Safflower:** Annigeri-1, S-144**Rabi Sorghum:** Hybrid- DSH-4, Improved Varieties-M-35-1(rainfed and irrigated), Moguti(5-4-1), DSV-4(rainfed and irrigated), DSV-5(rainfed and 1 or 2 protective irrigation).**Maize:** GANGA-11, Deccan-103**Ragi :** INDAF-7,9 and 15**Bengalgram:** Annegeri -1, ICCV-10, ICCV-2**Tamil Nadu****Late samba:** ADT 38, ADT 46, ADT 49, improved white ponni, IR 20, ASD 19, Paiyur1, Trichy 1, Trichy 3 and Co 50**Late Thaladi:** ADT 39 ADT 42, and ASD 16**Andhra Pradesh****Green gram:** LBG-752, LBG-623, LBG-20, T-9, LGG-460, LGG-407**Red gram:** LRG-41, ICPL-85063**Paddy:** (BPT-5204, BPT-5204, MTU-7029, MTU-2067, OMTU-2077, MTU-1001, MTU-7029)**Groundnut** (Under irrigated dry conditions) : Kadiri - 6, Narayani, Tirupati - 4, Kadiri - 4, JCG 88, Kalahasti, Abhaya, Greeshma, Rohini, Kadiri - 7 Bold, Kadiri - 8 Bold, Kadiri - 9, Kadiri Harithandra, Bhima, Anantha, Kadiri - 5, TAG - 24**Gujarat:****Cluster bean:** GC-1, 2.**Mustard:** Guj - Mustard-1, 2, 3, Pusa Jaykisan (Bio-902), Varuna GM-1 or GM-2.**Tobacco:** GC-1or GCT-3.**Cauliflower:** Pusa Early, Pusa Dipali , Pusa Kartiki, Early Kuvvari.**Maharashtra****Rabi Jowar:** Maldandi 35-1, Selection-3, Phule Vasudha, Phule Revati, Phule Yashodha and Mauli, for medium soil - Mauli, for black soil - Phule Revati, Phule Vasudha.**Safflower:** Bhima, Phule Kusuma, Sharda**Gram:** Vijay Gram.**Green Pea:** Bonevilla, Arkel, Phule priya**Sugarcane:** CO 740, CO 7219 (Sanjivani), CO 88121 (Krishna), CO 8014 (Mahalaxmi), CO 86032 (Nira), CO 94012 (Phule Savitri), CO M 0265 (Phule 265), CO V.S.I. 9805, CO C.671.**Wheat:** Panchavati, N-5439, N-8223.**Madhya Pradesh****Onion:** Udaipur 102, Pusa white, Nasik Red and Nasik Roja**Wheat-Sujatha,** HW 2004 or HI 1500 and gram JG 130, JG 11, JG 315, JG 16, Jaki 9218 and for Bengal gram JG 1**Sugarcane-** Jawahar-86141, Ko-Jawahar-86141, Ko-Jawahar-86572, Ko-Jawahar8632, Ko-6304, Ko-C-671**Garlic-G-283, G-1, G-41 or g-323**

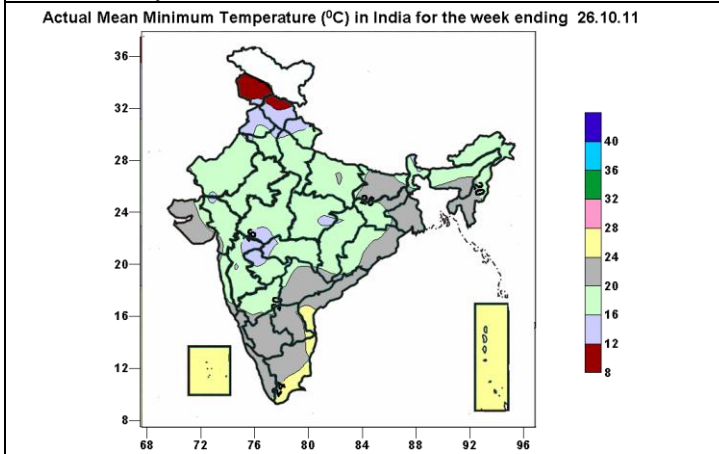
Annexure III Contour maps for the week ending 26.10.2011



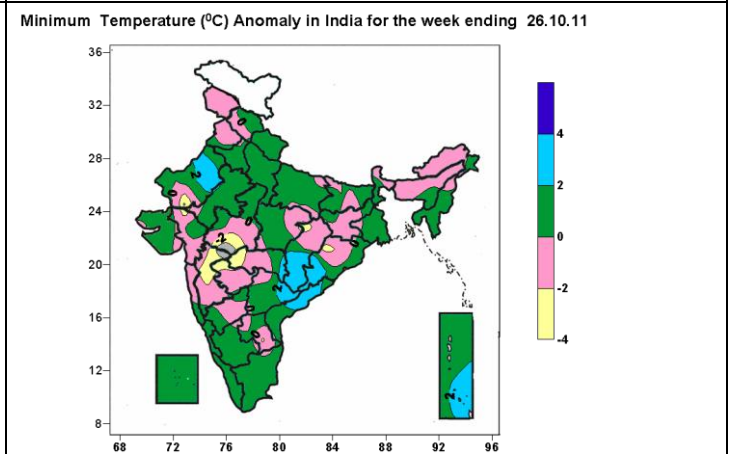
Actual Mean Maximum temperature ranged between 36 to 40°C over most places in Saurashtra & Kutch, some places of West Rajasthan, Gujarat, 28 to 32°C over most parts of Uttarakhand, Bihar, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, West Bengal, Kerala, South Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Arunachal Pradesh, Chattisgarh, Orissa, Madhya Pradesh, Tamil Nadu, Coastal & North Interior Karnataka, 24 to 28°C over most parts of Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, 20 to 24°C over some parts of Jammu & Kashmir, Himachal Pradesh, 32 to 36°C over remaining parts of the country.



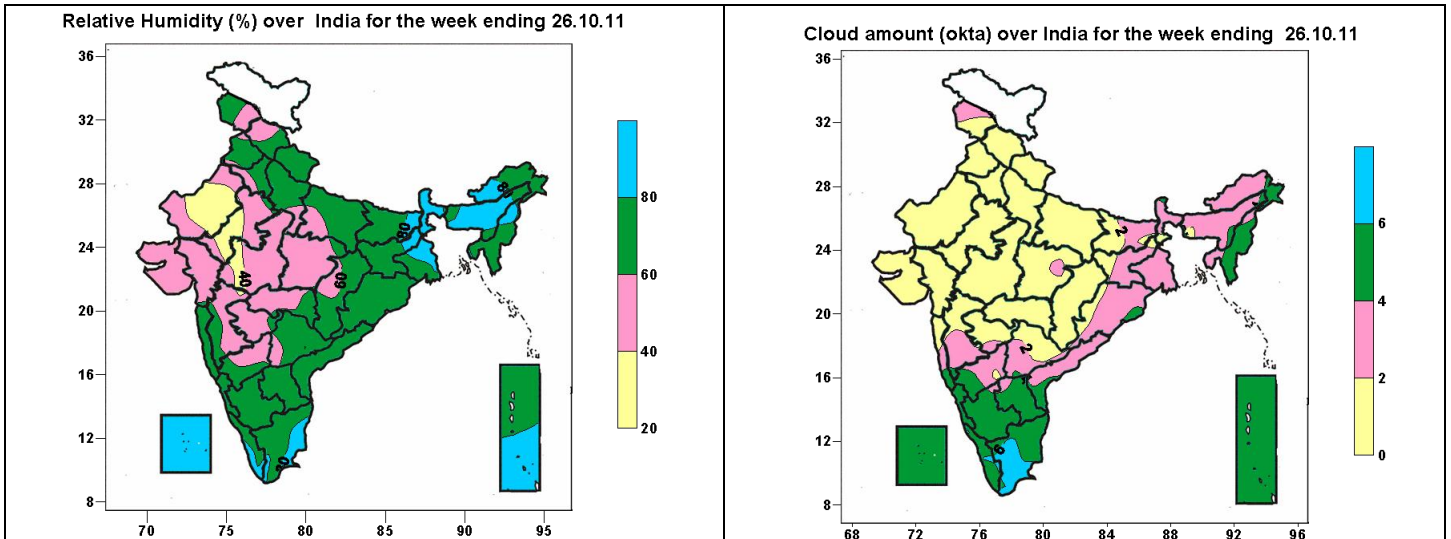
Actual Mean Maximum temperature 2 to 4°C over most parts of Arunachal Pradesh, Nagaland, Orissa, Chattisgarh, Madhya Pradesh, Vidarbha, Andhra Pradesh, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Rajasthan, Assam, North Interior Karnataka, Saurashtra, Lakshadweep, -2 to 0°C over most parts of Sikkim, some parts of Jammu & Kashmir, Punjab, Haryana, West Uttar Pradesh, West Rajasthan, West Bengal, Andaman & Nicobar Islands, -0 to 2°C over remaining parts of the country.



Actual Mean Minimum Temperature ranged between 24 to 28°C over most parts of Lakshadweep, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Raylaseema, Tamil Nadu, 20 to 24°C over most parts of Bihar, Gangetic West Bengal, Mizoram, Tripura, Andhra Pradesh, Tamil Nadu, Kerala, Coastal & South Interior Karnataka, Suarashtra, some parts of Sub-Himalayan West Bengal, Assam, Manipur, Orissa, Chattisgarh, North Interior Karnataka, Goa, Gujarat, 12 to 16°C most parts of Himachal Pradesh, Punjab, some parts of Jammu & Kashmir, Uttarakhand, Haryana, Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, 8 to 12°C over most parts of Jammu & Kashmir, some parts of Himachal Pradesh, 16 to 20°C over remaining parts of the Country..

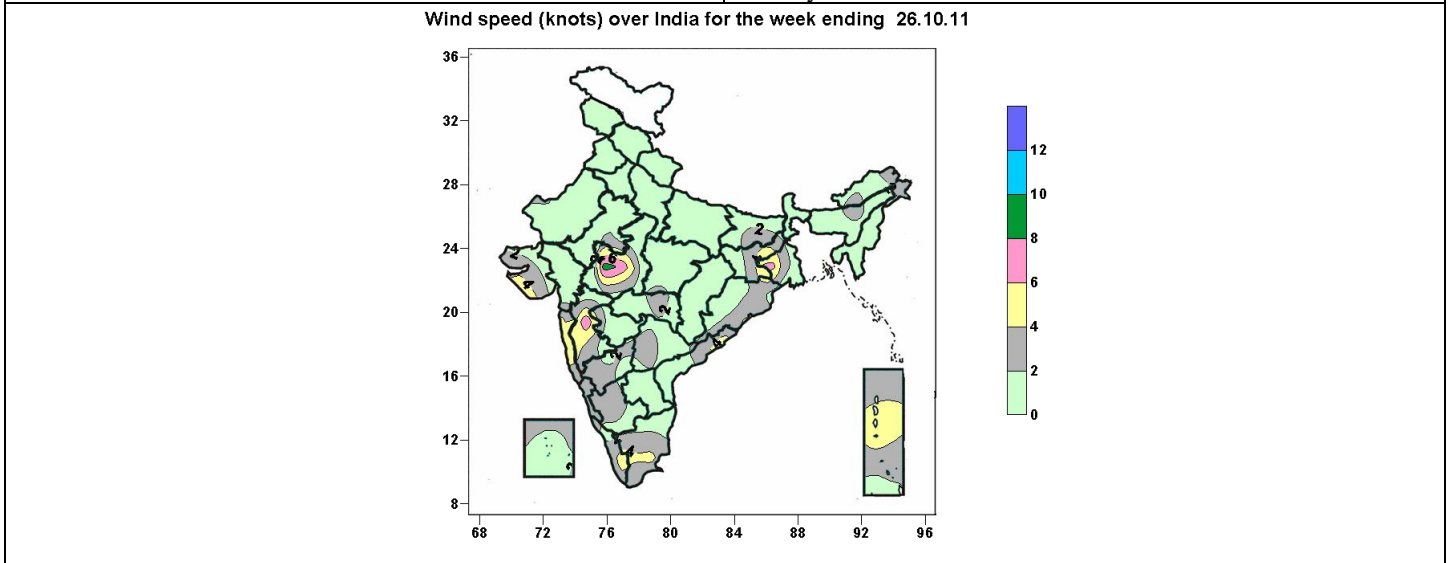


Minimum Temperature anomaly between 2 to 4°C over some parts of West Rajasthan, Chattisgarh, Orissa, Coastal Andhra Pradesh, Telangana, Vidarbha, Andaman & N icobar Islands, -2 to 0°C over most parts of Jammu & Kashmir, Punjab, Bihar, Sikkim, Arunachal Pradesh, Assam, Maharashtra, , some parts of Himachal Pradesh, East Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Nagaland, Orissa, Chattisgarh, Rajasthan, Madhya Pradesh, North & South Interior Karnataka, Rayalaseema, -4 to -2°C over some parts of West Rajasthan, Gujarat, West Madhya Pradesh, Madhya Maharashtra, Marathwada, 0 to 2°C over remaining parts of the Country.



Relative humidity between 80% and above over most parts of Sub-Himalayan West Bengal & Sikkim, Assam, Lakshadweep, Islands, some parts of Bihar, Jharkhand, Gangetic West Bengal, Mizoram, Telangana, Raylaseema, Tamil Nadu, Kerala Coastal Tamil Nadu, Kerala, Andaman & Nicobar Island, 40 to 60% over most parts of Madhya Pradesh, Gujarat, Saurashtra & kutch, Madhya Maharashtra, Marathwada, Vidarbha, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, North Interior Karnataka, Telangana, , 20 to 40% over most parts of West Rajasthan, some parts of East Rajasthan, West Madhya Pradesh, 60 to 80% over remaining parts of the country.

Cloud amount 6 okta and above over some parts of Tamil Nadu, 4 to 6 okta over most parts of Nagaland, Manipur, Mizoram, Tripura, Rayalaseema, Coastal & South Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Assam, Orissa, Coastal Andhra Pradesh, South Madhya Maharashtra, Marathwada, North Interior Karnataka, Konkan & Goa, 2 to 4 okta over most parts of Bihar, Jharkhand, West Bengal & Sikkim, Arunachal Pradesh, Assam, Orissa, Coastal Andhra Pradesh, Raylaseema, North Interior Karnataka, Madhya Maharashtra, some parts of Jammu & Kashmir, Tripura, Marathwada, Konkan & Goa, Telangana, South Interior Karnataka, 0 to 2 okta over remaining parts of the country.



Wind speed ranged between 8 to 10 knots over some parts of West Madhya Pradesh, 6 to 8 knots over some parts of West Madhya Pradesh, Madhya Maharashtra, Gangetic West Bengal, 4 to 6 knots over some parts of West Madhya Pradesh, Jharkhand, Gangetic West Bengal, Madhya Maharashtra, Saurashtra & Kutch, Tamil Nadu, Kerala, Andaman & Nicobar Islands, 2 to 4 knots over most parts of Haryana, Delhi,, Vidarbha, Coastal Andhra Pradesh, Tamil Nadu, Karnataka, Konkan & Goa, Lashadweep Islands, some parts of Punjab, Rajasthan, East Madhya Pradesh, Chattisgarh, Orissa, Telengana, Raylaseema, Kerala, Madhya Maharashtra, Marathwada, Gujarat, Saurashtra & Kutch, 0 to 2 knots over remaining parts of the country.