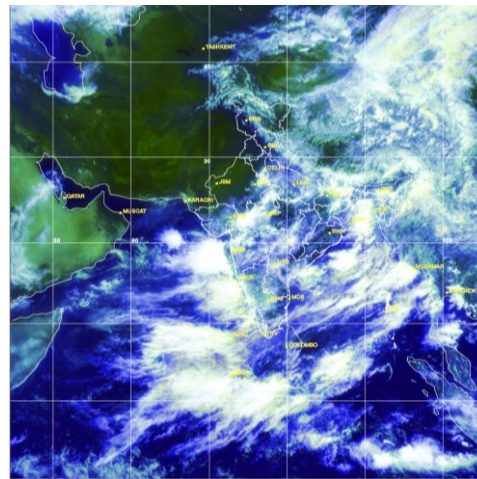
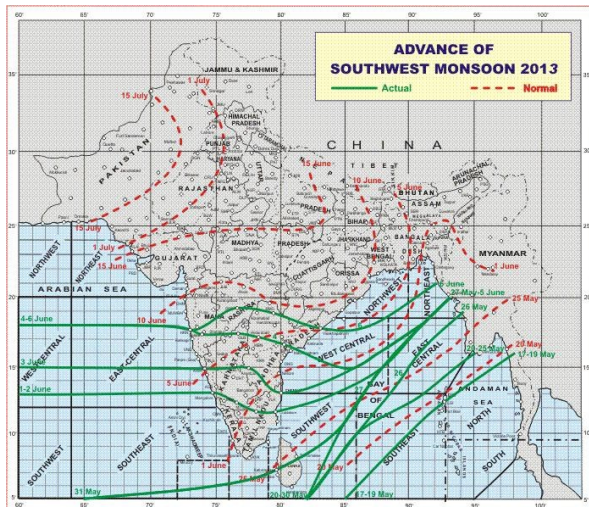


Monsoon Watch

- Southwest Monsoon further advanced into some more parts of Madhya Maharashtra; some parts of Marathwada; remaining parts of north interior Karnataka; most parts of Telangana, coastal Andhra Pradesh and central Bay of Bengal; some parts of northwest and some more parts of northeast Bay of Bengal. The Northern Limit of Monsoon (NLM) passes through Lat. 18.0° N / Long. 60.0° E, Lat. 18.0°N / Long. 70.0° E, Harnai, Parbhani, Ramgundam, Vishakhapatnam, Lat. 18.0° N / Long. 87.0°E and Lat. 21.0° N / Long. 92.0°E.
- Conditions are favourable for further advance of southwest monsoon into some more parts of Bay of Bengal some parts of northeastern states, Sikkim and some parts of Sub-Himalayan West Bengal during next 48 hours.



Satellite image 0600 UTC dated 7th June, 2013



Salient Advisories for the *Kharif* Crops

Based on the realized and expected rainfall, following salient advisories for the crops have been prepared.

- **Arunachal Pradesh:** Continue land preparation and nursery sowing of WRC (Wetland Rice Cultivation) rice.
- **Meghalaya:** Continue land preparation and nursery sowing of *sali* rice.
- **Mizoram:** Continue land preparation and sowing of maize, groundnut and nursery sowing of *jhum* rice.
- **Manipur:** Continue land preparation and sowing of cucurbitaceous vegetables, maize, and groundnut and nursery sowing of rice.
- **Tripura:** Continue land preparation and nursery sowing of *aman* rice
- **West Bengal:** Continue land preparation for sowing of *aman* rice in Gangetic West Bengal and nursery raising/transplanting of vegetables in Sub-Himalayan West Bengal.
- **Orissa:** Continue land preparation and sowing of rice in the nursery and sowing of maize and direct seeded rice.
- **Kerala:** Continue land preparation and nursery sowing of *virippu* rice and sowing of direct seeded rice. Planting of banana and nursery raising of vegetables.
- **Coastal Andhra Pradesh:** Undertake land preparation and nursery sowing of rice and sowing of groundnut.
- **Raylaseema:** Undertake land preparation and sowing of groundnut.
- **Telangana:** Undertake land preparation and sowing of maize, sorghum, groundnut, cotton and castor
- **Coastal Karnataka:** Undertake land preparation and sowing of *kharif* rice.
- **North Interior Karnataka:** Undertake land preparation and sowing of black gram, green gram, red gram, groundnut and sorghum.
- **South Interior Karnataka:** Undertake land preparation and sowing of black gram, green gram, maize, red gram, groundnut and sesamum.
- **Tamil Nadu:** Undertake land preparation and nursery sowing of *kuruvai* rice.
- **Maharashtra:** Undertake sowing of *kharif* crops viz. *kharif* jowar, groundnut, soybean, nursery sowing of rice and finger millet in North Konkan and South Madhya Maharashtra. Undertake nursery sowing of *kharif* rice and finger millet in South Konkan.
- **Bihar:** Prepare the field and Undertake nursery sowing of *kharif* rice and land preparation for sowing of *kharif* maize.
- **Jharkhand:** Undertake land preparation and nursery sowing for rice and land preparation for sowing of soybean, maize, urad, arhar and *kharif* vegetables bhindi, bean, French bean, tomato, cauliflower, cabbage etc.

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.imdaqrimet.gov.in>) of the Division

Significant realized rainfall during last week

Significant rainfall received in all the districts of Kerala, Karnataka, most of the districts in Arunachal Pradesh, Assam, Meghalaya, Tripura, West Bengal, Sikkim, Konkan & Goa, Madhya Maharashtra, Rayalaseema; Many districts of Mizoram, Nagaland, Bihar, Jharkhand, Marathwada; Ukhrul district of Manipur, Mandi district of Himachal Pradesh; Alirajpur, Dhar, Indore, Khandwa, Khargone districts of West Madhya Pradesh; Raipur district of Chattisgarh; Bhaerach, Balrampur, Barabanki, Basti, Deoria, Faizabad, Gonda, Gorakhpur, Pratapgarh, Shrawasti, Sonbhadra districts of East Uttar Pradesh; Uttarkashi district of Uttarakhand; Buldhana district of Vidarbha; Balasore, Bhadrak, Gajapati, Jagatsingpur, Kalahandi, Kendrapara, Khurda, Koraput, Mayurbhanj, Nawarangpur districts of Orissa; Coimbatore, Cuddalore, Dharmapuri, Erode, Kanyakumari, Krishnagiri, Madurai, Namakkal, Nilgiris, Salem, Tiruvallur, Tiruvarur, Vellore districts of Tamil Nadu; Guntur, Krishna, Vizianagram districts of Coastal Andhra Pradesh; Hyderabad, Karimnagar, Medak, Nalgonda, Nizamabad, Rangareddy districts of Telangana. Weather remained mainly dry over rest parts of the country.

Distribution of rainfall of the country during week ending on 05.06.2013

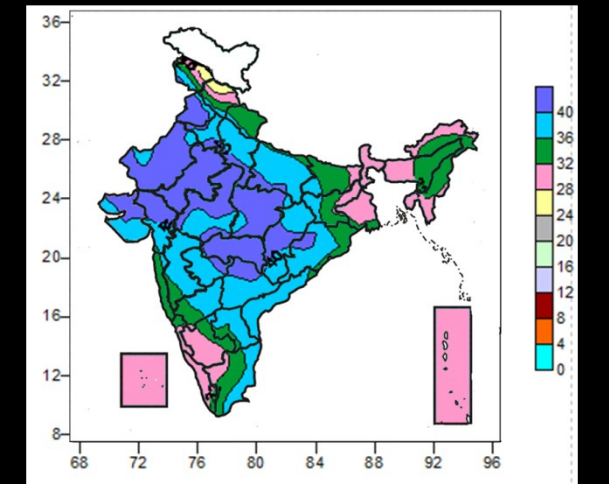
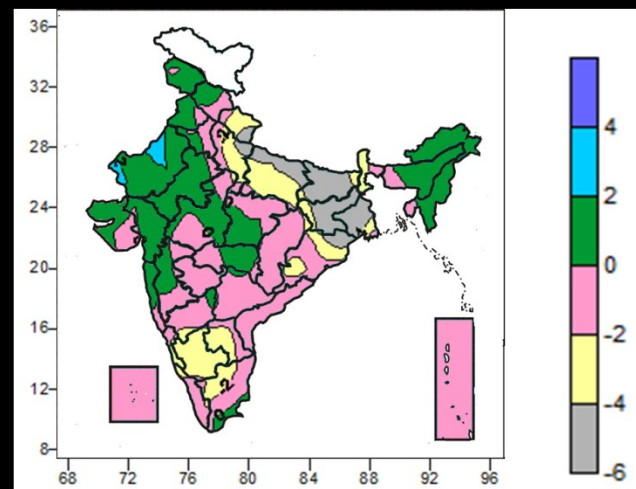
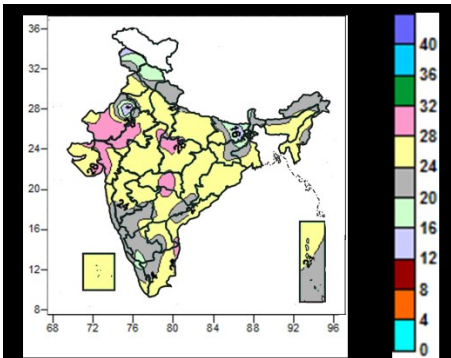
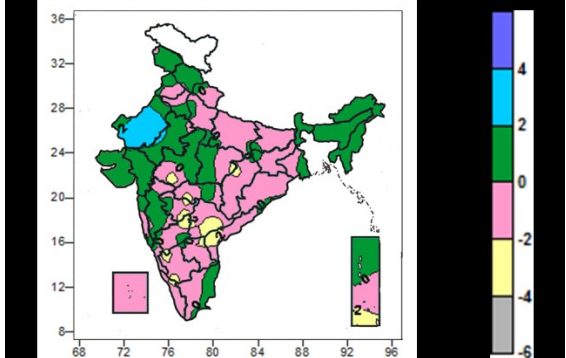
State/Districts	Actual (mm)	% dep.						
Arunachal Pradesh			Nowgong	39.2	-25	Mon	**	**
Anjaw	**	**	Nalbari	44.5	-52	Paren	**	**
Changlang	75.1	-3	Sonitpur	48.9	-37	Phek	24.8	-43
Dibang Valley	32.0	-56	Sibsagar	34.6	-37	Tuensang	**	**
East Kameng	50.0	-8	Tinsukia	27.9	-59	Wokha	0.0	-100
East Siang	7.0	-93	Udalgiri	126.8	55	Zunheboto	64.0	31
KurungKumey	**	**	Meghalaya			Tripura		
Lohit	25.6	-68	East Garo Hills	2.0	-98	Dhalai	22.0	-81
Lower Dibang Valley	8.0	-89	East Khasi Hills	138.0	-43	North tripura	52.7	-58
Lower Subansari	6.4	-91	Jaintia Hills	69.0	-67	South tripura	10.0	-89
Papumpara	69.5	-55	Ribhoi	161.4	157	West tripura	33.0	-68
Tawang	76.0	-35	South Garo Hills	28.0	-70	West Madhya Pradesh		
Tirap	22.8	-78	West Garo Hills	67.8	-28	Alirajpur	23.5	173
Upper Siang	135.7	10	West Khasi Hills	45.0	-49	Asoknagar	0.0	-100
Upper Subansari	50.6	11	Mizoram			Badwani	0.0	-100
West Kameng	138.0	17	Aizwal	44.8	-59	Betul	2.1	-66
West Siang	114.4	63	Champhai	3.0	-96	Bhind	0.0	-100
Assam			Chhimituipui	**	**	Bhopal	16.7	30
Baksa	51.6	-66	Kolasib	9.0	-91	Burhanpur	4.4	-68
Barpeta	108.9	-29	Lawngtlai	65.0	-11	Datia	0.0	-100
Bongaigaon	83.0	-38	Lunglei	0.0	-100	Dewas	19.8	120
Cachar	8.8	-92	Mamit	3.0	-97	Dhar	29.6	329
Chirang	117.0	-12	Saiha	119.0	70	Guna	2.8	-43
Darrang	1.0	-99	Serchhip	29.0	-57	Gwalior	0.0	-100
Dhemaji	18.0	-82	Manipur			Harda	14.9	136
Dhubri	123.9	-13	Bishnupur	**	**	Hosangabad	2.3	-79
Dibrugarh	35.7	-53	Chandel	1.0	-99	Indore	36.4	366
Goalpara	156.8	29	Churachandpur	4.0	-96	Jhabua	0.0	-100
Golghat	19.9	-57	Imphal east	17.8	-75	Khandwa	49.5	551
Hailakandi	11.2	-90	Imphal west	**	**	Khargone	28.0	188
Jorhat	77.6	51	Senapati	**	**	Mandsaur	11.5	237
Kamrup(Rural)	51.5	-32	Tamenglong	**	**	Morena	0.0	-100
Kamrup(Metro)	62.2	-18	Thoubal	9.0	-84	Neemuch	15.5	192
KarbiAnglong	30.5	-8	Ukhrul	21.0	-65	Raisen	0.0	-100
Karimganj	55.8	-65	Nagaland			Rajgarh	9.0	91
Kokrajhar	115.6	-30	Dimapur	35.0	-4	Ratlam	9.9	95
Lakhimpur	48.0	-51	Kephire	0.0	-100	Sehore	8.8	22
Morigaon	76.0	89	Kohima	58.1	34	Shajapur	12.6	107
N.C.Hills	12.2	-85	Longleng	**	**	SheopurKalani	0.0	-100
			Mokokchung	20.0	-61	Shivpuri	0.0	-100

Ujjain	8.1	48	Gopalganj	40.9	190	Thane	13.5	-50
Vidisha	1.2	-81	Jahanabad	106.8	1842	Madhya Maharashtra		
East Uttar Pradesh			Jamui	180.0	1522	Ahmednagar	42.6	202
Allahabad	8.6	59	Kathihar	128.3	367	Dhule	40.3	307
Ambedkar Nagar	8.0	-10	Khagadia	27.8	36	Jalgaon	30.6	212
Azamgarh	1.1	-90	Kishanganj	111.0	115	Kolhapur	25.0	-13
Bahraich	30.2	162	Lakhisarai	66.6	292	Nandurbar	12.2	38
Ballia	14.6	61	Madhepura	90.6	237	Nasik	39.3	185
Balrampur	70.2	416	Madhubani	**	**	Pune	42.5	157
Banda	2.1	-34	Monghyar	59.8	252	Sangli	22.2	5
Barabanki	27.5	310	Muzaffarpur	90.9	402	Satara	37.9	96
Basti	34.1	154	Nalanda	104.0	930	Solapur	24.7	32
Chandauli	5.0	22	Nawada	99.3	695	Marathwada		
Deoria	21.0	67	Patna	121.6	1439	Aurangabad	23.4	68
Faizabad	108.2	1015	Purnea	56.6	48	Beed	16.9	-5
Farrukhabad	0.0	-100	Rohtas	23.3	652	Hingoli	14.9	13
Fatehpur	4.9	40	Saharsha	**	**	Jalna	20.7	42
Gazipur	1.0	-86	Samstipur	33.2	161	Latur	29.2	83
Gonda	28.8	176	Saran	114.7	1120	Nanded	42.4	224
Gorakhpur	32.1	83	Sheikpura	66.0	445	Usmanabad	17.1	-28
Hardoi	0.0	-100	Sheohar	49.0	111	Parbhani	9.0	-39
Jaunpur	1.1	-87	Sitamarhi	114.2	392	Vidarbha		
Kannauj	0.0	-100	Siwan	**	**	Akola	12.6	13
Kanpur City	17.4	358	Supaul	76.3	178	Amraoti	12.4	36
Kanpur Dehat	0.0	-100	Vaishali	69.7	666	Bhandara	0.6	-94
Kaushambi	0.3	-86	West Champaran	15.8	-27	Buldhana	36.8	272
Kheri	1.3	-88	Jharkhand			Chandrapur	19.6	128
Kushinagar	19.5	-2	Bokaro	147.8	597	Gadchiroli	0.0	-100
Lucknow	0.4	-94	Chatra	**	**	Gondia	0.0	-100
Maharajganj	13.7	-20	Deoghar	123.8	875	Nagpur	2.4	-79
Mau	3.0	-68	Dhanbad	78.1	258	Wardha	5.1	-62
Mirzapur	0.0	-100	Dumka	**	**	Washim	7.6	-18
Pratapgarh	26.1	423	East Singbhum	195.8	802	Yeotmal	5.5	-57
RaiBareilly	8.7	107	Garhwa	**	**	Orissa		
SahujiMaharajnagar	0.0	-100	Giridih	110.8	572	Angul	3.2	-87
SantKabirnagar	15.0	28	Godda	24.7	71	Balasore	80.6	120
SantRavidas Nagar	0.0	-100	Gumla	2.2	-88	Bargarh	5.5	-50
Shrawasti	22.0	91	Hazaribagh	114.2	884	Bhadrak	68.8	141
Sidharthnagar	16.0	29	Jamtara	131.5	514	Bolangir	3.2	-75
Sitapur	19.4	203	Pakur	10.7	-60	Boudh	0.0	-100
Sonbhadra	21.6	222	Palamau	0.0	-100	Cuttack	10.2	-68
Sultanpur	17.9	299	Ramgarh	35.3	115	Deogarh	3.5	-77
Unnao	1.3	-78	Ranchi	20.0	16	Dhenkanal	6.0	-77
Varanasi	0.0	-100	Sahebganj	72.6	286	Gajapati	20.8	-22
Bihar			Saraikela	**	**	Ganjam	3.6	-81
Araria	61.1	69	Simdega	22.9	58	Jagatsingpur	42.7	44
Arwal	0.0	-100	West Singbhum	79.6	337	Jajpur	10.5	-68
Aurangabad	1.0	-87	Maharashtra			Jharsuguda	0.7	-95
Banka	**	**	Konkan& Goa			Kalahandi	23.6	8
Begusarai	57.3	344	Goa	86.8	16	Kandhamal	9.6	-58
Bhabua	**	**	Mumbai	28.0	-13	Kendrapara	35.9	19
Bhagalpur	47.5	178	Raigad	33.0	-8	Keonjhar	17.0	-45
East Champaran	112.2	580	Ratnagiri	34.5	-35	Khurda	20.2	-13
Gaya	94.5	1290	Sindhudurg	40.6	-44	Koraput	45.6	87

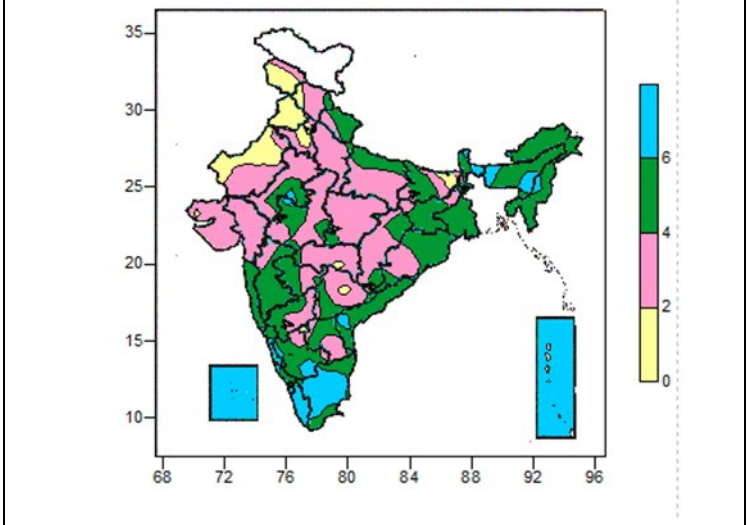
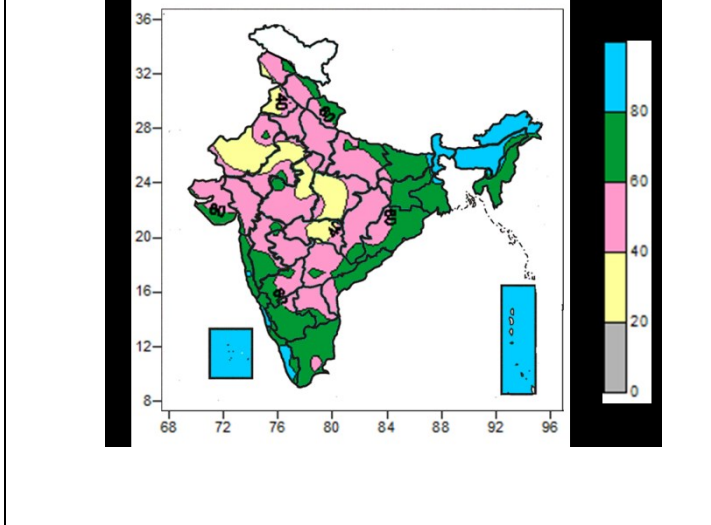
Malkangiri	0.0	-100	Koppal	68.4	300	Namakkal	32.7	107
Mayurbhanj	107.1	263	Raichur	83.0	529	Nilgiris	79.8	204
Nawapara	7.9	-28	Yadgir	44.3	182	Perambalur	2.0	-80
Nawarangpur	39.8	33	S I Karnataka			Puducherry	0.3	-97
Nayagarh	9.7	-62	Bangalore Rural	78.2	189	Pudukottai	13.3	8
Puri	9.1	-60	Bangalore Urban	90.2	199	Ramanathapuram	4.0	-16
Rayagada	13.8	-23	Bellary	65.8	226	Salem	35.8	82
Sambalpur	6.9	-55	Chamarajnaragar	23.3	-3	Sivaganga	17.3	43
Sonepur	0.0	-100	Chichballapur	43.2	100	Thanjavur	18.7	70
Sundargarh	1.6	-91	Chickmagalur	48.3	20	Theni	12.1	64
West Bengal			Chitradurga	65.3	259	Tirunelveli	18.5	184
GWB			Davangere	57.5	175	Tirupur	0.0	-100
Bankura	343.6	1131	Hassan	58.6	165	Tiruvallur	33.0	150
Birbhum	71.0	173	Kodagu	61.7	16	Tiruvannamalai	10.7	-34
Burdwan	82.4	222	Kolar	32.9	38	Tiruvarur	42.6	468
East Midnapore	150.9	299	Mandya	43.4	116	Toothukudi	0.3	-90
Hooghly	64.3	122	Mysore	42.1	73	Trichy	16.8	45
Howrah	2.5	-92	Ramnaragar	70.5	137	Vellore	52.1	145
Kolkata	26.9	-42	Shimoga	44.0	35	Villupuram	12.9	17
Murshidabad	44.2	53	Tumkur	69.4	176	Virudhunagar	0.0	-100
Nadia	39.5	23	Kerala			Andhra Pradesh		
24 Pargana (N)	64.5	37	Alappuzha	150.6	33	Coastal Andhra Pradesh		
Purulia	268.2	897	Kannur	274.9	137	East Godavari	3.3	-82
24 Pargana (S)	86.9	203	Ernakulam	184.3	44	Guntur	23.4	59
West Midnapore	207.2	518	Idukki	152.9	73	Krishna	25.8	65
SHWB			Kasaragod	266.5	98	Nellore	8.0	-15
Cooch Behar	119.9	2	Kollam	142.7	70	Prakasam	18.7	48
Darjeeling	249.6	265	Kottayam	185.1	57	Sirkakulam	10.9	-32
East Sikkim	233.4	213	Kozhikode	248.6	79	Visakhapatnam	12.2	-36
Jalpaiguri	220.9	102	Malappuram	185.2	101	Vizianagram	20.7	-7
Malda	56.2	80	Palakkad	69.6	23	West Godavari	17.0	18
North Dinajpur	3.0	-93	Pathanamthitta	107.0	13	Telangana		
North Sikkim	161.0	47	Thiruvananthapuram	132.0	77	Adilabad	12.7	-6
South Dinajpur	65.2	30	Thrissur	154.3	35	Hyderabad	69.4	418
South Sikkim	177.9	138	Wyanad	158.2	130	Karimnagar	20.8	37
West Sikkim	125.0	14	Tamil Nadu			Khammam	16.8	11
Karnataka			Ariyalur	2.3	-86	Mehabubnagar	17.6	21
Coastal Karnataka			Chennai	0.5	-95	Medak	24.6	50
Dakshin Kannada	137.6	24	Coimbatore	29.6	199	Nalgonda	33.4	120
Udupi	158.0	34	Cuddalore	21.1	92	Nizamabad	52.5	248
Uttar Kannada	65.7	-6	Dharmapuri	31.9	31	Rangareddy	42.5	215
N I Karnataka			Dindigul	14.2	-6	Warangal	13.5	-14
Bagalkote	28.3	37	Erode	39.2	227	Rayalaseema		
Belgaum	38.0	62	Kanchipuram	19.3	65	Anantapur	38.9	100
Bidar	34.2	98	Kanyakumari	75.3	68	Chittoor	43.3	147
Bijapur	35.1	90	Karikal	0.0	-100	Cuddapah	41.4	148
Dharwad	63.0	154	Karur	7.9	-7	Kurnool	15.9	5
Gadag	36.1	45	Krishnagiri	43.0	81			
Gulbarga	39.4	127	Madurai	23.1	92			
Haveri	50.8	134	Nagapattinam	9.6	15			

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

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 05.06.2013

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 05.06.2013	Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 05.06.2013
	
<ul style="list-style-type: none"> • 36 to 40$^{\circ}\text{C}$ and above over many parts of the country (except Northeast, West Bengal & Sikkim, Jammu Kashmir, Himachal Pradesh, Uttarakhand, Bihar, Jharkhand, West coast from Konkan to Kerala, South Interior Karnataka, West Tamil Nadu, Lakshadweep, Andaman Nicobar Islands, some parts of North Interior Karnataka, Madhya Maharashtra, Raylaseema, Orissa). • 28 to 36$^{\circ}\text{C}$ over many parts of Northeast region, West Bengal & Sikkim, Jammu Kashmir, Himachal Pradesh, Uttarakhand, Bihar, Jharkhand, West coast from Konkan to Kerala, South Interior Karnataka, West Tamil Nadu, Lakshadweep, Andaman Nicobar Islands, some parts of North Interior Karnataka, Madhya Maharashtra, Raylaseema, Orissa. 	<ul style="list-style-type: none"> • 2 to 4$^{\circ}\text{C}$ and above over some parts of West Rajasthan. • -2 to 2$^{\circ}\text{C}$ over many parts of the country (except Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, Coastal & South Interior Karnataka, Raylaseema. some parts of Orissa, Chattisgarh, Tamil Nadu, Kerala). • -6 to -2$^{\circ}\text{C}$ over many parts of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Sikkim, Coastal & South Interior Karnataka, Raylaseema. some parts of Orissa, Chattisgarh, Tamil Nadu, Kerala.
Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 05.06.2013	Mean Minimum Temperature Anomaly ($^{\circ}\text{C}$) in India for the week ending 05.06.2013
	
<ul style="list-style-type: none"> • 24 to 32$^{\circ}\text{C}$ and above over many parts of the country (except Jammu Kashmir, Himachal Pradesh, Uttarakhand, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Manipur, south Konkan & Goa, Karnataka, Kerala, Andaman & Nicobar Islands, some parts Gangetic west Bengal, Rajasthan, Assam, Nagaland, Andhra Pradesh, South Madhya Maharashtra, Tamil Nadu). • 16 to 24$^{\circ}\text{C}$ over many parts of Jammu Kashmir, Himachal Pradesh, Uttarakhand, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Manipur, Karnataka, South Konkan & Goa, Andaman & Nicobar Islands, some parts Gangetic West Bengal, West Rajasthan, Assam, Manipur, Andhra Pradesh, South Madhya Maharashtra, Kerala, Tamil Nadu). 	<ul style="list-style-type: none"> • 2 to 4$^{\circ}\text{C}$ over most parts of West Rajasthan. • -2 to 2$^{\circ}\text{C}$ over many parts of the country (except West Rajasthan, some parts of Madhya Pradesh, Chattisgarh, Andhra Pradesh, Marathwada, Vidarbha, Kerala, South & North Interior Karnataka). • -4 to -2$^{\circ}\text{C}$ some parts of Madhya Pradesh, Chattisgarh, Andhra Pradesh, Marathwada, Vidarbha, Kerala, South & North Interior Karnataka

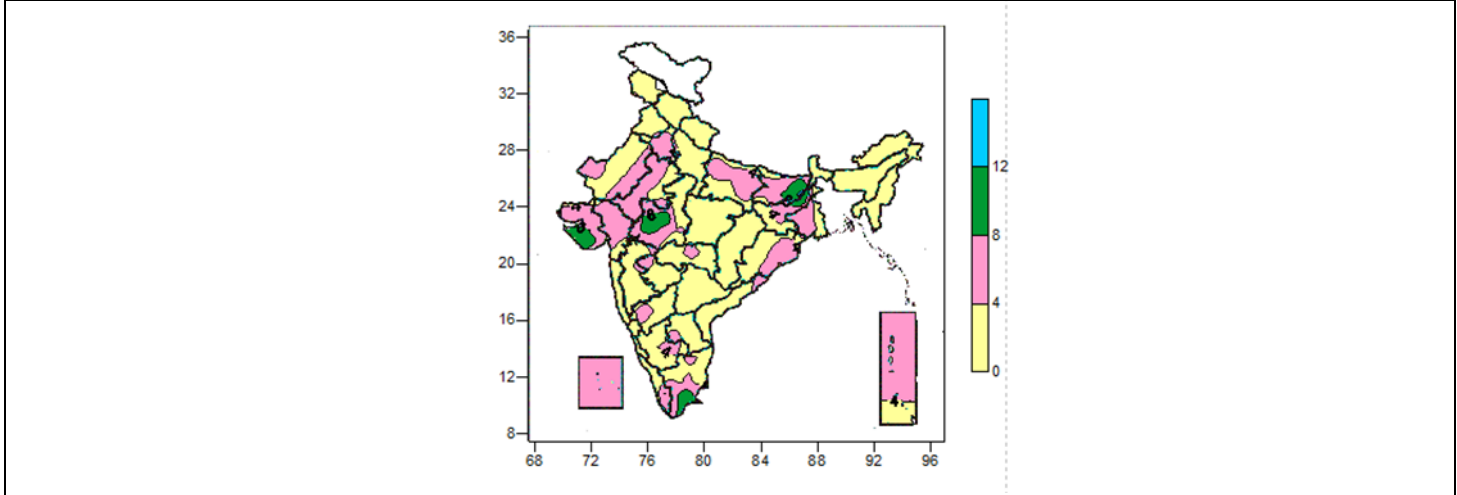
Relative Humidity (%) over India for the week ending 05.06.2013	Cloud amount (okta) over India for the week ending 05.06.2013
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- 60 to 80% and above over many parts of Northeast India, East India, West coast from Saurashtra to Kerala, North & South Interior Karnataka, Tamil Nadu, some parts of Andhra Pradesh, Rajasthan, East Uttar Pradesh, Marathwada, Madhya Maharashtra, Chattisgarh).
- 20 to 60% over many parts of the country (except Northeast India, East India, West coast from Saurashtra & Kutch to Kerala, South Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Orissa, Coastal Andhra Pradesh, East Rajasthan, Madhya Maharashtra, North Interior Karnataka).

- 4 to 6 okta and above over most parts of Uttarakhand, East Rajasthan, North East India, East India, South Peninsular region, Maharashtra (except Vidarbha),
- 0 to 4 okta over many parts of Northwest India (except Uttarakhand, East Rajasthan), Central India, Gujarat, Saurashtra & Kutch.

Wind speed (knots) over India for the week ending 05.06.2013



- 8 to 12 knots and above over some parts of Saurashtra & Kutch, West Madhya Pradesh, Bihar, Jharkhand, Tamil Nadu.
- 0 to 8 knots over many parts of the country (except some parts of Saurashtra & Kutch, West Madhya Pradesh, Bihar, Jharkhand, Tamil Nadu).

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 10th June, 2013)

- Rain/thundershowers would occur at most places over Andaman & Nicobar Islands.
- Rain/thundershowers would occur at many places over coastal Karnataka, Konkan & Goa, Kerala, Andhra Pradesh and Lakshadweep and at a few places over rest south peninsular India and Maharashtra.
- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and northeastern states.
- Rain/thundershowers would occur at one or two places over Uttar Pradesh, Madhya Pradesh, Chhattisgarh and rest east India.
- Dust storm/thunderstorm would occur at one or two places over north Rajasthan, Punjab, Haryana, Chandigarh and Delhi during next 24 hours.
- Rain/thundershowers would occur at one or two places over western Himalayan region during next 24 hours.
- Rain/thundershowers would occur at one or two places over Gujarat.
- Weather would be mainly dry over rest parts of the country.

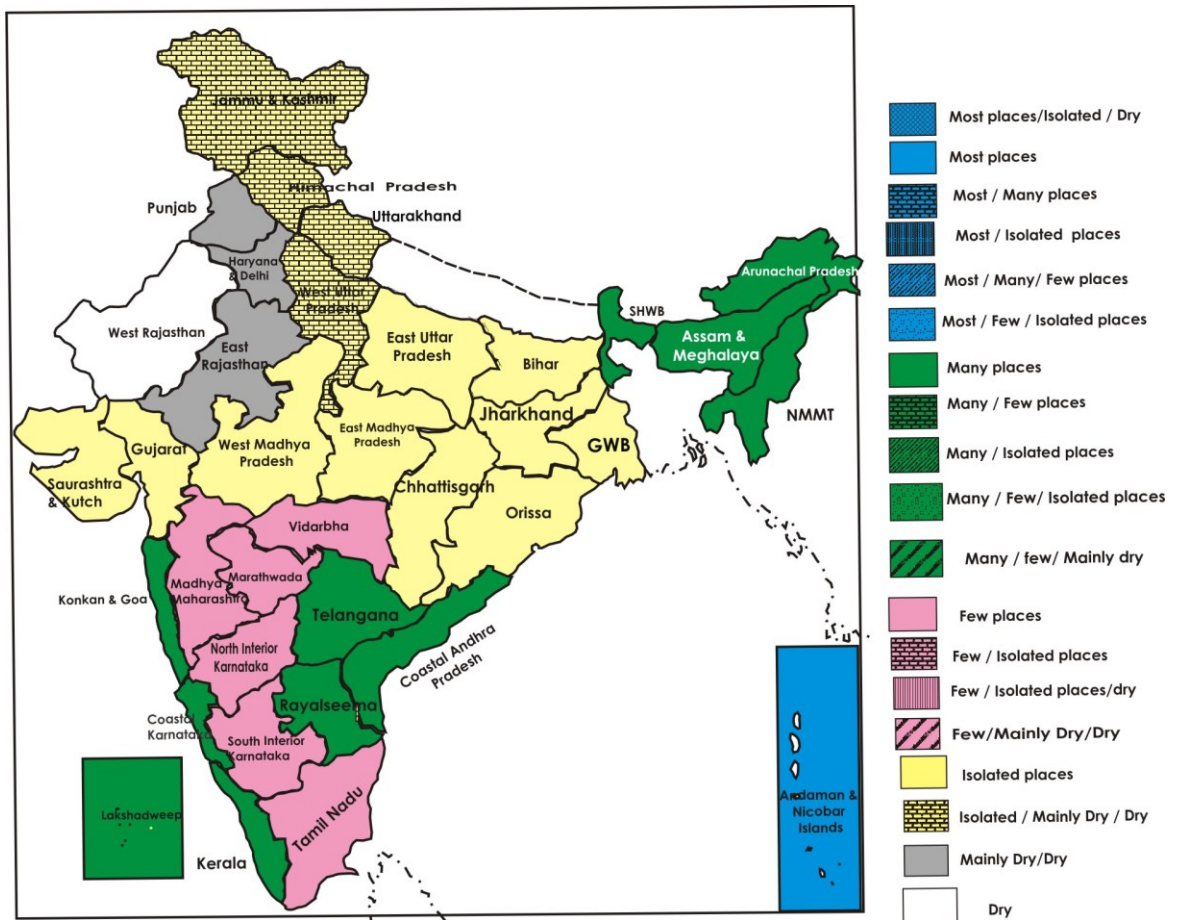
Weather Warning during next 3 days

- Thunderstorm/thundersquall would occur at one or two places over Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, West Bengal & Sikkim, Assam & Meghalaya, Mizoram and Tripura during next 48 hours.
- Heavy rainfall would occur at one or two places over Sub-Himalayan West Bengal & Sikkim during next 48 hours.
- Heat wave conditions would occur over some parts of Rajasthan during next 48 hours.

Weather Outlook for subsequent 4 days from 10th June to 14th June, 2013

- Rain/thundershowers would occur at many places over north eastern states, Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at many places along west coast and at a few places over south peninsular India.
- Rain/ thundershowers would occur at a few places over east India & rest peninsular India and at one or two places over central India.
- Weather would be mainly dry over rest parts of the country.

Weather Forecast Map (Valid upto 0830 hours of 10th June, 2013)



Zonewise Agromet Advisories

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

- **Realised Rainfall: Realised Rainfall:** Significant rainfall occurred in Mandi district of Himachal Pradesh; Uttarkashi district of Uttarakhand; Bahraich, Balrampur, Barabanki, Basti, Deoria, Faizabad, Gonda, Gorakhpur, Pratapgarh, Shrawasti, Sonbhadra districts of Uttar Pradesh. Weather remained mainly dry over rest parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at one or two places over Uttar Pradesh. Rain/thundershowers would occur at one or two places over Western Himalayan region during next 24 hours. Weather would be mainly dry over rest parts of the region. Duststorm/thunderstorm would occur at one or two places over north Rajasthan, Punjab, Haryana, Chandigarh and Delhi during next 24 hours.
- **Weather Warning:** Thunderstorm/thundersquall would occur at one or two places over Punjab, Haryana, Delhi, Uttar Pradesh during next 48 hours. Heat wave conditions would occur over some parts of Rajasthan during next 48 hours.
- **Advisory:**
 - As significant rainfall occurred in Mandi district of Himachal Pradesh, Uttarkashi district of Uttarakhand, Bahraich, Balrampur, Barabanki, Basti, Deoria, Faizabad, Gonda, Gorakhpur, Pratapgarh, Shrawasti, Sonbhadra districts of Uttar Pradesh, farmers are advised to drain out excess water in above mentioned districts. As mainly dry weather prevailed in remaining districts of the states of the region, farmers are advised to apply light and frequent irrigation to summer vegetables in Himachal Pradesh, Delhi and Rajasthan, moderate irrigation in orchard crops in Jammu & Kashmir; Himachal Pradesh, Delhi and in summer moong and urad in Uttarakhand, Uttar Pradesh Rajasthan and regular irrigation in sugarcane, *kharif* fodder and evergreen fruits plants in Punjab.
 - As thunderstorm/thundersquall would occur at one or two places over Punjab, Haryana, Delhi, Uttar Pradesh during next 48 hours, farmers are advised to propping up in sugarcane/staking of vegetables, to prevent the crops from lodging due to strong winds.
 - In Jammu & Kashmir, farmers are advised to provide thatching to young plants in order to protect from heat injury and ensure the circulation of air in the thatches/cover and irrigate young nursery plants almost daily. Also in Sub Tropical Zone of Jammu & Kashmir, farmers are advised to start land preparation and sowing of maize in irrigated as well as rainfed condition in Sub Tropical low altitude condition, sowing of direct seeded rice crop and nursery sowing of brinjal, chillies and *Capsicum*.
 - Farmers in Intermediate Zone of Jammu & Kashmir are advised nursery raising of rice crop after seed treatment and also sowing of Green manure crop *Dhaincha* in main field. Also in Cold-Arid Zone of Jammu & Kashmir, farmers are advised to transplant Cruciferous crops and onion (middle belts), tomato, *Capsicum* and chilli in the lower belts, rare vegetables like celery, parsley and leek in the main field, direct sowing of cucurbits should be done under greenhouses and trenches, radish, carrot, beet root, coriander and fenugreek utilizing recent rainfall.
 - In Rajasthan, farmers are advised to go for field preparation for sowing of groundnut. Also undertake nursery sowing of chilli in Sub Humid Southern Plain and Aravali Hill Zone.
 - In Mid Hills Sub-Humid Zones of Himachal Pradesh, farmers are advised to undertake nursery sowing of rice and sowing of maize utilizing pre-monsoon rainfall. Treat the seeds with Bavistin@ 2 gram per kg of seed.
 - In Hill Zone of Uttarakhand, farmers are advised to undertake sowing of maize, urad, moong and also nursery preparation for sowing of paddy utilizing recent rainfall.
 - In Sub-Humid and Sub-Tropic Zone of Uttarakhand, farmers are advised to apply irrigation to bottle guard, cucurbits, bhindi and other summer vegetable as well as newly planted tomato and chilli crops.
 - Farmers in Delhi are advised to undertake sowing of rice seeds in nurseries and preparation of field for sowing of guar, bajra, maize, cluster bean, spinach, *Amaranthus*, pigeonpea cauliflower and lady's finger. Prepare nursery for chilli and brinjal. Also sowing of cotton may be done in this week.
 - In Central Plain Zone of Uttar Pradesh, farmers are advised to prepare rice nursery upto 25th June. Also start nursery raising of brinjal, chilli and early cauliflower. Complete harvesting of urad and moong.
 - Farmers in Central Plain Zone of Uttar Pradesh are advised that undertake nursery sowing of rice and also advised to prepare the land for sowing of pigeon pea, jowar, maize, groundnut and soybean utilizing recent rainfall.
 - In Eastern Plain Zone of Uttar Pradesh farmers are advised to complete the sowing of late sown and normal sown varieties of rice upto 20th June and early sown varieties of rice may be sown upto 25th June.

- Farmers in Western Zone in Punjab are advised to sow okra and use varieties Punjab-8 and Punjab-7 resistant to yellow vein mosaic virus. Also farmers in Western Plain Zone in Punjab are advised to irrigate sugarcane crop at 7-12 days interval to save crop from dry spell. Apply second dose of urea @ 65 kg per acre along the rows to plant crop.
- In Babar and Tarai Zone of Uttarakhand, under expected dry weather conditions, there are chances of fruit borer in tomato & capsicum crop. Hence, farmers are advised to spray 50 EC Prophenophas @ 1 ml per litre of water on these crops on seeing the insets. Also Downey mildew disease can damage the cucurbits. Hence spray Indophil M-45 @ 2.5 g per liter of water on crop.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II
- **Animal Husbandry**
 - In Sub-Tropical Zone of Jammu & Kashmir, farmers are advised to provide clean water for drinking to the animals at frequent interval to save animals from heat stroke. In Intermediate Zone, weather is conducive for ticks and mites attack on animals. For control, it is advised to spray Butox @ 2.0 ml per litres of water.
 - In Flood Prone Eastern Plain Zone and also in Arid Western Plain Zone of Rajasthan, farmers are advised to keep animals under shades in noon hours. Use gunny bags for curtain to protect animals from heat waves. Make arrangements for clean drinking water during this period.
 - Due to increase in temperature in Central Plain Zone and Western Plain Zone of Uttar Pradesh, farmers are advised to protect the animals from heat; make arrangement for shade near the poultry house and provide clean water for drink.
 - Due to diurnal variation in temperature in Mid Hills Sub-Humid Zone of Himachal Pradesh, livestock owners are advised to protect the animals (especially new born animals) during night hours.
- **Horticulture**
 - In mid hills sub-humid zone of Himachal Pradesh, farmers are advised to complete the harvesting of cherry and strawberry fruits. Start harvesting the early varieties of Peach and Apricot. To conserve moisture in the orchard, do mulching in the basins on the trees with dry grass or polythene also in high hills temperature dry zone it is advised to maintain mulch in apple tree basins for prolonged moisture retention.
 - Due to expected dry weather farmers are advised for irrigation in mango, guava and litchi fruiting trees in Barbar and Tarai zone of Uttarakhand. For planting of new sapling of fruiting trees farmers are advised to dig pits.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred over Alirajpur, Dhar, Indore, Khandwa and Khargone districts of West Madhya Pradesh and Raipur district of Chhattisgarh. Weather was mainly dry over rest Madhya Pradesh and Chhattisgarh.
- **Weather forecast:** Rain/thundershowers would occur at one or two places over the region.
- **Weather Warning:** Thunderstorm / thundersquall would occur at one or two places over Chhattisgarh during next 48 hours.
- **Advisories:**
 - As no significant rainfall occurred during last week except in Alirajpur, Dhar, Indore, Khandwa and Khargone districts of West Madhya Pradesh and Raipur district of Chhattisgarh and no rainfall is likely, farmers are advised to apply irrigation in sugarcane in the region except in Alirajpur, Dhar, Indore, Khandwa and Khargone districts of West Madhya Pradesh and Raipur district of Chhattisgarh
 - As thunderstorm / thundersquall would occur at one or two places over Chhattisgarh during next 48 hours, farmers are advised propping up in sugarcane/staking of vegetables to prevent the crops from lodging due to strong winds.
 - As dry weather is prevailing, farmers are advised harvesting of summer urad, moong and summer vegetables in the region
 - Due to prevailing high temperature in Kymore Plateau and Satpura Hills Zone of Madhya Pradesh, farmers are advised to irrigate tomato, brinjal and chilli fields during evening time and also to harvest fodder (sorghum and maize) crops.
 - As early arrival of monsoon is expected in Jhabua Hills Zone of Madhya Pradesh, farmers are advised to prepare field for *kharif* sowing, also arrange seeds, fertilizer for *kharif* season and also to complete harvesting of summer moong /urad. Farmers are also advised for planting of ginger and turmeric and preparation of nursery of *kharif* onion.
 - Due to high temperature and no rainfall expected in Gird Zone of Madhya Pradesh farmers are advised to irrigate vegetable crops after 10-12 days interval to keep proper soil moisture in the field.

- Farmers in Northern hills Zone of Chhattisgarh are advised to undertake land preparation for sowing of arhar, soybean and start preparing nursery for rice.
- In Chhattisgarh Plain Zone, farmers are advised to undertake field preparation for colocassia, elephant foot yam, sweet potato, turmeric and ginger and also undertake field preparation for sowing of finger millet, kodo and kutki.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II
- **ANIMAL HUSBANDRY & POULTRY**
 - Due to prevailing hot weather conditions in Madhya Pradesh, farmers are advised to protect poultry birds from heat waves by arrangement of curtains, keeping it wet and also provide proper ventilation in poultry house.

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

- **Realised Rainfall:** : Significant rainfall occurred in all districts of Sikkim, in Sub Himalayan West Bengal except North Dinajpur, in Gangetic West Bengal except Howrah; in Bihar except Arwal, Aurangabad, West Champaran; in Jharkhand except Palamau, Gumla, Pakur and also in Balasore, Bhadrak, Gajapati, Jagatsingpur, Kalahandi, Kendrapara, Khurda, Koraput, Mayurbhanj and Nawarangpur districts of Odisha.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Sub- Himalayan West Bengal & Sikkim at one or two places over rest east India.
- **Weather Warning:** Thunderstorm/thundersquall would occur at one or two places over Bihar, Jharkhand, West Bengal & Sikkim, during next 48 hours. Heavy rainfall would occur at one or two places over Sub Himalayan West Bengal & Sikkim during next 48 hours.
- **Weather Outlook:** Rain/thundershowers would occur at many places over Sub Himalayan West Bengal, Sikkim, at a few places over rest parts of East India.
- **Advisories:**
 - Significant rainfall occurred in all districts of Sikkim, in Sub Himalayan West Bengal except North Dinajpur, in Gangetic West Bengal except Howrah, in Bihar except Arwal, Aurangabad, West Champaran, in Jharkhand except Palamau, Gumla, Pakur and also in Balasore, Bhadrak, Gajapati, Jagatsingpur, Kalahandi, Kendrapara, Khurda, Koraput, Mayurbhanj, Nawarangpur districts of Odisha and heavy rainfall would occur at one or two places over Sub Himalayan West Bengal & Sikkim, farmers are advised to postpone irrigation in summer maize, summer vegetable, sugarcane and sunflower in the region. Provide adequate drainage facilities to avoid waterlogging due to heavy rainfall in Sub Himalayan West Bengal & Sikkim.
 - As thundersquall would occur at one or two places over Bihar, Jharkhand, West Bengal & Sikkim, during next 48 hours and heavy rainfall would occur at one or two places over Sub Himalayan West Bengal & Sikkim during next 48 hours, farmers are advised to arrange for adequate drainage to avoid water stagnation in the crop fields. Farmers are also advised to arrange mechanical support to banana, propping up in sugarcane and staking of vegetables, to prevent the crops from lodging due to strong winds.
 - Farmers in North West Alluvial Plain Zone of Bihar are advised land preparation and nursery sowing of long duration rice varieties. Undertake harvesting of summer urad, moong and maize crops and sowing of forage crops such as sorghum, bajra and maize as fodder. Also intercropping of meth, lobia and rice bean with these crops may be taken up which will enhance the quality of the fodder and nutritive for the milch animals.
 - In South Bihar Alluvial Zone and North East Alluvial Plain Zone of Bihar, farmers are advised to prepare nursery for sowing of rice. Undertake sowing of green manure crop like dhaincha, moong bean in fallow field to improve the soil fertility and sowing of maize and small millets, vegetable crops like bottle gourd, sponge gourd, bitter gourd, ridge gourd, cucumber, cowpea and okra and kharif fodder like jowar, maize, dinanath, kalai, cowpea. Harvest matured pod of moong and perennial grasses and fodder.
 - Farmers in Terai Zone, Laterite and Red Soil Zone of West Bengal are also advised to prepare the seedbed for sowing of aman rice.
 - Farmers in Coastal Saline Zone of West Bengal are advised to start sowing of dry seeded long duration rice after proper tillage operations like ploughing and weeding etc.
 - Farmers in Odisha are advised to undertake direct seeding/nursery sowing of rice in medium, low and deep low land and early sowing of *kharif* vegetables like okra and cucurbits. Before onset of monsoon complete digging of holes for planting of fruit trees, so that the planting can be carried out immediately after the onset of monsoon.
 - Farmers of Western undulating zone of Orissa are advised to prepare field and undertake sowing of *kharif* crop like cotton, maize and arhar etc.
 - As significant rainfall occurred during last week and heavy rainfall is expected in Sub Himalayan West Bengal, farmers in Terai Zone are advised to drain out excess water from vegetable seedbed. In this humid condition damping off may occur in vegetable nursery, to manage this disease spray Carbendazim 12%+

Mancozeb 64% @ 2 gm/litre of water. As rainfall is likely at many places in the State, farmers are advised to apply plant protection measures after the current spell of rain.

- Farmers of Jharkhand are advised to spray Methyl Dematon (Metasystox) @ 1 ml per litre of water to control the attack of fruit borer insects and spray fungicide Blitox-50 @ 3 gm per litre of water for the rotting of fruits in capsicum crops after the current spell of rain.
- Farmers in Western Plateau Zone of Jharkhand are advised to spray Trizophos or Profanaphos during evening @ 1 ml per litre of water to control the attack of thrips in timely sown summer moong crops which are at flowering stage.
- In Jharkhand, farmers are advised to prepare the field for planting of ginger and turmeric.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II
- **Animal Husbandry**
 - Farmers in North West Alluvial Plain Zone of Bihar are advised to carry out vaccination of cattles against the black quarter, anthrax and other diseases.
- **Pisciculture**
 - Farmers in Coastal Saline Zone of West Bengal are advised to apply Mahua khol in the pond of carp cultivation for killing the harmful insects.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of the States of the region (except Cachar, Darrang, Dhemaji, Golaghat, Hailakandi and N. C. Hills districts of Assam, East Siang, Lower Dibang Valley and Lower Subansiri districts of Arunachal Pradesh, East Garo Hills district of Meghalaya, Chandel, East Imphal, Thoubal and Churachandpur districts of Manipur, Kephire and Wokha districts of Nagaland, Lunglei, Mamit, Champhai and Kolasib districts of Mizoram and South Tripura district of Tripura).
- **Weather Forecast:** Rain / thundershowers would occur at many places over the States of the region.
- **Weather warning:** Thunderstorm / thundersquall would occur at one or two places over Assam & Meghalaya, Mizoram and Tripura during next 48 hours.
- **Outlook:** Rain / thundershowers would occur at many places over the States of the region.
- **Advisories:**
 - As significant rainfall occurred in most of the districts of the States of the region during last week and rain / thundershowers is also expected at many places over the States of the region during the period, farmers are advised to postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Farmers are also advised to arrange for adequate drainage to avoid water stagnation in the already planted ginger crops.
 - Thunderstorm / thundersquall would occur at one or two places over Assam & Meghalaya, Mizoram and Tripura during next 48 hours; farmers are advised to arrange mechanical support to banana, propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds.
 - Farmers in North Bank Plain Zone, Central Brahmaputra Valley Zone, Upper Brahmaputra Valley Zone and Lower Brahmaputra Valley Zone of Assam are advised to continue nursery preparation of *sali* rice utilising recent rain. Select long duration rice varieties for lowland areas and medium duration rice varieties for medium lowland areas.
 - Farmers in Sub-Tropical Hill Zone of Arunachal Pradesh are advised to continue nursery raising and transplanting of WRC rice.
 - Taking the advantage of recent rain, farmers in Sub Tropical Plain Zone of Manipur are advised to continue seed bed preparation and sowing for *kharif* rice and undertake land preparation for transplanting. Also, continue sowing of groundnut, soybean and black gram. Undertake nursery raising of early cauliflower in the upland area.
 - Utilising recent rain, farmers in Mild Tropical Plain Zone of Tripura are advised to continue nursery bed preparation of *aman* rice. Farmers are also advised to undertake land preparation and sowing of groundnut and maize in upland and medium upland, respectively.
 - As rain occurred during last week and also likely to occur during the period in Mild Tropical Hill Zone of Nagaland, farmers are advised to maintain proper drainage in the field of chilli, as the crop can not withstand excess moisture and will lead to flower drop.
 - Due to prevailing weather conditions in Barak Valley Zone of Assam, there is chance of attack of beetles and fruit and shoot borer in gourd, vegetables and okra; farmers are advised to spray Malathion 50 EC @ 1.5 litres / ha mixed in 500 – 700 liters of water after the current spells of rain.

- The prevalent weather in Mild Tropical Hill Zone of Nagaland is favourable for the development of stem borer in *kharif* maize. Farmers are advised to monitor the crop and apply appropriate plant protection measures after the current spells of rain.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II
- **Animal Husbandry**
 - Farmers in the states of the region are advised to carry out immunizations against FMD, HS and BQ in cattle & buffaloes and swine fever in pigs during this period. Also, vaccinate against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks.
 - In Mild Tropical Plain Zone of Tripura, damp litter and high moisture due to heavy rain may lead to *Coccidiosis* in chicken; so avoid dampness in the shed. Piglets are susceptible for swine fever due to change in weather and feed. The disease may be controlled by Furazolidone, streptomycin etc.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Significant rainfall occurred in all districts of Konkan and Goa except Thane district, in Madhya Maharashtra except Nandurbar district, in Aurangabad, Jalna, Latur and Nanded districts of Marathwada and in Buldhana district of Vidarbha in Maharashtra during last week.
- **Weather Forecast:** Rain / thundershowers would occur at many places over Konkan & Goa, at a few places over rest Maharashtra and at one or two places over Gujarat.
- **Weather Outlook:** Rain / thundershowers would occur at many places over Konkan & Goa. Weather would be mainly dry over rest parts of the States of the region.
- **Advisories:**
 - As there was significant rain due to advancement of South West monsoon over South Konkan region and fairly widespread rainfall is expected to continue over this region during the period, farmers are advised to undertake nursery sowing of *kharif* rice and finger millets on raised beds after.
 - Farmers in North Konkan region are advised to prepare nursery beds and undertake sowing of *kharif* rice and finger millet as fairly wide spread rainfall is expected during the period. They are also advised to dig pits for the plantation of mango, cashew, coconut and arecanut.
 - Taking the advantage of recent monsoon rain over South Madhya Maharashtra and likely occurrence of rain during the period, farmers in Kolhapur and Sangli districts are advised to undertake direct sowing of *kharif* rice and finger millets. Farmers are also advised to complete the preparatory tillage and undertake the sowing of *kharif* jowar, groundnut and soybean.
 - Farmers in North Madhya Maharashtra, Marathwada and Vidarbha are advised to undertake preparatory tillage for sowing of *kharif* crops with the help of pre-monsoon showers.
 - Farmers in North Madhya Maharashtra and Marathwada are advised to undertake sowing of BT cotton using recent rain.
 - Farmers in Gujarat are advised to arrange farm inputs for sowing of *kharif* crops.
 - Due to prevailing high temperature, farmers are advised to apply light irrigation in the evening in pearl millet at grain filling stage and to sorghum at ear head formation stage in North West Zone and North Gujarat Zone and in summer vegetables in South Gujarat Heavy Rainfall Zone.
 - Due to rain, there may be incidence of blight and fruit borer in tomato in Western Maharashtra Scarcity Zone; collect and destroy the infested fruits and spray Mancozeb @ 25g or Chlorothalonyl @ 25 g in 10 litres of water on a non rainy day at 15 days interval alternately.
 - Due to high temperature and humidity, there are chances of attack of thrips and white fly in brinjal, tomato and okra in South Gujarat Heavy Rainfall Zone; farmers are advised to spray the crops with neem oil @ 0.5% or Methyl –O – Dematone @ 0.2.
 - Stages of the crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure II
- **Animal Husbandry**
 - As high maximum temperature is persisting in Gujarat, keep animals under shade during noon hours and provide clean drinking water. Increase the green fodder quantity for feeding. Put curtains on west side of poultry house and sprinkle water on curtains during noon time. Vaccinate animals against FMD and BQ to avoid disease outbreak.

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

- **Realised Rainfall:** Significant rainfall occurred in all the districts of Karnataka and Kerala, in Coimbatore, Cuddalore, Dharmapuri, Erode, Kanyakumari, Madurai, Krishnagiri, Namakkal, Nilgiris, Salem, Thiruvavur and Vellore in Tamil Nadu, Guntur, Krishna and Vizianagram in Coastal Andhra Pradesh, most of the districts except Kurnool in Rayalaseema; in Karimnagar, Medak, Nalgonda, Nizamabad and Rangareddy in Telangana.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Coastal Karnataka, Kerala and Andhra Pradesh and at few places over rest south peninsular India.
- **Advisories:**
 - Farmers in Southern zone and Northern zone of Kerala are advised to continue land preparation and nursery sowing of virippurice and sowing of direct seeded rice.
 - In the Problem Area Zone of Kerala, farmers are advised to undertake sowing of both dry and wet seeded rice in areas where land preparation is already completed and start mat nursery preparation in areas wherever mechanized transplanting can be done.
 - Farmers in the Southern Zone of Kerala are advised planting of banana, intercropping in coconut gardens and undertake planting of cucurbitaceous vegetables like bitter gourd, snake gourd and bottle gourd and avoid water logging in the field.
 - Farmers in Coastal Karnataka are advised field preparation and nursery sowing of kharif rice.
 - Farmers in Eastern dry zone of Karnataka are advised to prepare field and undertake sowing of redgram utilizing the realized rainfall.
 - Farmers in the North East Transition Zone of Karnataka are advised to undertake sowing of black gram and green gram after seed treatment and nursery sowing of rice utilizing the realized rainfall.
 - Farmers in the North Dry Zone of Karnataka are advised to undertake sowing of greengram, sunflower, maize, Bt. cotton, redgram, bajra, sesamum, navane and groundnut (bunch type) utilizing the realized rainfall and to get higher returns, intercropping systems viz., Bajra + Groundnut (bunch) in 2:4 row proportion; Bajra + Redgram in 2:1 row proportion; Groundnut (bunch) + Redgram in 3:1 or 4:2 row row proportion, Redgram + sesamum in 1:2 or 2:4 row proportion can be taken up in light and medium black soils.
 - Farmers in the North East Dry Zone of Karnataka are advised to undertake sowing of soybean, greengram, blackgram, tur, cowpea, bajra, sorghum after seed treatment utilizing the realized rainfall.
 - Farmers in the North Transition Zone of Karnataka are advised to undertake sowing of maize, sorghum, green gram, soybean, groundnut, chilli and cotton and apply recommended dosage of fertilizer at the time of sowing.
 - Farmers in the Southern Dry Zone and Southern Transition Zone of Karnataka are advised to undertake sowing of green gram, maize, Bt. cotton, red gram, sesamum and groundnut (bunch type) after treating the seeds.
 - Due to receipt of light to moderate rainfall and rainfall is expected for the next five days, farmers in canal irrigated areas in the Cauvery Delta Zone of Tamil Nadu are advised to continue land preparation for nursery sowing of kuruvai rice.
 - Farmers in the Western Zone of Tamil Nadu are advised to undertake sowing of groundnut, sorghum and pulses and minor millet utilizing the rainfall received and make arrangements for proper drainage in turmeric crop.
 - Farmers in the Southern Zone of Tamil Nadu are advised to undertake land preparation for sowing of cereals and pulses utilizing light to moderate rainfall realized during last week.
 - Farmers in the Southern Telangana Zone of Andhra Pradesh are advised land preparation and sowing of rainfed crops like cotton, jowar, maize, castor, groundnut, pigeon pea, green gram etc.
 - There are chances for spreading of late blight in potato and fruit rot in strawberry in High Altitude Hilly Zone of Tamil Nadu and as there is forecast of rainfall at a few places in the State, farmers are advised to schedule spraying of chemicals on a non rainy day.
 - Farmers in the Northern Zone of Kerala are advised to monitor attack of stem borer in cashew, borers in banana and spread of Mahali disease in arecanut. If found, farmers are advised to chisel out the grubs and swab the tree trunk with carbaryl WDP @4g/L of water in cashew, swab the pseudo stem and fill the leaf axils with diluted carbaryl (@ 2g per litre of water) in banana and apply Bordeaux mixture to the inflorescences in arecanut.
 - The present weather is most conducive for the viral attack in vegetables in the Problem Area Zone of Kerala. Hence, farmers are advised to control insect vectors by chemical control or using yellow sticky traps.
 - With the start of monsoon season, there is chance of incidence of bud rot in coconut in the Southern Zone of Kerala. Farmers are advised to spray Bordeaux mixture (1%) in areas where this disease is a problem. As

rainfall is likely at many places in the State, farmers are advised to apply plant protection measures after the current spell of rain.

- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II

- **Animal Husbandry:**

- Farmers in the Problem Area Zone of Kerala are advised to vaccinate the animals against haemorrhagic septicaemia, since there is possibility of outbreak of the disease in milch animals during monsoon.
- Farmers in the Northern Zone of Kerala are advised to give location specific vaccination and de-worming in cattle. Also keep the poultry house dry and clean.
- Farmers in the North Eastern Zone of Tamil Nadu are advised to vaccinate calves above 3 months and sheep and goat above 2 months against Foot and Mouth disease and do regular deworming.

Annexure I

Stages of Major Crops

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

- Pome and stone fruits (flowering/fruting), onion (vegetative/bulb formation), *Capsicum*, tomato, brinjal (fruiting / harvesting), cucurbits, okra, French bean, fodder crops (chari, bajra) (vegetative/1st cutting), rice (nursery sowing), peas (vegetative/flowering), fodder maize + legume (vegetative/1st cutting), rice, cauliflower (nursery sowing/sowing), maize (sowing) in Himachal Pradesh.
- Chilli, brinjal, bitter gourd, spinach and tomato (fruiting / harvesting), French bean, cluster bean, summer radish, summer green gram (vegetative stage), lady finger (vegetative and fruiting stage), guar, maize, bajra, cluster bean as fodder crop (vegetative stage), Early cauliflower (nursery preparation), pigeon-pea and cotton (sowing in progress), rice (nursery preparation) in Delhi.
- Pulses (pea and lentil) (harvesting), vegetables (flowering / fruiting), rice (nursery raising/transplanting), maize (sowing), sunflower (early vegetative / vegetative), garlic, cucurbits, okra (early vegetative/vegetative), radish, spinach (sowing/transplanting), carrot, turnip (sowing/transplanting), onion, cole crops (nursery sowing / transplanting), oat, berseem (vegetative), summer moong, mash (vegetative/early maturity), dhaincha (sowing), fodder jowar, summer fodder (maize + cowpea+jowar) (sowing/seedling), fruit crops (nursery bed preparation), brinjal, chilli (nursery sowing/transplanting), *kharif* pulses (field preparation/sowing) in Jammu & Kashmir.
- Rice (nursery sowing), onion, garlic(harvesting), ginger (vegetative), autumn sugarcane (vegetative), oat (tillering / ear head emergence), moong, urd (active vegetative / flowering), okra (active vegetative / flowering), sugarcane, cucurbits (planting / seedling), fodder jowar (sowing/seedling), maize, finger millets, urad, moong (sowing), in Uttarakhand.
- Spring maize (tasseling), tomato, brinjal and cucurbits (fruiting / harvesting), onion, garlic (maturity/harvesting), moong, urad (active vegetative), summer vegetables(vegetative), spring sugarcane (vegetative), summer green fodder like maize, lobia, sunhemp, dhaincha (vegetative/cutting) in Uttar Pradesh.
- New sugarcane (tillering), cotton (germination), cucurbits (nursery sowing), berseem (vegetative / cutting), rice (nursery raising) in Punjab.
- New sugarcane (early vegetative), barseem (vegetative / cutting), other fodder crops (bajra, lobia, Sudan grass and Napiar grass) (vegetative/cutting), cotton (sowing / germination), rice(nursery raising) in Haryana.
- Rice (nursery preparation), Irrigated groundnut (field preparation / sowing), cotton (field preparation / sowing), Chilli, Shimla Mirch (nursery sowing), *Zaid* crops (moong, groundnut, fodder crops) (early vegetative), sugarcane (harvesting), new sugarcane (field preparation/sowing), vegetables (tinda, pumpkin, cucumber, coriander, bhindi, ridge gourd) (active vegetative / flowering), opium poppy (pre-flowering / flowering) in Rajasthan.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Ladies finger (fruiting / harvesting), sugarcane (elongation), lobia, cowpea, jowar(fodder) (harvesting), maize (vegetative / knee high), summer vegetables (fruiting / harvesting) in Madhya Pradesh.
- Sugarcane (planting/early vegetative), pigeon pea, groundnut (pod maturity), sesame (capsule development/harvesting), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (flowering /fruiting / harvesting), millet (flowering), rice (grain maturity/harvesting)in Chhattisgarh.

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

- Sunflower (head maturity), sugarcane (early vegetative/tillering), summer vegetables (fruiting / harvesting), moong, urad (pod maturity/harvesting), yam (vegetative), *kharif* rice, maize (sowing) in Bihar.
- Pigeon pea (maturity), onion (vegetative), vegetables (fruiting/harvesting), rice (grain maturity), summer moong (flowering / pod formation) and summer maize (vegetative to grain filling), ginger and turmeric (planting), *kharif* maize (sowing) in Jharkhand.
- Jute (active vegetative), turmeric, ginger, yam (planting /early vegetative) summer rice (maturity/harvesting), sugarcane (tillering), banana (vegetative), cowpea (pod maturity/harvesting), tomato (fruiting / harvesting), summer vegetables (fruiting / harvesting), sunflower (head formation) in Odisha.
- *Aus rice* (tillering), *Aman* rice (seedbed preparation), ginger, turmeric (planting), sesame (harvesting), summer vegetables (fruiting / harvesting), jute (early vegetative/branching), maize (flowering), tomato (fruiting / harvesting), brinjal, bitter gourd, pointed gourd, ladies finger (fruiting / harvesting), sunflower

(flowering), groundnut (pegging to pod formation), chilli (fruiting / harvesting), mango (fruiting), Litchi (fruiting) in West Bengal.

- Ginger (vegetative), large cardamom (secondary flowering), summer vegetables (fruiting / harvesting), rice (maturity/harvesting) in Sikkim.

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

- Sugarcane (active vegetative / elongation), *ahu* rice (flowering / grain filling / maturity), *sali* rice (nursery raising / sowing), maize (active vegetative / cob formation), jute (active vegetative), arhar (sowing), summer vegetables, cucurbits (fruiting / harvesting), ginger, turmeric (planting / early vegetative) and papaya (planting) in Assam.
- *Jhum* rice (vegetative), WRC rice (nursery raising / transplanting), maize (vegetative / silking / tasseling / cob formation), soybean (vegetative), green gram, black gram (flowering / pod formation), French bean (fruiting / harvesting), okra (fruiting / harvesting) and cucurbits (fruiting / harvesting), potato (tuber formation), banana (vegetative / fruiting / maturity), tomato, brinjal (nursery preparation / transplanting) in Arunachal Pradesh.
- *Pre-kharif* rice (flowering / grain formation), *kharif* rice (nursery sowing), maize (cob maturity / harvesting), groundnut and soybean (sowing / early vegetative), turmeric, ginger (vegetative), black gram (sowing), cauliflower (nursery raising), cowpea (sowing) in Manipur.
- *Kharif* maize (vegetative), *ahu* rice (vegetative), *sali* rice (nursery sowing), jute (vegetative), black gram, green gram (vegetative), cucurbits (fruiting/ harvesting), tomato (planting / vegetative), brinjal (vegetative), potato (vegetative / tuber formation), turmeric, ginger (planting) in Meghalaya.
- Maize (sowing), *jhum* rice (nursery sowing), banana (vegetative / fruiting / harvesting), cucurbits, French bean (sowing), ginger and turmeric (planting) in Mizoram.
- *Kharif* maize (sowing), upland rice (tillering), lowland rice (transplanting), cucurbits (fruiting / harvesting), chilli (fruiting / harvesting), okra (flowering / fruiting / harvesting), ginger (vegetative) and brinjal (fruiting / harvesting) in Nagaland.
- *Jhum* rice (tillering), *aman* rice (nursery preparation), groundnut (sowing), maize (sowing), summer green gram and black gram (harvesting), cucurbits (fruiting / harvesting), summer maize, summer sesamum (harvesting) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (new adsali) (tillering / elongation), sugarcane (new pre seasonal) (tillering), new suru sugarcane (early tillering), summer rice (grain maturity / harvesting in East Vidarbha), summer groundnut (pod maturity / harvesting in Madhya Maharashtra, Marathwada and Vidarbha), *kharif* rice (nursery sowing in Konkan and Kolhapur region) in Maharashtra.
- Pearl millet (grain filling / maturity), pulses (flowering / pod formation), summer groundnut (pod maturity), mango (fruit maturity), summer rice (harvesting), summer vegetables (fruiting / harvesting), sugarcane (elongation / grand growth) in Gujarat.

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

- Maize (land preparation/sowing), summer groundnut (pod development/maturity), summer rice (grain formation), Bt. cotton (vegetative to flowering stage/boll development), cowpea (pod maturity/harvest), sesame (capsule maturity), sugarcane (vegetative) and vegetables (fruiting / harvesting) in Andhra Pradesh.
- Black gram (vegetative/flowering), rice (active tillering), summer cotton (boll formation), sesame (capsule maturity), sugarcane (tillering/grand growth), pearl millet (vegetative), maize (vegetative/flowering), groundnut (flowering/pegging/pod development), sorghum (vegetative/flowering), *kharif* groundnut, sorghum, maize, pulses and minor millet (sowing) and summer vegetables (fruiting / harvesting) in Tamil Nadu.
- *Viruppu* rice (nursery preparation/sowing), arecanut (flowering/nut formation), sugarcane (tillering), banana (planting), rubber (tapping), vegetables (fruiting /harvesting), pepper, ginger and cardamom (vegetative) in Kerala.
- Sugarcane (grand growth), arecanut (nut formation/maturity), banana (maturity), *kharif* groundnut, sorghum, maize, green gram, red gram, black gram, bajra, sesame, sunflower, navane and cowpea (land preparation/sowing), rice (nursery sowing) in Karnataka.

Annexure II

List of Varieties

Jammu & Kashmir

Maize : GS-2, Mansar, Trikuta, C-5 and C-8

Rice : direct seeded rice - IET 1410, China-1039, K-39, Ratna, PC-19, Jaya, RR-8585(Ajay) (Subtropical Zone), China-1039, Samwal, K-39, K-84, K-343 & Giza-14 (in Intermediate lower zone)

Brinjal : PPL, PPC & PPR

Chillies : NP-46A, Pusa jawala

Rajasthan

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

Groundnut: G.G.-2, J.-38, Pratap Mungphali-1, Pratap Mungphali-2, R.S.-1, R.G.-141, M.13, T.G.37-A, H.N.G.10, H.N.G.69, Mallika

Bikaneri Nerma: RST-9 and Hybrid-4

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

Himachal Pradesh

Rice: Pant Dhan-10, Govind, Pant Dhan-12, Ratna, UPR-71-12, Pant Sankar Dhan-1, Narendra Sankar Dhan-2.

Finger millet as VL- Mandua-124 and VL-149 and short duration (95 to

100 days) varieties like VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VLMandua-146.

Uttarakhand:

Chote Dhan:VL-163, VL-221, Pant dhan-6, Pant Dhan-11, VL-62, VL-81

Maize: Hima-129, Navin, Sartaj, VL16

Urad:Pant Urad-19, Pant urad-30

Uttar Pradesh

Jowar: Mauta-1, Mauta-2, Varsha, C.S.B.-15 and C.S.H.-5, C.S.H-9, C.S.H.-14, C.S.H.-16.

Late sown varieties of rice: Sambha Masoori, Swarna sub-1, Jal-Lahari, Jal-Priya

Medium Late sown varieties of rice: Narendra- 359, Malviya-36, Pant Dhan-4, 10 Narendra Dhan-3112 , Narendra Dhan-2064,

Early sown varieties of rice: Manhar Pant Dhan- 12, I.R- 50, Narendra- 118, Narendra Dhan- 2026.

Arhar: Paras, U.P.A.S-120, Pusa- 992

Odisha

Ginger: Suprava, Suruchi, Surabhi

Turmeric: Roma, Surama, Rang, Rashm

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

Yam: Shreekirti, Shreerupa, Hatikhoj, Shreeshilpi,

Small yam: Shreelata, Shreekala White yam: Shreesubhra, Shreepriya, Shreedhanya

Early- Khandagiri, Bandana, Pathara, Parijat, Annada

Medium- MTU- 1001, MTU-1010, Konark, Gajapati, Surendra, Lalat

Late- CR-1009, CR-1018, Swarna (MTU-7029), Indravati, Mahanadi, Puja, Ramachandi, Kanchana, Sarala, Lunishree and

Fine-CR-1014, BPT-5204

West Bengal

Aurum : BCC-17, BCC-33, BCC-02, BCC-01, BCC09.

Jharkhand

Maize: Birsa Makka -1, Birsa Makka-2, Suwan-1etc.

Ginger: Vardhaman, Nadia etc.

Turmeric: Rajendra Sonia.

Bihar

Rice: Rajshree, Rajendra Sweta, Rajendra Mansuri, Swarna, Satyam, Kishori,

Maize: Deok, Shaktiman 1, Shaktiman 2, Sunkar makka 3 and Ganga 11.

Kerala

Rice: Uma, Jyothi , Prathyasa

Bananas: Robusta, Poovan, Njalipoovan, Palayankodan.

Tamil Nadu

Rice : ADT 36, ADT 43, ADT 45 and ADT 47

Minor Millet: Samai, Thenai

Karnataka

Redgram: TTB-7, BRG-1, BRG-2 (For Eastern Dry Zone)

TS-3R (For North Dry Zone)

Maize: DMH-2 and Arjun

Groundnut: Bunch type of varieties – GPBD-4, JL-24 and TMV-2 (Use 125 kg seeds/ha (i.e 50 kg seeds per acre) Spreading type of varieties – DSG-1 and JSP-39 (Use 75 kg seeds per hectare (i.e 30 kg seeds per acre)

Soybean: JS-335 (Use 75 kg seeds/ha

Cotton: DHH-11, NCH-145, NHH-44, DHB-105 and Sahana.

Maharashtra

Kharif Rice: PKVHMT, PKV Khamang, PKV Makarand, PKV Ganesh, Sindewahi 2001 for East Vidarbha.

Rice: Karjat 4, 184, Ratnagiri 24, Pawna and mid late varieties like Phule Samruddhi, Indrayani and Pusa Basmati.

Kharif jowar

Hybrid: CSH5, CSH 9, CSH13, CSH14, CSH16, CSH17, CSH18, CSH2.

Improved: SPV 462, CSV 13, CSV15, CSV17, PKV 801 for Pune region and CSH14, CSH16, CSH25 for Marathwada.

Kharif bajra

Hybrid variety: Shradha (RHRBH 8609), Saburi (RHRBH 8924), Phule Shanti (RHRBH 9808).

Improved variety: CTP 8203, ICMV – 155 for Pune region and GHB558, Shradha, Saburi, Pratibha for Marathwada.

Kharif groundnut: SD 11, Phule Pragati, Phule Vyas, Phule Unap, TPG 41, TG 26.

Red Gram: ICPL 87, Vipula, BSMR-853, BSMR-736, AKT8811, Amol for Madhya Maharashtra and for Central Vidarbha – ICPL-87119 (Asha), C-11.

Sunflower: EC-68414, SS-56 and Bhanu.

Soyabean : JS-335, Phule Kalyani (DS-228) for North Madhya Maharashtra, MAUS 71, JS-335 for Marathwada.

Kharif Cotton

Improved variety: AKA-5, AKA-7, AKA-8.

American improved variety: AKH-081, PKV-Rajat, AKH-8828 for Central Vidarbha Zone.

Assam

Ginger: Nadia, Karkai, Maran, Jorhat, Chaina.

Turmeric: Shillong Type, CL-24, PTS-38, PCT-13, VK-145.

Banana: Dwarf variety: Jahaji. Medium tall variety: Chenichampa, Malbhog, Barjahaji.

Papaya : Ranchi, Washington, Halflong, Coorg Honeydew.

Sali rice:

Long duration high yielding varieties: Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal .

Medium to short duration rice varietie: Satya, Basundhara, Mahsuri, Luit, Pioli, Moniram.

Flood tolerant varities : Jalashri, Jalkuwari (for chronically low lying flood affected areas).

Arhar : T-21.

Manipur

Pusa Barsati, Pusa Do- fasli, Long green.

Tripura

Aman rice: Gomati, Ranjeet, Swarna, Samba masuri.

Groundnut : TAG 24, TG 37A, ICGS 76.

Maize : DMH- 849, 117, HQPM 1, BQPM 9.