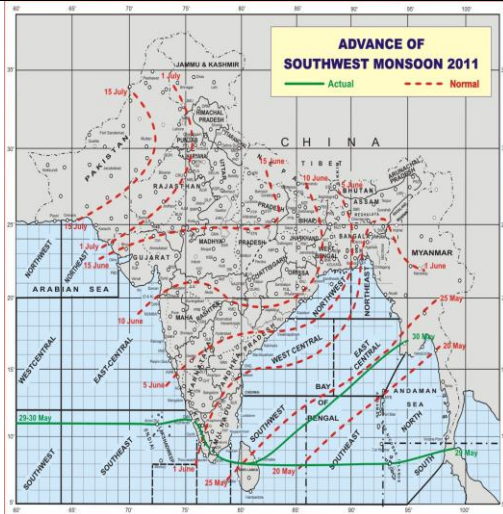


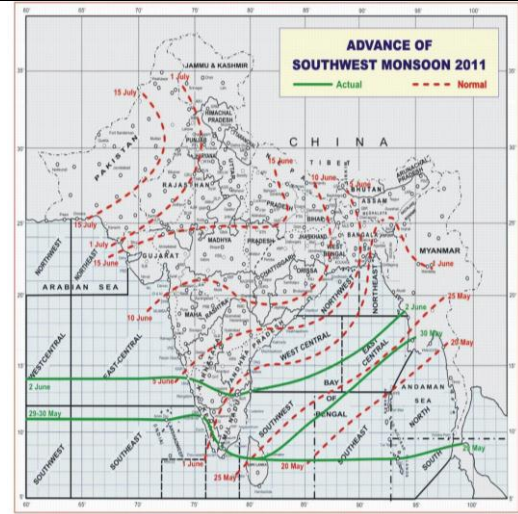
National Agromet Advisory Bulletin

Thursday, 2nd June, 2011

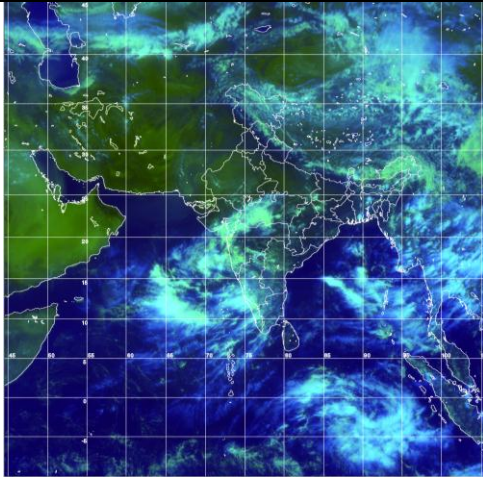
(For the period 2nd to 6th June, 2011)



Northern limits of monsoon on
29-30 May, 2011



Northern limits of monsoon on
2nd June, 2011



Satellite image 0600 UTC Dated 3rd June, 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

Weekly Summary of Agromet Advisory Services in India (Date of issue: 2nd June 2011)

Southwest monsoon has set in over Kerala on 29th May 2011. The monsoon has further advanced over remaining parts of south Arabian Sea, Kerala, Tamilnadu, south Bay of Bengal and some parts of central Arabian Sea, south Karnataka, Rayalaseema and some parts of central Bay of Bengal on 2nd June. Conditions are favourable for further advance of southwest monsoon over some more parts of Arabian Sea, Karnataka, Andhra Pradesh, south Maharashtra, northeastern states and remaining parts of central Bay of Bengal and some parts of north Bay of Bengal during next 2-3 days.

Due to onset / arrival of monsoon and receipt of good rainfall during last week along with forecast of wide spread / fairly wide spread rains likely in Kerala, Coastal Karnataka, Interior Karnataka and Tamil Nadu and favourable conditions for further advance of southwest monsoon over some more parts Karnataka, Andhra Pradesh, south Maharashtra and northeastern states, farmers are advised specifically to undertake different agricultural operation in respective States.

Advisories for Southern States

Kerala: Farmers are advised to undertake nursery sowing for *virippu* rice and new planting of black pepper, ginger, turmeric and vegetable crops.

Karnataka:

South Interior Karnataka: Undertake sowing of irrigated cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, groundnut, redgram and horticulture crops.

North Interior Karnataka: Undertake nursery sowing of rice, *kharif* crops such as green gram, blackgram, pigeonpea, jowar, soybean, maize, Bt. cotton and hybrid cotton, redgram, bajra, sesamum, navane and groundnut.

Andhra Pradesh:

Rayalaseema: Undertake sowing of groundnut.

Telangana: Undertake land preparation for sowing of rainfed crops like cotton, jowar, maize, castor, groundnut, pigeonpea, green gram etc.

Tamil Nadu: Undertake nursery sowing of *Kuruvai* rice, *kharif* vegetables.

Maharashtra:

South Maharashtra: Undertake nursery sowing of rice and ragi.

Farmers are advised to provide adequate drainage facilities in the standing crops in Coastal Karnataka, Kerala and south Konkan as heavy to very heavy rainfall would occur during next 48 hours over these region

Advisories for Eastern and Northeastern States:

West Bengal: Undertake nursery sowing of *aus* rice

Northeastern States: Undertake nursery sowing of rice in Assam, Meghalaya, Manipur and Tripura.

Advisories for Northern States:

Due to receipt of premonsoon showers in most of the districts during last week in Himachal Pradesh and Uttarakhand, postpone irrigation to standing crops. Farmers are advised to provide support to the standing crops to avoid lodging. Farmers are advised to store the harvested crops at safer places in view of likely occurrence of isolated thunder squalls in Punjab, Haryana, Rajasthan, Delhi and Uttar Pradesh.

Advisories for Pests and Diseases:

Due to favourable weather conditions, there are incidences of fruit fly in vegetables and mango in Kerala, leaf folder in rice, internode and top shoot borer in sugarcane, red palm weevil in coconut, mealy bug in fruit trees in Tamil Nadu, leaf spot in banana, mites in arecanut in Karnataka, white fly and mites in vegetables in Andhra Pradesh, rice bug in *boro* rice in Assam, cut worm in bhindi in Himachal Pradesh, white fly and mites in vegetables in Andhra Pradesh. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

Distribution of rainfall (% departure from normal) for Southern States (Karnataka, Kerala, Tamil Nadu, Andhra Pradesh) during last week.

State/Districts	Actual	01.06.11
Karnataka		
Coastal Karnataka		
Dakshin Kannada	33.2	-56
Udupi	37.7	-54
Uttar Kannada	28.7	-38
North Interior Karnataka		
Bagalkote	58.0	172
Belgaum	30.9	52
Bidar	0.5	-96
Bijapur	50.3	220
Dharwad	24.9	15
Gadag	31.8	50
Gulbarga	15.3	31
Haveri	35.3	97
Koppal	43.4	210
Raichur	16.8	44
South Interior Karnataka		
Bangalore Rural	33.1	49
Bangalore Urban	44.1	72
Bellary	58.2	208
Chamarajnagar	12.5	-48
Chickmagalur	13.2	-51
Chitradurga	24.6	38
Davangere	45.2	147
Hassan	48.2	122
Kodagu	27.0	-30
Kolar	24.7	26
Mandya	21.2	5
Mysore	41.0	85
Shimoga	26.2	25
Tumkur	36.1	60
Kerala		
Alappuzha	252.4	182
Kannur	60.3	-27
Ernakulam	224.9	135
Idukki	111.9	70
Kasaragod	43.5	-50

Kollam	124.0	81
Kottayam	241.6	154
Kozhikode	86.7	-9
Malappuram	83.4	31
Palakkad	55.4	36
Pathanamthitta	159.0	97
Thiruvananthapuram	79.0	24
Thrissur	124.6	44
Wyanad	13.7	-72
Tamil Nadu		
Chennai	0.0	-100
Coimbatore	6.9	-32
Cuddalore	0.0	-100
Dharmapuri	1.3	-95
Dindigul	11.0	-26
Erode	15.2	32
Kanchipuram	8.4	-7
Kanyakumari	25.0	-32
Karur	2.5	-76
Krishnagiri	33.9	66
Madurai	10.3	-12
Nagapattinam	4.3	-19
Namakkal	0.0	-100
Nilgiris	35.9	54
Perambalur	13.9	24
Puducherry	**	**
Pudukottai	25.2	142
Ramanathapuram	0.0	-100
Salem	4.0	-82
Sivaganga	11.3	10
Thanjavur	0.0	-100
Theni	16.1	101
Tirunelveli	0.8	-86
Tiruvallur	12.5	36
Tiruvannamalai	17.8	24
Tiruvarur	0.0	-100
Toothukudi	0.6	-83
Trichy	1.3	-88
Vellore	30.5	64

Villupuram	10.1	25
Virudhunagar	3.0	-69
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	32.5	171
Guntur	19.6	96
Krishna	50.1	428
Nellore	0.9	-88
Prakasam	25.3	164
Sirkakulam	27.8	184
Visakhapatnam	21.4	24
Vizianagram	34.3	107
West Godavari	60.1	576
Telangana		
Adilabad	3.8	-33
Hyderabad	2.4	-73
Karimnagar	3.6	-29
Khammam	33.7	215
Mehabubnagar	28.5	325
Medak	1.2	-86
Nalgonda	9.6	0
Nizamabad	0.6	-91
Rangareddy	8.3	-11
Warangal	5.7	-21
Royalaseema		
Anantapur	27.7	61
Chittoor	28.9	108
Cuddapah	19.8	52
Kurnool	28.7	11

LEGEND

- EXCESS 20% OR MORE
- NORMAL +19% TO - 19%
- DEFICIENT - 20% TO - 59%
- SCANTY - 60% TO - 99%
- NO RAIN - 100%
- ** DATA NOT AVAILABLE

**Distribution of rainfall (% departure from normal) for Eastern and Northeastern States
(Arunachal Pradesh, Assam, Bihar, Jharkhand, Orissa, West Bengal) during last week.**

State/Districts	Actual	01.06.11
Arunachal Pradesh		
Changlang	65.8	-16
East Kameng	13.5	-67
East Siang	44.5	-53
Lohit	58.5	-21
Lower Subansiri	23.0	-60
Papumpara	137.5	-17
Tawang	50.0	-55
Tirap	59.0	-43
Upper Siang	89.4	-31
Upper Subansiri	49.8	24
West Kameng	77.1	-29
West Siang	63.5	-13
Assam		
Barpeta	11.7	-90
Bongaigaon	8.0	-90
Cachar	99.9	0
Darrang	**	**
Dhubri	23.2	-80
Dibrugarh	32.7	-60
East Garo Hills	**	**
East Khasi Hills	**	**
Goalpara	0.0	-100
Golghat	34.6	-40
Hailakandi	94.3	-20
Jaintia Hills	**	**
Jorhat	202.4	230
Kamrup	21.9	-70
Karbi Analog	14.6	-60
Karimganj	90.5	-70
Kokrajhar	33.2	-80
Lakhimpur	88.7	0
Morigaon	29.6	-30
N.C.Hills	34.2	-60
Nowgong	76.4	-70
Nalbari	35.0	-60
Sonitpur	29.0	-60
Sibsagar	79.0	20
Tinsukia	52.4	-10
Bihar		
Araria	32.9	-21
Aurangabad	0.0	-100
Begusarai	63.0	556
Bhabua	0.0	-100
Bhagalpur	8.9	-52
Bhojpur	**	**
Buxar	1.6	-24
Darbhanga	21.5	-1
East Champaran	11.9	-22
Gaya	15.4	235
Gopalganj	**	**
Jahanabad	13.2	94

Jamui	**	**
Kathihar	43.4	45
Khagadia	13.3	-1
Kishanganj	21.0	-63
Madhepura	25.6	4
Madhubani	63.6	178
Monghyar	0.4	-96
Muzaffarpur	42.6	163
Nalanda	0.0	-100
Patna	12.1	33
Purnea	12.0	-66
Rohtas	0.0	-100
Saharsha	51.3	119
Samstipur	40.8	214
Saran	16.8	763
Sitamarhi	**	**
Siwan	**	**
Supaul	23.8	2
Vaishali	22.2	106
West Champaran	51.2	135
Jharkhand		
Bokaro	0.0	-100
Chatra	**	**
Dhanbad	8.2	-33
East Singbhum	42.3	113
Giridih	1.6	-18
Godda	**	**
Gumla	**	**
Hazaribagh	0.0	-100
Koderna	**	**
Lohardagga	**	**
Pakur	**	**
Palamau	0.0	-100
Ranchi	3.8	-68
Sahebganj	**	**
West Singbhum	0.0	-100
Orissa		
Angul	16.3	5
Balasore	34.6	-12
Bargarh	11.6	119
Bhadrak	42.2	69
Bolangir	5.1	-49
Boudh	6.0	-53
Cuttack	11.0	-49
Deogarh	34.7	230
Dhenkanal	15.6	-22
Gajapati	16.9	-13
Ganjam	16.2	-3
Jagatsingpur	6.5	-78
Jajpur	28.6	23
Jharsuguda	34.9	236
Kalahandi	13.9	16
Kandhamal	9.7	-24
Kendrapara	13.0	-50

Keonjhar	49.9	76
Khurda	8.1	-48
Koraput	22.1	28
Malkangiri	0.0	-100
Mayurbhanj	43.8	62
Nawapara	26.7	187
Nawarangpur	49.3	74
Nayagarh	11.3	-36
Puri	1.3	-93
Rayagada	26.2	30
Sambalpur	24.1	130
Sonepur	8.1	16
Sundargarh	8.7	-38
West Bengal		
GWB		
Bankura	24.2	7
Birbhum	5.9	-76
Burdwan	10.4	-55
Hooghly	8.4	-71
Howrah	7.8	-78
East Midnapore	45.1	14
Murshidabad	16.0	-46
Nadia	62.5	136
24 Pargana (N)	31.7	-14
Purulia	21.7	23
24 Pargana (S)	27.5	-10
West Midnapore	89.7	128
SHWB		
Coochbehar	23.3	-79
Darjeeling	75.3	-7
Jalpaiguri	53.2	-55
Malda	7.8	-76
Dinajpur (N)	**	**
Dinajpur (S)	51.4	1
North Sikkim	8.8	-91
South Sikkim	19.0	-76
Chattisgarh		
Bastar	49.9	425
Bilaspur	0.0	-100
Dantewara	0.0	-100
Dhamtari	2.0	-57
Durg	2.5	-11
Janjgir	6.2	121
Jashpurnagar	0.0	-100
Kanker	0.0	-100
Korba	0.0	-100
Koriya	27.9	1543
Kowardna	0.0	-100
Mahasumund	1.7	-37
Raigarh	0.5	-88
Rajpur	3.5	-16
Rajandgaon	0.9	-80
Surguja	2.5	-39

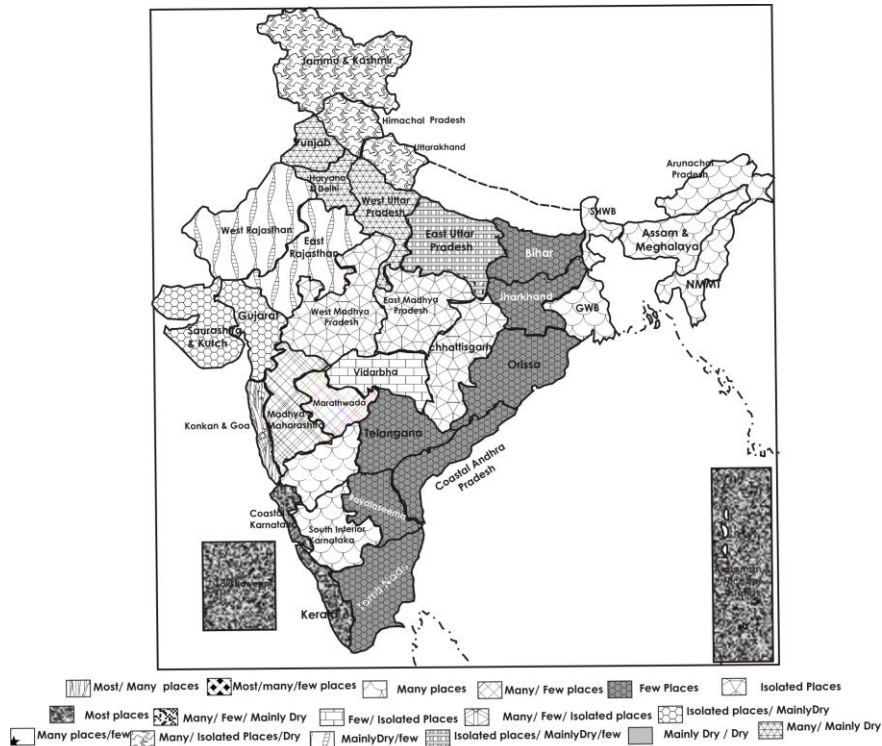
Distribution of rainfall (% departure from normal) Northern States (Himachal Pradesh, Punjab, Haryana, Jammu & Kashmir, Uttar Pradesh, Uttarakhand, Rajasthan) during last week.

State/Districts	Actual	01.06.11
Himachal Pradesh		
Bilaspur	73.5	726
Chamba	9.2	-12
Hamirpur	37.4	492
Kangra	21.0	128
Kinnaur	12.4	40
Kullu	26.1	164
Lahaul and Spiti	10.7	-38
Mandi	50.9	256
Shimla	33.1	224
Sirmaur	47.4	524
Solan	30.6	197
Una	31.1	697
Punjab		
Amritsar	15.4	806
Bhatinda	7.4	270
Faridkot	10.4	512
Fatehgarh Saheb	20.2	647
Ferozpur	5.8	243
Gurdaspur	11.0	216
Hoshiarpur	24.1	552
Jalandhar	5.5	152
Kapurthala	2.0	33
Ludhiana	7.1	236
Moga	6.7	857
Muktesar	12.8	814
Nawashahar	37.2	3000
Patiala	29.2	1226
Ropar	25.7	577
Sangrur	69.9	3392
Haryana		
Ambala	22.1	261
Bhiwani	10.0	400
Chandigarh	29.4	250
Faridabad	0.2	-85
Fatehabad	9.5	197
Gurgaon	2.5	-18
Hissar	8.3	259
Jhajar	22.0	1275
Jind	2.9	11
Katihah	19.0	726
Karnal	14.4	619
Kurukshetra	38.9	1522
Mahendragarh	7.0	49
Panchkkula	20.3	228
Panipat	3.7	149
Rewari	16.0	493
Rohtak	1.9	-59

Sirsa	7.5	525
Sonepat	2.4	14
Yamunanagar	57.6	1051
New Delhi	3.6	21
Jammu & Kashmir		
Anantnag	12.5	-21
Badgam	4.4	-58
Doda	39	239
Jammu	13.2	174
Kathua	8.8	252
Kupwara	20.9	30
Ladakh(Leh)	0.0	-100
Pulwama	4.5	-56
Srinagar	7.1	-38
Udhampur	6.1	-27
East Uttar Pradesh		
Allahabad	0.3	-83
Ambedkar Nagar	1.4	-73
Azamgarh	13.9	178
Bahraich	72.3	694
Ballia	3.8	-38
Balrampur	14.1	-15
Banda	0.0	-100
Barabanki	33.7	666
Basti	17.5	157
Deoria	20.3	136
Faizabad	9.6	75
Farrukhabad	1.8	-53
Fatehpur	0.0	-100
Gazipur	0.0	-100
Gonda	55.9	666
Gorakhpur	21.0	123
Hardoi	19.4	438
Jaunpur	4.0	-18
Kanpur City	2.9	33
Kanpur Dehat	0.0	-100
Kheri	51.1	600
Kushi nagar	4.0	-76
Lucknow	32.9	558
Maharajganj	13.5	8
Mau	4.0	-15
Mirzapur	0.0	-100
Pratapgarh	4.0	25
RaiBareilly	1.5	-17
Sant Ravidas Nagar	0.0	-100
Shrawasti	35.0	285
Sidharthnagar	3.0	-72
Sitapur	29.5	638

Sonbhadra	0.1	-96
Sultanpur	5.8	25
Unnao	4.7	67
Varanasi	5.2	115
West Uttar Pradesh		
Agra	0.5	-89
Aligarh	5.3	65
Auraiya	0.7	-85
Badaun	11.6	158
Baghpat	2.0	-9
Bareilly	37.8	760
Bijnor	39.5	516
Bulandsahar	5.0	100
Etah	7.0	79
Etawah	0.0	-100
Firozabad	0.5	-85
Ghaziabad	4.3	113
Hamirpur	0.0	-100
Jalaun	0.0	-100
Jhansi	0.3	-91
Jotirba Phule Nagar	4.5	10
Lalitpur	1.5	-46
Mahamaya Nagar	0.0	-100
Mainpuri	2.0	-26
Mathura	6.0	114
Meerut	8.2	289
Moradabad	40.8	1101
Muzzaffarnagar	5.6	143
Pilibhit	72.3	1013
Rampur	33.1	471
Saharanpur	45.3	1579
Shahjahanpur	17.2	165
UttaraKhand		
Almora	38.5	136
Chamoli	25.4	129
Champawat	56.0	294
Dehradun	74.3	376
Garhwal Pauri	77.8	456
Garhwal Tehri	40.9	103
Haridwar	53.1	328
Nainital	38.8	98
Pithoragarh	63.5	141
Rudraprayag	88.9	378
Udham Sing Nagar	26.1	119
Uttarkashi	65.4	179

Weather Forecast (Valid upto 1430 hours of 5th June, 2011)



Major Feature of Weather Forecast upto 1430 hours IST of 5th June, 2011

- Widespread rain/thundershowers would occur over Kerala, coastal Karnataka, Lakshadweep and Andaman & Nicobar Islands, fairly widespread over interior Karnataka, Konkan & Goa and scattered over rest peninsular India.
- Fairly widespread rain/thundershowers would occur over northwest India during next 24 hours.
- Fairly widespread rain/thundershowers would occur over northeastern states and West Bengal & Sikkim, scattered over rest east India and isolated over central India.

Weather Warning

- Isolated thundersqualls would occur over Punjab, Haryana, Rajasthan, Delhi and west Uttar Pradesh during next 24 hours.
- Isolated thundersqualls would occur over east Uttar Pradesh, Bihar, West Bengal & Sikkim, northeastern states, Chhattisgarh, Jharkhand and Orissa during next 48 hours.
- Heavy to very heavy rainfall would occur at a few places over coastal Karnataka and Kerala and isolated heavy rainfall would also occur over Lakshadweep, Andaman & Nicobar Islands and south Konkan & Goa during next 48 hours.

Weather Outlook up to 1430 hours IST of 7th June, 2011

- Widespread rain/thundershowers would occur along west coast.
- Fairly widespread rain/thundershowers would occur over northeastern states and adjoining east India.
- Mainly dry weather would prevail over northwest India.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts of Bihar, Jharkhand, West Bengal and Sikkim received rain during last week.
- **Rainfall Forecast:** Scattered rain / thundershowers would occur over West Bengal & Sikkim during next 24 hrs and increase thereafter. Scattered rain / thundershowers would occur over rest of the States of east India during the period. Severe thunder squalls at some places would occur over Gangetic West Bengal during next 48 hours. Isolated thunder squalls would occur over Bihar, Jharkhand and Orissa during next 48 hours.
- **Advisories:**
 - As scattered rain / thundershowers would occur over West Bengal & Sikkim during next 24 hrs and increase thereafter, farmers are advised to postpone irrigation, intercultural operation and plant protection measures to the standing crops. In view of likely occurrence of severe thunder squalls at some places over Gangetic West Bengal and isolated thunder squall in Bihar, Jharkhand and Orissa during next 48 hours, farmers are advised to provide support to the standing crops to avoid lodging and store the harvested crops at safer places.
 - As there was sufficient rain during last week in Bihar and Orissa and scattered rain is expected to occur, farmers are advised to postpone irrigation to the standing crops in these States. As there was no significant rain in Jharkhand during last week, farmers are advised to apply irrigation to the standing crops in these States.
 - In Orissa, the weather is optimum for planting of ginger, turmeric, papaya, marigold etc. and sowing of jute, vegetables like *okra*, bitter gourd, cluster bean, cow pea and ridge gourd and also sowing of mixed green fodder like fodder maize and cow pea. Also undertake harvesting of matured summer rice, groundnut and pulses.
 - Go for summer ploughing of land at places receiving rainfall in North Central Plateau Zone of Orissa, to reduce weed infestation, to destroy eggs and larvae of insects and to increase soil profile recharge.
 - Farmers in West Bengal are advised to undertake field preparation and sowing of jute, planting of ginger, turmeric and arum, nursery sowing of *aus* rice, nursery bed preparation of aman rice and land preparation of pigeon pea. Planting of ginger and turmeric should be avoided in wet field just after rain. Drain out excess water from already planted field.
 - As there is a chance of receiving rainfall in the coming days, complete the sowing operation of *aus* rice in New Alluvial Zone of West Bengal utilising the rainfall. In the irrigated as well as rainfed areas, continue transplanting as this year onset of monsoon will be earlier. Transplant three weeks age seedlings (having 5 leaves) at a distance of 8x4 inch.
 - Farmers are advised to plant ginger, turmeric, elephant foot yam, preparation of nursery bed for rice in South Eastern Plateau Zone and Western Plateau Zone of Jharkhand and to sow maize, jowar and lobia for green fodder in Bihar.
 - Prepare the land for sowing of kharif crops. Arrange the seeds and prepare the nursery for sowing of long duration rice varieties in Bihar.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Weather will remain favourable for attack of stem borer and top borers in the spring planted sugarcane crop in North West Alluvial Plain Zone in Bihar. Remove the infested parts of crops and dig them in the soil or these may be fed to the cattle.
 - Due to high humidity and temperature in New Alluvial Zone of West Bengal, stem-rot attack may be prevalent. As per last week's suggestion, apply bavistin or benlate (1 gram per lt of water) to control the attack of stem-rot.
 - Semi lopper is a problem in this weather condition field in Terai Zone of West Bengal. To manage spray endosulphan 2 ml/lt or chlorpyrifos 2.5 ml/lt.
 - In North Eastern Coastal Plain Zone in Orissa fruit borer in Brinjal- Spray Diflubenzuron @37.5g and Cartap hydrochloride @100g per acre in 200 litre of water or Spintor@3.5ml in 15 litre (Spinosad) of water. Fruit borer in Okra- Spray Carbaryl dust @ 4 gm or Caldan 2 gm/litre of water.

- Apply plant protection measures in West Bengal & Sikkim after current spells of rain and on a non-rainy day in Orissa and Bihar.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
- Due to occasional shower for last few days in Coastal Saline Zone of West Bengal there is a chance of fungal attack in poultry birds. To prevent it poultry litter should be rearranged by mixing lime in the litter. RD vaccine should be given immediately to the chicks which are 7 days old.

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

- **Realised Rainfall:** Most of the districts of Arunachal Pradesh and Assam received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over the States with isoalted thundersqualls during next 48 hours.
- **Advisory:**
 - As fairly widespread rain / thundershowers would occur over the states of this region, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops.
 - In Assam, sowing of jute, summer vegetables and maize and planting of ginger, turmeric and papaya may be carried out. Farmers are also advised to undertake land preparation and collect seeds of suitable varieties for sowing for nursery sowing of *sali* rice.
 - Farmers are advised to sow *kharif* rice or *aus* rice and cucurbitaceous vegetables in Tripura.
 - Farmers in Manipur are advised to undertake planting of ginger and turmeric and sowing of cucurbitaceous vegetables.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Rice bug infestation is seen in some *boro* paddy fields in Nagaon district of Assam. So recommended control measure (dusting of Malathion 5% powder) may be adopted in clear weather. Already matured *boro* rice may be harvested immediately.
 - Farmers in North Bank Plain Zone of Assam are advised to take necessary control measures against the attack of stem borer, leaf roller or cut worm in transplanted or direct seeded *ahu* rice field. Spray quinalphos @ 200ml per 50-60 lit. of water after current spells of rain.
 - Farmers in Barak Valley Zone of Assam are advised to harvest their *boro* rice in this week on bright sunny days. Undue delay in harvesting may lead to damage by flood. Farmers of this region are advised to give the second top dressing of N fertilizers to *ahu* rice during this period.
 - As there had been good rainfall in past days in Sub-Tropical Plain Zone of Manipur, sowing of rice seed may be started after soaking and incubation.
 - Nursery preparation for *Sali* rice may be started utilizing rainfall during last week in East and West Garo District of Meghalaya.
 - As there is a rise in temperature in Ri-Bhoi, East Khasi and South Garo District of Meghalaya, there is possibility of late blight in potato and tomato, which can be controlled by prophylactic spray of Di-ethane M-45 (2-3ml/l) or Curzate (3 ml/l).
 - Prevailing of high temperature along with high humidity in Mild Tropical Hill Zone of Mizoram, favour the incidence of jassid and hopper, recommended prophylactic spray of neem oil garlic mixture at fortnightly intervals may be undertaken. Spraying may be done after current spells of rain.
 - As prevailing of high moisture in low land due to rainfall in Mild Tropical Hill Zone of Mizoram, chances of wilt and root rot incidence is more. Make drenching the around plants with the captaf @ 0.1% after current spells of rain.
 - As there are chances of occurrence of yellow vein mosaic virus (YVMV) in bhindi in Tripura, farmers are advised to apply Rogor @ 2 ml per liter of water to manage the attack.
 - Apply plant protection measures after current spells of rain.

- Stages of major crops are mentioned in Annexure I.

Animal Husbandry:

- Vaccination may be given to broiler poultry to control ranikhet disease in Ri-Bhoi, South Garo, East Garo and West Garo District of Meghalaya. Farmers of Ri-Bhoi, West Khasi and East Khasi Hill District of Meghalaya are advised to release fish prawn in their ponds during this period. The fish farmers are advised to apply 10 kg lime/bigha and 100 kg fresh cow dung/bigha to their newly dug pond for rearing fish.

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

- **Realised Rainfall:** Most of the districts of Uttarakhand and few districts of Haryana, Uttar Pradesh, Uttarakhand, Punjab, Himachal Pradesh received rainfall during last week.
 - **Rainfall Forecast:** Fairly widespread rain/thundershowers is likely to occur over the region during next 24 hours and decrease thereafter with isolated thundersqualls over isolated thunder squalls Punjab, Haryana, Rajasthan, Delhi, west Uttar Pradesh, east Uttar Pradesh during next 24-48 hrs.
- **Advisory:**
 - As fairly widespread rainfall is likely in the region during next 24 hours, postpone irrigation to the crops. There was no significant rainfall during last week in the remaining States and there are chances for no significant rainfall during next three days, farmers are advised to apply irrigation to standing crops.
 - As high temperature is prevailing in some parts of Rajasthan, to meet excess evaporative demand farmers are advised to apply light and frequent irrigation in summer crops, vegetables, horticultural plants and cover the tree sapling with thatching material to protect against high temperature. Farmers are advised to continue sowing of recommended varieties of cotton, nursery sowing of rice, field preparation for nursery sowing of groundnut, vegetables viz. chilli, Shimla Mirch, tomato, brinjal and early cauliflower and undertake harvesting of onion.
 - Farmers in Delhi are advised to complete the sowing of baby corn and undertake sowing of pigeonpea during this week.
 - Farmers in Jammu and Kashmir are advised to undertake nursery sowing of rice and *kharif* fodders like maize, jowar, bajra, cowpea etc. and field preparation for sowing of maize, pulses, moong and mash crops.
 - Farmers are advised to undertake nursery sowing of rice, sowing of peas, potato, bhindi, French bean turnip, raddish, carrot, sugarbeet and palak, transplanting of tomato, brinjal, capsicum and in Himachal Pradesh.
 - As the weather is expected to be mainly dry, farmers in Punjab and Haryana are advised to irrigate rice nursery during evening hours to save irrigation water. Apply second dose of urea to the nursery. Undertake sowing of maize and cotton.
 - Farmers in Uttar Pradesh are advised to undertake sowing of maize.
 - Farmers in Bhabar and Tarai Zone of Uttarakhand are advised to prepare the field for nursery sowing of rice and finger millet.
 - In Udhamsinghnagar district of Uttarakhand, there are chances of army worm damaging the sugarcane crop under present weather conditions. If the incidence is more than 10 % then for effective control it is advised to spray any insecticide. Also there are more chances of incidence of flower sucking insects in moong & urd crops, if the incidence is more than 10 % then farmers are advised to spray Monochrotophous @ 250 ml/ 300 litres of water per acre over the these affected crop.
 - There are chances of downey mildew in cucurbitaceous crops in Uttar Pradesh, to control spray 1.5 gm Indofill M-45 per litre of water.
 - In Palampur district of Himachal Pradesh, attack of cut worm is seen in bhindi. For control drench fields with chloropyrophos@1ml per litres of water. Cucurbits wines are drying due to wilt disease. Cucurbit beetle helps in spread of the disease, control beetle by spraying carbaryl(sevin) 2g per litres of water at the interval of 15 days. Red pumpkin beetle and fruit fly

may be appearing in the cucurbits crops already transplanted, for control spray malathion / endosulphon @ 0.15 percent t 10 days interval.

- **Stages of major crops are mentioned in Annexure I.**
- **Animal Husbandry**
 - In Udaipur district of Rajasthan, poultry and animals may be protected from heat waves and vaccination should be done in animals before onset of monsoon.
 - In Palampur district of Himachal Pradesh, weather is conducive for ticks and mites attack on animals. For control spray Butox @ 2.0 ml per litres of water.

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

- **Realised Rainfall:** Most of the districts in Karnataka and Kerala, Vellore, Krishnagiri and Nilgiris in Tamil Nadu, East Godavari, Krishna and Vizianagram in Coastal Andhra Pradesh and Khammam in Telangana received good rainfall. No significant rainfall occurred in remaining parts of the region.
- **Rainfall Forecast:** Heavy to very heavy rainfall would occur at a few places over coastal Karnataka and Kerala.
- **Advisories:**
 - Due to onset / arrival of monsoon and receipt of good rainfall during last week along with forecast of wide spread / fairly wide spread rains, farmers are advised to undertake nursery sowing for *virippu* rice, new planting of black pepper, ginger, turmeric and vegetable in Kerala, nursery sowing of *Kuruvai* rice, *kharif* vegetables in Tamil Nadu, irrigated cotton, nursery sowing of rice, sowing of hybrid jowar, maize, ragi, sugarcane, sunflower, ground nut, red gram and horticulture crops in Karnataka, sowing of groundnut in Rayalaseema utilizing monsoon showers..
 - Due to receipt of good rainfall during last week and favourable conditions for further advance of southwest monsoon over some more parts Karnataka and Andhra Pradesh, farmers are advised to undertake land preparation for sowing of rainfed crops like cotton, jowar, maize, castor, groundnut, pigeonpea, green gram etc. in Telangana, nursery sowing of rice, *kharif* crops such as green gram, blackgram, pigeonpea, jowar, soybean, maize, Bt. cotton and hybrid cotton, redgram, bajra, sesamum, navane and groundnut in North Interior Karnataka.
 - Farmers in North Coastal Zone of Andhra Pradesh are advised to undertake sowing of groundnut and land preparation for sugar-cane.
 - Farmers in Scarce Rainfall Zone of Rayalaseema are advised to undertake ploughing and **sowing of kharif groundnut, taking advantage of recently received monsoon rains.**
 - **Farmers in Southern Telangana Zone of Andhra Pradesh are advised to take up preparation of land and sowing of rainfed crops like cotton, jowar, maize, castor, groundnut, pigeonpea, green gram etc.,**
 - Farmers in North East Transition Zone and North Transition Zone of Karnataka are advised to take up sowing of kharif crops such as green gram, blackgram, pigeonpea, jowar, cotton and soybean, when the monsoon becomes active in the district, take up ploughing across the slope of the land to improve infiltration, conserve the rain water to avoid soil erosion and take up repair works of bunds, check dams and irrigation canals so as to reduce runoff of rain water and also to check the soil erosion.
 - Farmers in Coastal Zone of Karnataka are advised to procure paddy seeds of MO-4 and Champaka variety for raising the nursery and go in for seed treatment by soaking paddy seeds (30 minutes) in the solution of Carbendazium 1g/ lit of water to prevent the leaf spot disease incidence in the nursery, since the kharif monsoon is expected to onset in the next few days.
 - Farmers in North East Dry Zone of Karnataka are advised to undertake land preparation, keep the seeds and fertilizers ready for kharif sowings and speed up summer harrowing, as rainfall is forecasted in the coming days. Since wind speed is likely to be increased, stacking of Banana is to be done perfectly

- Farmers in the Western Zone of Tamil Nadu are advised to apply irrigation to all garden crops based on soil moisture, as light rainfall is expected in the coming days.
- Farmers in the Southern Zone of Tamil Nadu are advised to apply irrigation to all garden crops, undertake ploughing in the drylands and make arrangements for the perennial weed removal such as morinda, hariyali in the dry lands especially black soils, as moderate rainfall is expected in coming days.
- As rains are expected in the North Western Zone of Tamil Nadu in the coming days, crops such as ground nut, green gram and cotton can be top dressed as per the recommendations.
- Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to undertake sowing of crops in rainfed areas utilizing the already received rainfall.
- The expected weather is conducive for the mealy bug incidence in horticulture crops, pink boll worm incidence in cotton, internode borer incidence in sugarcane and the red palm weevil incidence in coconut in the Western Zone of Tamil Nadu. Spray profenophos @ 2 ml/lit to control mealy bug, set pheromone trap to monitor pink boll worm and red palm weevil and release Trichogramma egg parasites to control internode borer.
- Spread of mealy bug in fruits, red palm weevil incidence in coconut and infestation of thrips in cotton is noticed due to rise in temperature in the Southern Zone of Tamil Nadu. Release *Acerophagus papaya* or *Cryptolaemus montrouzieri* @ 100 nos/acre depending upon the rate of infection to control mealy bug and spray imidachloprid 100 ml /ha to control thrips.
- Varieties are mentioned in Annexure II.
- **Animal Husbandry**
- Vaccinate before onset of monsoon the animals (cow, buffalow, bullock) against Foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate against Haemorrhagic Septicaemia. Vaccinate (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** No significant rain occurred over the region.
- **Rainfall forecast:** Fairly widespread/widespread rainfall is likely over Konkan, Madhya Maharashtra and Marathwada during next 2-3 days, isolated rainfall is likely during next 24 hours and increase thereafter in Vidarbha and no significant rainfall is likely in Gujarat region.
- **Advisory:**
 - As fairly widespread/widespread rainfall is likely over Konkan, Madhya Maharashtra and Marathwada during next 2-3 days, farmers are advised to postpone irrigation to standing crops.
 - Farmers of Konkan are advised, to prepare raised nursery beds of 120 cm width at base and 90 cm width at top and 8 to 10 cm height for *kharif* rice and nagli nursery.
 - Farmers of the remaining region of Maharashtra are advised to complete the harvesting of already matured summer bajra, groundnut, sunflower and maize as early as possible.
 - Taking the advantage of dry weather, farmers in Gujarat are advised to harvest summer crops and undertake deep ploughing in harvested fields and prepare land for *kharif* crops.
 - Farmers in North Gujarat Zone and Bhal and coastal zone are advised to carry out sowing of irrigated hybrid cotton and B.T. cotton, and irrigated groundnut (North Gujarat Zone) under assured irrigation facilities during coming week by selecting varieties given in Annexure I.
 - Farmers in North Saurashtra Zone of Gujarat are advised to carry out sowing of *kharif* groundnut, bajra, B.T. cotton, pulses with varieties given in Annexure I.
 - Due to presence of sufficient moisture in soil and further chances of rainfall, farmers in South Gujarat Zone are advised to undertake sowing of vegetable crops like bhindi, beans, cucurbits and nursery sowing of tomato, brinjal and chilli crop.

- Farmers in Bhal and coastal zone, North Gujarat Zone are advised to harvest fruits of mango, papaya, sapota, lemon, pomegranate etc. to avoid losses due to dropping. Farmers are also requested to make arrangements for plantation of horticultural crops.
- In view of high temperature, irrigate the floricultural crops during morning hours to meet high evaporative demands in South Gujarat Heavy Rainfall Zone.
- **Animal Husbandry:**
 - In Maharashtra, spray Neon insecticide 1 to 1.5 ml per liter of water to control ecto parasites in animal house. The drinking water should be made available at least four times a day to the livestock and if possible, the animals should be kept under tree shade. Livestock should be washed by using cold water. Livestock should be vaccinated against foot and mouth disease.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rainfall occurred in the region except Baster District in Chattisgarh.
- **Rainfall Forecast:** Isolated rain/thundershowers would occur over the region.
- **Advisory:**
 - During past two days medium rainfall is received in Bundelkhand Zone of Madhya Pradesh, farmers are advised to undertake ploughing of the bare fields. Summer plough is very beneficial because it destroys the seeds of weeds, spores of diseases and eggs of insect and also modifies the physical properties of soils. If farmers have sufficient irrigation facilities and wish to grow paddy crop then make arrangement of paddy seeds and fertilizers for nursery sowing.
 - Farmers in Jhabua Hill Zone in Madhya Pradesh are advised to prepare paddy nursery for transplanted paddy and also for papaya, kharif onion and cauliflower cultivation. As rainfall is expected, give manures- FYM, Compost, vermi compost in their field and mix with soil by tillage operation.
 - As rainfall is expected in Kymore Plateau Zone of Madhya Pradesh, harvest the matured crops of moong, soyabean and urad.
 - On the basis of rainfall expected to come if rainfall occur farmers given manures- FYM, compost, vermi compost in their field and mix with soil by tillage operation.
 - Farmers in Malwa Plateau Zone are advised to sow cotton. Farmers in Northern Hill Zone are advised to prepare land for sowing of turmaric and ginger.
 - Farmers in Bastar Plateau Zone of Chattisgarh are advised to prepare land for sowing of paddy and nursery for vegetables.
 - Due to dry weather conditions in Chattisgarh Plain Zone of Chattisgarh farmers are advised to apply irrigation to summer crops like vegetables and green gram. Farmers, who have drip irrigation system, are also advised to regulate the discharge rate of the system for proper water management.
 - Due to high humidity condition and temperature conditions in Budelkhand Zone of Madhya Pradesh, insect activity may be increase in the tomato, chilly and Brinjal crops, spray Methyl dematon 25 E.C. @ 2.0 ml or Emidachloprid @ 0.5 ml. per litre of water. Also sucking pest, fruit and stem borer in ladyfinger and fruit borer in pomegranate, spray Quinolphos 25 E.C. @ 2.0 ml. per litre of water.
 - In the cucurbitaceae crops if white grub attack is being observed apply Carbofuran 3 G @ 3-4 gms. per plant.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry & Poultry**
 - There is possibility of Medium Cloud conditions in Gird Zone of Madhya Pradesh during next 5 days, cattle should keeping airy and cool place, provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics.
 - Maximum day temperature is likely to be 43°C in Budelkhand Zone of Madhya Pradesh, therefore farmers are advised to cover the window and doors of poultry farms with gunny bags between 10 am to 5 pm and keep wet it with water and after 5 pm remove the gunny bag. Also before the onset of

monsoon, dairy farmers are advised to arrange the vaccines to protect the animals toward mouth and jahari fever disease and to develop the immunity power.

- Cattle should be kept in shed, avoid to heat web and given cool drinking water in three times a day in Nimar Valley Zone of Madhya Pradesh. If Loo symptoms seen in cattle's given salt-sugar water. Give vaccines to goat.

Annexure I Major Crops

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

- Sugarcane (early vegetative / vegetative), green gram and black gram (pod formation) and maize, Jowar, lobia for green fodder (sowing) in Bihar.
- Sugarcane (early vegetative / vegetative), mango and litchi (fruiting), papaya (transplanting), turmeric, ginger, elephant foot yam (sowing), rice (nursery) in Jharkhand.
- Sesame (early pod maturity / maturity), mango, papaya, marigold, tuberose (planting), cow pea (sowing / early vegetative), *kharif* vegetables (sowing) and sugarcane (sprouting/ vegetative / tillering), jute (sowing) turmeric and ginger (planting), yam (sowing) in Orissa.
- Mango (fruiting), sunflower (flowering / seed formation), green gram (branching / flowering / pod formation/ harvesting), groundnut (pod maturity / harvesting), sesame (early pod maturity / maturity / harvesting) and *aus* rice, maize, jute, dhaincha, cowpea, sowing, aman rice (nursery bed), pigeon-pea (land preparation), turmeric, ginger, aurum (planting), vegetables like ladies finger, *kakrol*, *amaranthus*, spinach, various leafy vegetables, brinjal, bitter gourd (sowing / vegetative / flowering / fruiting/ harvesting), chilli (flowering / fruiting) in West Bengal.
- Large cardamom (vegetative lag phase / primary flowering / secondary flowering), *rabi* potato (maturity / harvesting), *kharif* vegetables (transplanting / vegetative), orange (flowering / transplanting of Seedlings from nursery), maize (early vegetative / vegetative / late vegetative / tasseling / silking / cob formation), ginger (planting / germination) in Sikkim.

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

- Sugarcane (cane development / active vegetative), *boro* rice (maturity / harvesting), *bau* rice (sowing / early vegetative / tillering), normal *ahu* rice (transplanting / early vegetative / tillering), early *ahu* rice (panicle initiation / flowering), summer green gram and black gram (flowering / pod formation), jute (sowing / seedling / early vegetative / vegetative), summer vegetables (vegetative / flowering / fruiting), summer sesame (pod maturity / harvesting), maize (tasseling / silking / cob maturity), bhindi (sowing), *sali* rice (land preparation/ nursery), groundnut (land preparation), banana (planting) in Assam.
- Rice (nursery preparation / transplanting / vegetative), French bean (germination / early vegetative / vegetative/ flowering / fruiting), okra (sowing / germination / early vegetative / vegetative / flowering / fruiting), maize (sowing / germination / early vegetative / vegetative) and ginger / turmeric (planting), summer vegetables, millet (sowing / germination / vegetative) in Arunachal Pradesh.
- *Rabi* maize (tasseling / silking / grain formation / maturity), rice (tillering / panicle initiation), soyabean, groundnut (sowing), onion (bulb formation / maturity / harvesting), *kharif* rice, rice bean and black gram (land preparation / sowing), ginger and turmeric (planting) in Manipur.
- *Kharif* maize, groundnut, soyabean, okra and other summer crops (sowing), ginger and turmeric (planting), Khasi mandarin (fruit bearing), banana (vegetative / fruiting / maturity), summer maize (cob formation / harvesting), onion (bulb formation), beans (pod formation / harvesting) and summer vegetables (vegetative / flowering / fruiting) in Mizoram.
- *Aus* or pre *kharif* rice (sowing), sesame (early pod maturity / maturity / harvesting), summer vegetables (vegetative / flowering / fruiting) and *boro* rice (maturity / harvesting) in Tripura.

- *Boro* rice (maturity / harvesting), *ahu* rice (nursery sowing / seedling / transplanting / tillering / panicle initiation or flowering stage), summer maize (tasseling / silking / cob formation), summer vegetables (sowing / vegetative / flowering / fruiting), *sali* rice (nursery) in Meghalaya.
- Maize, summer crops (vegetative / flowering), rice (vegetative), okra (vegetative), tomato (planting) and banana (fruiting), rice (nursery bed) in Nagaland.

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

- Tomato, chilli (transplanting), brinjal & cucurbits crops (flowering/fruiting), lentil (pod formation), maize, hybrid cluster bean, baby corn, Pigeon pea (sowing/ vegetative), green gram and black gram, cotton (sowing), Sugarcane(sowing) in Delhi.
- Potato (tuber formation/harvesting), vegetables (flowering / fruiting / harvesting), garlic, ginger (planting), pea, potato, Bhindi, (sowing), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, pepper and tomato (nursery sowing), Apple (flowering to fruit setting), pomegranate (flowering) in Himachal Pradesh.
- Berseem (vegetative), oats (flowering), lentil (harvesting), field pea (pod formation), cucurbits (vegetative / flowering), onion (vegetative), cauliflower, cabbage, carrot (fruiting/harvesting), tomato (fruiting), onion, (transplanting), chilli, brinjal (nursery sowing / transplanting), summer pulses, moong mash (vegetative/ dough stage), cowpea (vegetative), okra (fruiting), *kharif* fodder viz. maize, jowar, bajra (field preparation / sowing), *kharif* pulses, moong, mash (land preparation), rice (nursery sowing / transplanting), Summer moong (vegetative) in Jammu & Kashmir.
- Potato (7000-800-ft a.s.l.) (sowing /), moong, urd (flowering / pod formation), barley (tillering), garlic, seasonal vegetables (flowering/ harvesting), onion (vegetative / harvesting), chilli, capsicum (sowing / transplanting), tomato (sowing) and lahi (flowering / fruiting), sugarcane (planting), rice (nursery sowing), mango (flowering / fruiting), foxtail millet, maize, okra, bottle gourd, bitter gourd, ginger, turmeric (sowing) in Uttarakhand.
- Spring sugarcane (sprouting), berseem (vegetative), African sarson (pod formation/maturity), radish (vegetative), ghobi sarson (vegetative), oilseeds (raya, taramira) (maturity/harvesting), papaya, onion (harvesting), vegetables, sugarcane (sowing/ germination), summer pulses, cotton, okra, radish (sowing), rice (nursery sowing) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative), barseem (vegetative), summer pulses, moong, mash, pigeon pea (sowing) in Haryana.
- Rice (Land preparation for raising nursery), Winter sugarcane (vegetative), summer sugarcane (initial growth), winter vegetables like carrot, garlic, onion tomato, brinjal (vegetative / flowering / fruiting), cabbage, cauliflower (fruiting / maturity / harvesting) and moong, urd, (vegetative growth / flowering / pod development), black gram, baby corn/ maize / fodder maize, vegetables (sowing / early vegetative) in Uttar Pradesh.
- Rice (nursery sowing), winter sugarcane (initial growth), lentil (maturity), ajwain, fenugreek and isabgol (vegetative), potato (tuberization / maturity), cabbage (late vegetative / head formation), fodder jowar & bajra (sowing), cotton (sowing), early tomato (flowering / fruiting), groundnut and vegetables viz. chilli, Shimla Mirch, Brinjal, Early cauliflower, tomato (field preparation for nursery sowing) in Rajasthan.

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

➤ **Major Crops:**

- Rice (nursery sowing/ transplanting), rice fallow cotton (flowering), rice fallow pulses (harvesting), maize (harvesting), sorghum (harvesting), black gram(vegetative), groundnut (harvesting), cotton (boll formation), vegetables (vegetative/ fruiting), sugarcane (vegetative/ grand growth phase) in Tamil Nadu.

- Sugarcane (ratooning/vegetative), cotton (picking), safflower (maturity), rice (harvesting), mango (harvesting), groundnut(harvesting), in Karnataka.
- Rice (harvesting), red gram (maturity), sunflower (seed development), groundnut (pod development / maturity) in Andhra Pradesh.
- Rice (harvesting), arecanut (planting/maturity), ginger (planting/vegetative), coconut (planting/seed nut collection), pepper (harvesting/new planting) in Kerala.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (*adsali*) (active tillering), sugarcane (pre-seasonal) (vegetative), sugarcane (*suru*) (early growth), summer rice (maturity / harvesting), groundnut (pod maturity / harvesting), sunflower, maize and bajra (grain maturity / harvesting) in Maharashtra.
- Summer bajra (maturity / harvesting), *kharif* bajra (sowing) brinjal and tomato (harvesting), green gram (harvesting), sugarcane (vegetative), summer groundnut (harvesting), irrigated ground nut (sowing), summer pulses (maturity) in Gujarat.

CENTRAL INDIA[M.P., CHHATTISGARH]

- Pigeon pea (maturity/harvesting), sugarcane (vegetative), cotton (boll formation), maize (maturity/harvesting), onion (transplanting), gram / linseed (fruiting / harvesting), okra (sowing) in Madhya Pradesh.
- Pigeon pea (pod development/maturity), rice (seedling / tillering), sunflower (sowing), sugarcane (sowing), linseed (flowering), maize, green gram and sesame (sowing), ginger and turmeric (sowing), groundnut and sunflower (pod/grain filling stage) in Chhattisgarh.

Annexure II List of Varieties

Orissa

Papaya: Honey Dew, Kurg Honey Dew, Co-1, Co-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

Cow pea: Bush type – PusaPhalguni, PusaKomal; runner type – American Long and Banarasi Long; other improved varieties like Russian Giant, EC-4316, NP-3, C-152, UPC-286, UPC-5286 and IGFI-450.

Jute: JRO-524 (Naveen).

Okra: Improved high yielding varieties like UtkalGourav, ArkaAnamika, Uphar, ParvaniKranti and hybrid varieties like Varsa, Vijay, Vishal, Tara, Adhunik, Atyadhunik, and Supriy.

Bitter gourd:PusaDomousumi, Coimbatore long green, and ArkaHarit.

Ridge gourd:PusaNajdar, Jaypur long, and any local variety.

Cluster bean:PusaNaubahar.

Ginger:Suprava, Suruchi, Surabhi.

Turmeric: Roma, Surama, Rang, Rashmi etc.

Fodder maize: African Tall.

Fodder Cowpea: EC-4216.

Maize: Navjot, Shakti, Decan-107, Decan-109.

Rice: Extra early – Kaling-3; Early – Khandagiri, Bandana, Pathara, Parijat, Annada, Jogesh, Siddant; Medium – Pratikshya, Manaswini, Tapaswini MAS, Konark, Kharavela, Naveen, Abhisek, Lalat MAS MTU-1001, MTU-1010, Konark, Gajapati, Surendra, Lalat; Late – CR-1009, CR-1018, Swarna (MTU-7029), Indravati, Mahanadi, Puja, Ramachandi, Kanchana, Sarala, Lunishree, Ranidhan, Mrinalini,

RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu; Fine – CR-1014, BPT-5204; flash flood areas, Swarna Sub-1

Yam: Shreekirti, Shreerupa, Hatikhoj, Shreeshilpi; small yam – Shreelata, Shreekala.

White yam: Shreesubhra, Shreepriya, Shreedhanya.

West Bengal

Jute : Chaitali, Basudev, Naveen, Sonali, SobujSona.

Arum: BCC-17, BCC-33, BCC-02, BCC-01, BCC-9.

Aman Rice: Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002

Pigeon-pea: Sweta, Churni

Jharkhand

Turmeric: Rajendra Sonia.

Ginger: Burdwan and Nadia.

Elephant foot yam: Gajendra.

Maize: Birsa-1, Birsa Vikas-1, Suhan-1.

Rice: Swarna(MTU7029), Rajshree, BPT 5204 (Sambha Mahsuri), Birsamati and for hybrid rice, variety is Proagro or Arize 6444.

Assam

Jute: Tarun, JRC 321 (Sonali), UPC 94 (Reshma), JRC 321, JRC 7447, UPC 94, JRO 524, JRO 7835, JRO 632, JRC 212, JRC 7447, SEL-2 etc.

Maize : Kisan, Ganga.

Papaya: Ranchi, Washington, Halflong, Coorg Honeydew etc.

Bhindi: Parvani Kranti, Arka Anamica.

Sali rice: Ranjit, Bahadur, Satyaranjan, Mahsuri, Peoli, Moniram, Pankaj, Kushal. Basundhara, Ketakijoha, Aghoni

Banana: Asomiya jahaji, medium tall varieties: Chenichampa, Mulbhog, tall varieties: bhimkal, purakal, manohar

Tripura

Ridge gourd: Pusa Nasdar, Satputia.

Cucumber: Japanese long, Straight 8.

Delhi

Hybrid cluster bean: Pusa Komal, Pusa Sukamol

Baby corn: HM-4.

Sugarcane: Karan-1, Karan-2, Co-64, and Co-1496.

Late varieties of Cotton: H-777, H-974, H-1098.

Pigeonpea - Pusa 2001, Pusa991, Pusa992, Paras manak, UPAS 120.

Himachal Pradesh

Cauliflower: Sweta, Madhuri

Cabbage: Golden Acre, Varun

Tomato: 7711, Him sona, Him 1

Capsicum green: California wonder, Mahabharat, Capsicum yellow : US 616

Cucumber: Kiyan

Summer squash: hybrid green

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

Rice : var. IET-1410, K-39, Ratna, PC-19, RR-8585,Jaya, Ratna, China-1039, Basmati 370, Ranbir basmati, Sambal basmati and hybrid KRH-2 & PHB-71

Brinjal : PPL, PPC & PPR
Chillies : NP-46A, Pusa jawala
Mash: Mash Pant, U-19, T-9
Moong: PDM-54, PS-16, PS-17, ML-131
Baby corn : HM-4
Pigeonpea : Pusa-992, Pusa-9 and Pusa-20020.

Punjab

Paddy : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115 etc
Okra : Punjab 7 / Punjab 8
Radish : Punjab Ageti, Pusa Chetk

Haryana

Baisakhi Mung: K851 and Type 44 and Muskan
Pigeon pea: UPAS 120, T-21.

Uttar Pradesh

Summer Sugarcane: K.S. 97264, K.S.-8432, K.S.-767, K.S.-92423, K.S.-95268, K.S.-98268, K.S.-96275, K.S.-95270
Maize : Hybrid varieties : Ganga-2, Ganga-5, Ganga-11, Sartaj, Prakash, Pusa Hybrid-1, Pusa Hybrid-2 and Gourav, Tarun, Navin, Kanchan, D-765, Amar, Azad.

Uttarakhand :

Rice : VL-Dhan-206, Majdera-7 etc. (un-irrigated), late varieties like VL-Dhan-154, Vivek Dhan -62, Vivek Dhan-65, VL Dhan-81, Vivek Dhan-82 or VL-Dhan-85.
Finger millets : VL-Mandua-124 and VL-149. Pusa-44, Jaya, NDR-359, Sarju-52, PR-113, PR-114, Pant Dhan-18 or Pant Dhan-19.
Short duration (i.e. 95 to 100 days): VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VL-Mandua-146
Maize : Ganga-2, Ganga-7, African Tall, Ganga-5, Pusa Hybrid-1, Pusa Hybrid-2 and Composite varieties like Gaurav, Amar or Surya.
Lobia : Russian Joint, EC-4216, UPC-5286 etc.
Okra : VL Bhindi-1

Rajasthan

Cotton : improved varieties : RG-8, RG-18, hybrid varieties : Raj D.H.-9
Bikaneri Nerma (190-200 days), Ganganagar Ageti (170-180 days), RST-9 (185-200 days) & RG-8 (Desi ,170-180 days).
Narma Kapas: R.S. 2013, R.S.-810, R.S.-875 and R.S.T.-9

B.T. Narma : M.R.C.H. 7017, M.R.C.H.6304, M.R.C.H. 6025, R.C.H. 134, R.C.H. 314, J.K.C.H. 1947, N.C.E.H. 6

Rice : P.R. 106, B.K. 190, Mahi Sugandha (Basmati)

Chilli : Pusa Jwala, N.P.46-A, PantC-2, Pusa Sadabahar, G-3, G-5 and RCH-1.

Shimla Mirch : yellow wonder, California wonder, Bulnose and Arka Mohini.

Groundnut : GG – 2, J – 38, TG – 37 – A, Pratap mungphali – 1, Pratap mungphali – 2.

RS-1, M-13, RG-382, TG-37A, Girnar-2 & RG-141

Papaya : improved varieties Honey dew, Coorg Honey dew, Pusa delicious, Pusa Nanaha and CO-2.

Varieties:

Karnataka.

1). Paddy: Jaya, Mandya Vijaya, Prakash, Pushpa, Karna, I.R-20, Rashi, Avinash, K.R.H- 2(hybrid). Abilash, Inton, B.R-2655, M.A.S-946-1, M.A.S-26.

2) Hybrid Jower: C.S.H-5, C.S.H.-9, C.S.V-4, D.S.V-2.

3) Maize: Ganga-11, Decon-103, Vijaya Composite, N.A.C-6002, N.A.C-6004, Nithyashree, N.A.H-1137.

4) Pop corn: Ambar

5) Ragi: Indaf-8, MR-1,2 & 6, GPU-28, L-5, M.L-365

6) Sugarcane: CO-419, CO-62175, CO-7804, COC-671, CO-86031.

7) Sunflower: Morden, KBSH-1,41,42 & 44,

8) Ground nut: TMV-2, JL-24, K-134, VRI-2, GPBD-4 & Chinthamani-2,

9) Redgram: Hyderabad-3C, TTB-7, BRG-1 & 2, ICP-7035

Gujarat

Irrigated groundnut : GG-20 (North Saurashtra zone)

Kharif groundnut : GG-2, GG-5, TG-26, TPG-41, TAG_37 for bunch and GG-20 for semi sprading groundnut (North Gujarat zone), GG-11, GG-12, GG-13, GG-20 (South Saurashtra Zone)

Irrigated hybrid cotton and B.T. cotton : G. cot. 6, 8, 10 and Govt. approved varieties of B.T. cotton (North Gujarat zone)

Pulses : GM-3, GM-4, K-851 (green gram)

T-9, GU-1 (black gram)

Gujarat cowpea-1,2,4, Pusa Falguni (cowpea)

BDN-2, GT-100, GTH-1 (pegon pea) (North Saurashtra zone)

Kharif Bajra : GHB-558,577,538,719,732,744.

Maharashtra

- **Cotton variety for Central Vidarbha Region** : AKA-5, AKA-7, AKA-8, hybrid variety PKV DH-1, American variety like AKH-081, PKV-Rajat, AKH-8828.

Kharif Seeds for sowing with proper Seed rate, Recommended for Zone 1 & 2 of Karnataka State
Greengram Ver: Selection-4(delayed/Non shattering), China Moong, Seed Rate:15-20 Kg/ha

Blackgram Ver: T-9(@15-20Kg/ha),TAU-1 (@12-15 Kg/ha)

Tur (Pigeonpea)

Ver.: (Medium to Long Duration)PT-221,GS-1,ICP-8863(Maruti) Maruti 2,ICPL-87119(Asha)WRP-1, BSMR -736 (irrigated),&

Short Duration Var: like ICPL-87(Pragati), Selection-31(Zone 2 irrigated areas),GCS-11-39 (Zone-2)

Seed Rate : Sole-10-12 Kg/ha ,Inter Cropping 6-8 Kg/ha

Cowpea Ver.: C-152 (25-30 Kg/ha)

Groundnut : R-2001-3,R-2001-2, R-8808, R-9251 (150K/ha),S-206,TMV-2, 125K/ha)

Castor : 48-1,GCH-4 @5.0-7.5 Kg/ha

Niger: No-71(High yielding),RCR-18 @ 1.5Kg/ha

Sesame: E-8,DS-1 (White) 2.5Kg/ha (Drill Sown)/4.0-5.0Kg/ha(Broadcasting)

Bajra Ver : ICTP-8203 @ 4Kg/ha

Kharif Sorghum Hyb/ Ver : CSH-14,CSH-5,CSH-16,CSH-18 and DSV-1,SSV-74(better for Ethanol Production) @7.5Kg/ha.

Fodder Bajra: DFB-1,DRSB-2(Short duration around 50 days)

Coriander: DWD-3(@10-12Kg/ha),

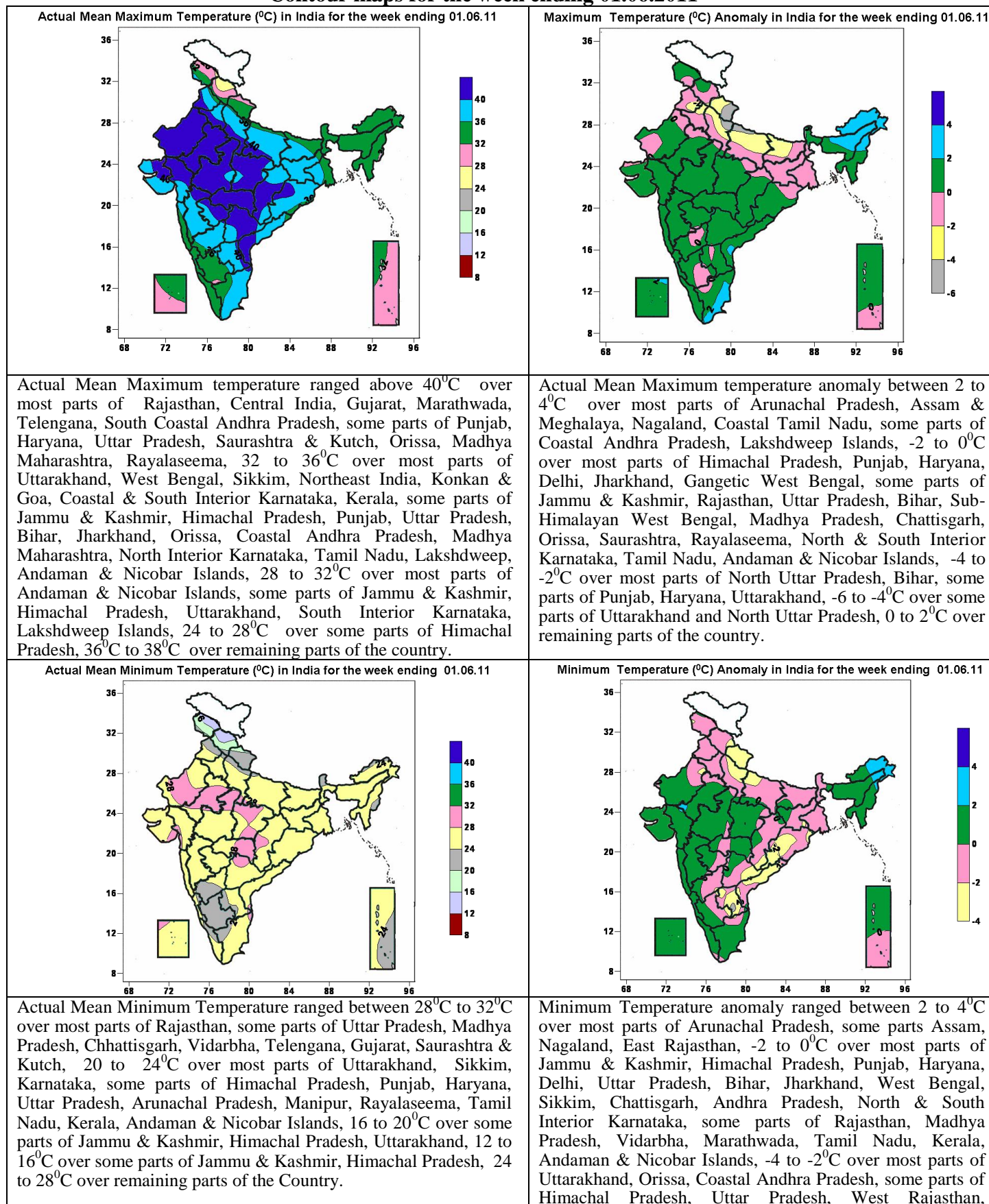
Mesta :AS-73-CP-560,HS-2,HC-583 (@8Kg/ha) etc, and recommended fertilizers for *Kharif* sowings.

Chattisgarh

Paddy: MTU-1001, MTU-1010, IR-64

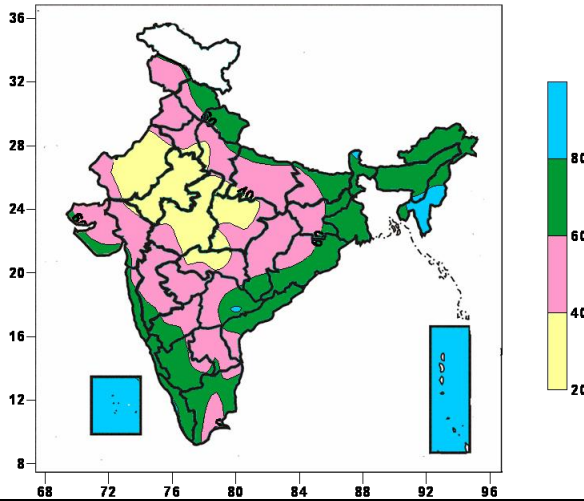
Annexure III

Contour maps for the week ending 01.06.2011



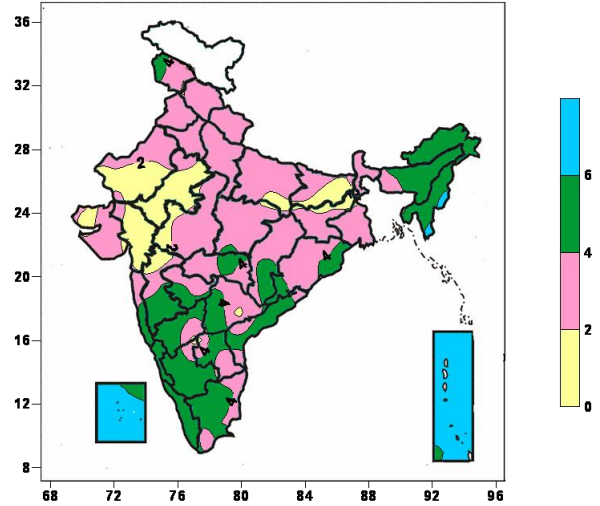
Jharkhand, Chhattisgarh, Telengana, Rayalaseema, Interior Karnataka, 0 to 2 °C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 01.06.11



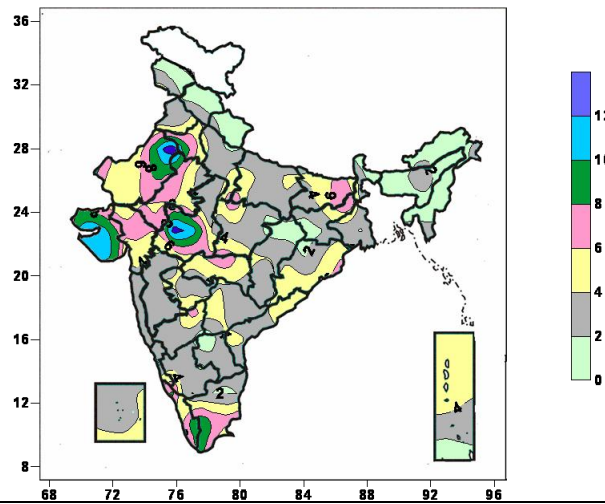
Relative humidity between 80% and above over most parts of Manipur, Mizoram, Lakshdweep, Andaman & Nicobar Islands, some parts of Sikkim, Meghalaya, Tripura, Telengana, 60 to 80% over most parts of Himachal Pradesh, Uttarakhand, Bihar, West Bengal, Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Tripura, Orissa, Coastal Andhra Pradesh, Telengana, Tamil Nadu, Kerala, Karnataka, Konkan & Goa, some parts of Uttar Pradesh, Jharkhand, Chattisgarh, Madhya Maharashtra, Rayalaseema, Saurashtra & Kutch, 20 to 40% over most parts of Rajasthan, Madhya Pradesh, Vidarbha, some parts of Haryana, Uttar Pradesh, Gujarat, 40 to 60% over remaining parts of the country.

Cloud amount (okta) over India for the week ending 01.06.11



Cloud amount 6 okta and above over most parts of Lakshdweep, Andaman & Nicobar Islands, some parts of Manipur, Mizoram, 4 to 6 okta over most parts of Northeast India, Marathwada, South Madhya Maharashtra, Konkan & Goa, Karnataka, Andhra Pradesh, Tamil Nadu, Kerala, some parts of Jammu & Kashmir, East Madhya Pradesh, Vidarbha, Chhattisgarh, Orissa, Lakshdweep Islands, 0 to 2 okta over most parts of Rajasthan, Gujarat, Bihar, some parts of East Uttar Pradesh, Jharkhand, Madhya Pradesh, Saurashtra & Kutch, North Madhya Maharashtra, Telengana, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 01.06.11



Wind speed ranged between 12 knots and above over some parts of West Rajasthan, West Madhya Pradesh, 10 to 12 knots over some parts of West Rajasthan, Saurashtra & Kutch, West Madhya Pradesh, 8 to 10 knots over some parts of Saurashtra & Kutch, West Madhya Pradesh, Rajasthan, 6 to 8 knots over most parts of Rajasthan, Gujarat, some parts of Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Vidarbha, Saurashtra & Kutch, North & South Interior Karnataka, Kerala, Tamil Nadu, 4 to 6 knots over most parts of Gujarat, Vidarbha, Coastal Orissa, Andaman & Nicobar Islands, some parts of Punjab, Haryana, Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, West Bengal, Madhya Maharashtra, Marathwada, Karnataka, Coastal Andhra Pradesh, Telengana, Kerala, Tamil Nadu, Lakshdweep Islands, 0 to 2 knots over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Northeast India, some parts of West Uttar Pradesh, Jharkhand, Orissa, Chhattisgarh, East Madhya Pradesh, Rayalaseema, Tamil Nadu, Andaman & Nicobar Islands, 2 to 4 knots over remaining parts of the country.