

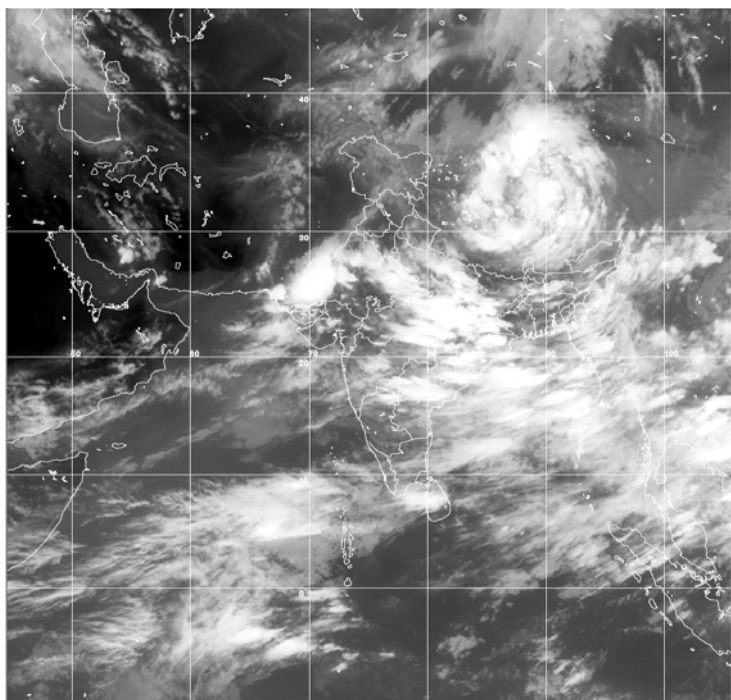


National Agromet Advisory Bulletin

Thursday, 22nd July, 2010

(For the period 22nd to 26th July, 2010)

Satellite image 13 UTC Dated
23rd July, 2010



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Distribution of rainfall (% departure from normal) of the districts receiving subdued rainfall due to delayed onset of monsoon in Uttar Pradesh, Bihar, Jharkhand and Madhya Pradesh for last five Weeks





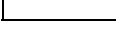

	23.06.10	30.06.10	07.07.10	14.07.10	21.07.10
More than 3 weeks continuously deficient to no rain					
East Uttar Pradesh					
Fatehpur	-100	-98	-33	-78	-31
Jaunpur	-100	-87	-100	-66	-35
Mau	-100	-62	-97	-71	-29
Mirzapur	-100	-100	-99	-56	-39
RaiBareilly	-100	-89	-88	-92	-43
West Uttar Pradesh					
Firozabad	-100	-82	-28	-73	-30
Ghaziabad	-100	-100	-38	-46	-38
Lalitpur	-100	-56	-35	-48	-84
Mainpuri	-100	-72	-77	-84	-31
2 weeks continuously deficient to no rain					
East Uttar Pradesh					
Sultanpur	-100	-54	-18	-67	-30
West Uttar Pradesh					
Agra	-67	-90	15	-85	-78
Aligarh	-100	-68	-3	-96	-86
Mahamaya Nagar	-100	-100	356	-82	-52
Mathura	-100	-88	90	-42	-45
Distribution of rainfall for remaining districts of the state for last five weeks					
East Uttar Pradesh					
Allahabad	-100	-81	-89	-59	60
Ambedkar Nagar	-88	-31	4	-67	17
Azamgarh	-100	5	-92	-59	11
Bahraich	-71	-18	-26	-37	70
Ballia	-69	-55	-100	-8	-41
Balrampur	-100	-12	-43	-36	-19
Banda	-100	-83	-30	58	-20
Barabanki	-100	-82	-54	-42	-2
Basti	-100	-68	-83	-66	1
Deoria	-68	-7	-98	-7	4
Faizabad	-100	-65	-1	-50	104
Farrukhabad	-100	-100	-53	43	95
Gazipur	-100	-92	-88	201	-5
Gonda	-100	-57	34	-32	-9
Gorakhpur	-57	-44	-84	83	52
Hardoi	-100	-81	-45	-68	71
Kanpur City	-100	16	-36	-63	43
Kanpur Dehat	-100	-56	-15	-35	203
Kheri	-39	-15	-49	-8	143
Kushi nagar	-9	-86	-85	-44	19
Lucknow	-100	5	-63	-63	105
Maharajganj	-64	-40	-90	-59	-11
Pratapgarh	-100	-100	-84	-36	11
Sant Ravidas Nagar	-100	-100	-100	-62	4
Shrawasti	-33	-27	-46	-38	103
Sidharthnagar	-50	-78	-33	-61	-2
Sitapur	-100	-66	-32	-35	167
Sonbhadra	-84	-72	-79	-6	-53
Unnao	-98	-84	-4	-60	120
Varanasi	-99	-59	-99	14	-20
West Uttar Pradesh					
Auraiya	-100	-100	43	-36	47
Badaun	-100	-92	23	-66	67
Baghpat	-100	18	80	11	-9
Bareilly	-100	-95	83	-51	243
Bijnor	-75	-98	291	-66	99
Bulandsahar	-100	-100	49	2	-35

Etah	-100	-100	64	-76	10
Etawah	-100	-83	-21	-78	33
Hamirpur	-100	-66	-78	-58	-2
Jalaun	-100	-84	-7	-4	33
Jhansi	-100	-54	-47	-24	1
Jotirba Phule Nagar	-100	-94	215	106	153
Meerut	-100	-31	97	-7	-54
Moradabad	-100	-96	175	47	171
Muzzaffarnagar	-100	-24	-17	9	-1
Pilibhit	-100	-53	-47	-47	260
Rampur	-100	-93	-3	-66	24
Saharanpur	14	-90	225	-5	-14
	23.06.10	30.06.10	07.07.10	14.07.10	21.07.10
More than 3 weeks continuously deficient to no rain					
East Madhya Pradesh					
Satna	-100	-78	-58	-35	-71
Tikamgarh	-100	-91	-42	-73	-50
West Madhya Pradesh					
Hosangabad	-57	-61	-22	-40	-43
Jhabua	-100	-37	-84	-61	-43
Raisen	-54	-96	-96	-89	-53
Shore	-96	-54	-25	-96	-49
Sheopur Kalani	-100	-57	-21	-44	-87
3 weeks continuously deficient to no rain					
West Madhya Pradesh					
Gwalior	-100	80	-36	-92	-59
Ratlam	-100	11	-64	-68	-48
Shivpuri	-100	0	-28	-66	-29
2 weeks continuously deficient to no rain					
East Madhya Pradesh					
Chindwara	33	-30	66	-27	-61
Narsingpur	-14	-51	-11	-48	-41
Umaria	56	-86	-12	-41	-24
West Madhya Pradesh					
Betul	11	-40	75	-76	-46
Bhopal	-100	4	-12	-31	-47
Datia	-100	-52	-10	-81	-77
Dewas	-100	-62	-2	-93	-34
Guna	-85	5	77	-61	-48
Harda	-100	-77	7	-56	-66
Indore	-85	-84	-17	-68	-27
Khandwa	-81	-60	132	-81	-80
Khargone	-59	-66	204	-39	-64
Mandsaur	-89	5	84	-57	-49
Neemuch	-100	-73	79	-35	-81
Distribution of rainfall for remaining districts of the state for last five weeks					
East Madhya Pradesh					
Balaghat	-8	-57	15	42	-52
Chhatarpur	-97	-84	-15	42	68
Damoh	-95	-91	-22	108	-15
Dindori	-60	-100	-60	38	-69
Jabalpur	-75	-41	-51	94	-12
Katni	-59	-100	-74	-18	-44
Mandla	-21	-13	-11	66	-56
Panna	-95	-89	8	52	-17
Rewa	-100	-81	7	38	-33
Sagar	-87	-68	-4	-44	3
Seoni	37	-59	8	17	-43
Shahdol	-87	-88	-85	17	-89
Sidhi	-53	-40	6	18	-2
West Madhya Pradesh					
Badwani	51	-27	156	-13	-89
Bhind	-100	-40	41	-54	70
Dhar	-82	-40	60	18	-41
Morena	-100	23	101	-78	-10
Rajgarh	-90	-97	-36	-85	3
Shajapur	-100	-94	37	-39	7
Ujjain	-98	-96	0	-88	-11
Vidisha	-100	59	-34	-70	8

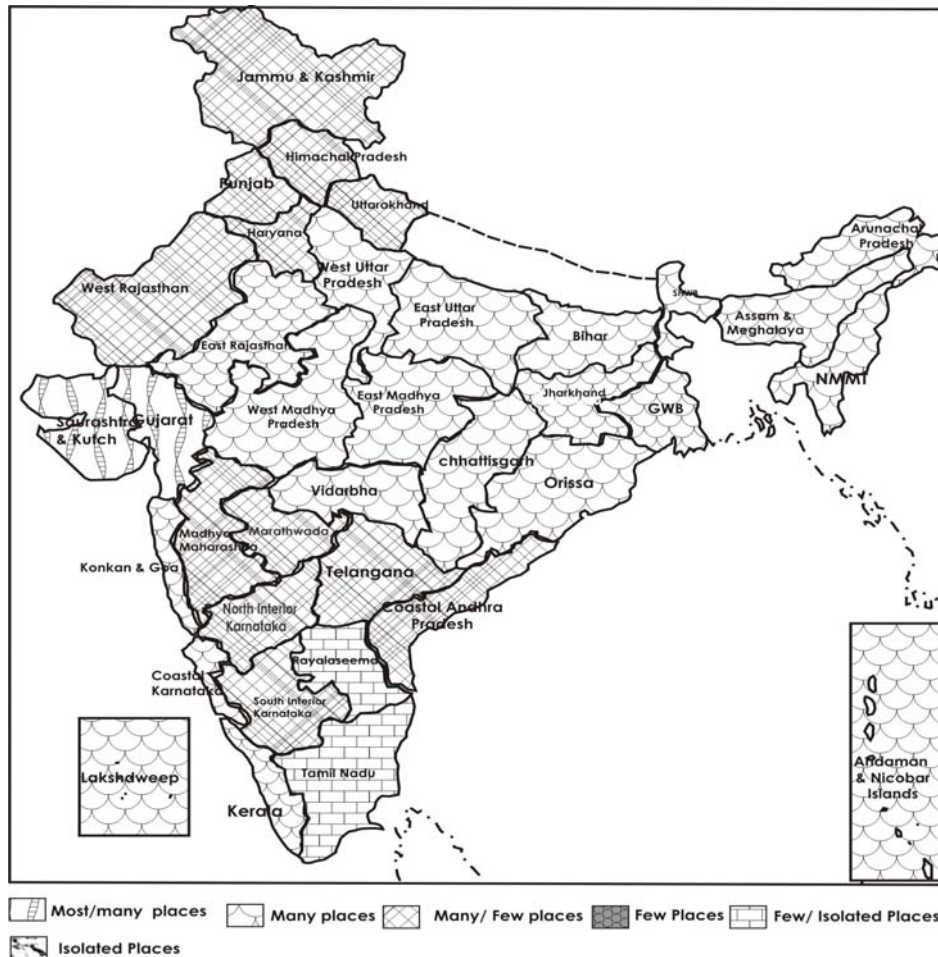
	23.06.10	30.06.10	07.07.10	14.07.10	21.07.10
More than 3 weeks continuously deficient to no rain					
West Bengal					
GWB					
Hooghly	-37	-29	-82	-71	-59
Nadia	-28	-38	-43	-51	-100
Purulia	-53	-38	-71	-27	-90
24 Pargana (S)	-22	-26	-37	-66	-86
3 weeks continuously deficient to no rain					
Howrah	-73	3	-56	-49	-26
East Midnapore	-64	3	-34	-33	-77
Murshidabad	-7	92	-87	-79	-100
24 Pargana (N)	-48	64	-52	-42	-73
Distribution of rainfall for remaining districts of the state for last five weeks					
Bankura	55	-27	-74	24	-99
Birbhum	16	6	-88	27	-83
Burdwan	44	3	-67	-8	-70
West Midnapore	-47	109	-26	2	-80
	23.06.10	30.06.10	07.07.10	14.07.10	21.07.10
More than 3 weeks continuously deficient to no rain					
Jharkhand					
Chatra	-71	-86	-99	-45	-72
East Singhbhum	-57	-94	-70	-92	-98
Godda	**	-44	-95	-32	-80
Hazaribagh	75	-57	-99	-38	-79
Lohardagga	-20	-75	-62	-33	-45
Ranchi	-57	-66	-43	-27	-83
West Singhbhum	-39	-72	-68	-97	-93
3 weeks continuously deficient to no rain					
Giridih	-61	-15	-91	-27	-63
Distribution of rainfall for remaining districts of the state for last five weeks					
Bokaro	-59	-55	-35	26	-47
Dhanbad	-37	-14	-75	5	-89
Gumla	-98	27	-35	11	-61
Palamau	-78	-29	-95	-8	-68
Santhal Parganas	-100	-77	-72	10	**
	23.06.10	30.06.10	07.07.10	14.07.10	21.07.10
More than 3 weeks continuously deficient to no rain					
Orissa					
Koraput	-21	-41	-26	-22	-46
3 weeks continuously deficient to no rain					
Angul	-51	13	-22	-81	-94
Bhadrak	-52	16	-26	-86	-62
Deogarh	-63	10	-42	-65	-82
Jagatsingpur	-17	44	-29	-89	-99
Jajpur	-7	101	-36	-94	-86
Kendrapara	-71	-6	-24	-80	-88
Keonjhar	-60	59	-31	-60	-54
Mayurbhanj	-51	2	-29	-42	-79
Sambalpur	-62	23	-37	-43	-91
Sundargarh	-77	8	-60	-38	-81
2 weeks continuously deficient to no rain					
Balasore	-56	53	28	-71	-38
Cuttack	-1	235	76	-75	-88
Dhenkanal	-75	94	-11	-79	-85
Gajapati	-60	1	-1	-16	-38
Ganjam	-58	132	-15	-60	-74
Kandhamal	-59	33	-5	-30	-45
Khurda	-87	144	19	-84	-74
Nayagarh	-24	229	57	-77	-75
Puri	-96	164	-3	-71	-88
Distribution of rainfall for remaining districts of the state for last five weeks					
Bargarh	-68	103	-7	33	-67
Bolangir	-76	-42	4	43	-85
Boudh	-68	45	-46	-27	-7
Jharsuguda	-43	101	-43	1	-92
Kalahandi	-30	-53	-25	42	-61
Malkangiri	-39	-91	73	-10	4
Nawapara	-33	-58	-28	-6	-41
Nawarangpur	-69	-71	-6	-8	28

Rayagada	-28	-15	-7	14	-71
Sonepur	-83	55	-13	7	-93

Legend

	Excess 20% or more
	Normal +19% to -19%
	Deficient -20% to -59 %
	Scanty -60% to -99%
	No Rain -100 %
	Data Not Available

Weather Forecast (Valid upto 1730 hours of 25th July, 2010)



- Rainfall is likely to occur at most places over Gujarat, Saurashtra & Kutch for next 48 hours and at many places thereafter, over many places over North East India, East India, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Konkan & Goa, Chhattisgarh, Coastal Karnataka, Kerala, Lakshdweep, Andaman & Nicobar Islands, at many places over Uttarakhand, Haryana, Chandigarh & Delhi, Himachal Pradesh, Punjab, Jammu & Kashmir, West Rajasthan, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Telangana, North & South Interior Karnataka for next 24 hours and at a few places thereafter, at a few places over Rayalaseema for next 48 hours and over Tamil Nadu & Pondicherry for next 24 hours at isolated places thereafter.

Weather Outlook (upto 1430 hours IST of 27th July, 2010)

- Increase in rainfall activity over northwest, east and northeast India.

Warning

- Heavy to very heavy rainfall would occur at a few places over Gujarat region, Saurashtra & Kutch, Konkan & Goa and coastal Karnataka with isolated extremely heavy falls over Gujarat region, Saurashtra & Kutch and Konkan & Goa during next 48 hours.
- Isolated heavy rainfall would occur over Himachal Pradesh, Uttarakhand, Jammu, Punjab, Haryana, Madhya Maharashtra, Marathawada and Uttar Pradesh during next 24 hours.
- Isolated heavy rainfall would occur over Uttar Pradesh, Madhya Pradesh, Bihar, Chhattisgarh and Vidarbha during next 48 hours.

Weekly Summary of Agromet Advisory Services in India

In most of the states sowing / transplanting of *kharif* crops was continued utilising the well distributed rainfall during last week. In some of the districts in Uttar Pradesh and Madhya Maharashtra, where crops are suffering from moisture stress condition, crop condition is improving because of good rainfall during last week. Some of the districts (Datia and Sheopur Kalani) in west MP, where cut off date for sowing of soybean crop crossed the dead line, farmers have been advised to sow alternate crops like black gram and red gram. There is also improvement of rainfall in North Interior Karnataka which provides required soil moisture for the growth of black gram, green gram, red gram, jowar, bajra, etc. Percentage of sowing is not optimum in number of districts (Howrah, Hooghly, East Midnapore, Murshidabad, 24 Parganas and Nadia) of Gangetic West Bengal due to delayed or insufficient rain. Because of high humidity and warm condition, severe / moderate infestation of pests and diseases is observed in seven sister states of northeastern parts of the country as well as Kerala. As the monsoon are likely to be active within few days and sufficient rainfall is expected in east, central and western part of the country, it is expected that sowing / transplanting will be continued in full swing and growth of the standing crops will also be favoured. Likely occurrence of rainfall will also reduce the stress condition in relatively dry areas. Major crops like paddy in eastern and north India, cotton in north India and Maharashtra, sugarcane belt in the country i.e. Maharashtra, Uttar Pradesh etc. are reported to be in good condition. Condition of major crops and some salient agromet advisories for the crops for the States experiencing stress situation during last few weeks are given below:

- Due to inadequate spatial and temporal distribution of rainfall in Agra, Aligarh and Lalitpur districts of Uttar Pradesh, moisture stress conditions prevail in early sown crops. Undertaking intercultural operations will conserve the soil moisture to cope up the situation. Farmers are advised to select short duration rice crop and crops requiring less water like maize, yellow gram, soyabean, black gram, green gram and sesamum in place of rice in upland situation.
- Insufficient rainfall in Datia and Sheopur Kalani districts in West Madhya Pradesh leads to delay in sowing and moisture stress in early sown crops. As cut off date for sowing of soyabean is over, sowing of black gram or red gram is recommended till 30th July. However, in East M.P., sowing of soyabean may be continued till 25th July.
- Early sown crops in North Interior Karnataka recover from moisture stress due to receipt of good amount of rainfall during last week. Wherever sowing has not been carried out till date, farmers are advised to sow maize, chilli, spreading groundnut, sesamum and niger crops.
- The expected rainfall in coming days may be helpful for the crops to recover from stress, experienced due to long dry spell in Gandhinagar, Mehsana and Patan districts in Gujarat. Farmers are advised to carry out intercultural operation to conserve moisture and thinning.
- If the sowing has not been done till date in Pune, Sangli and Satara districts of Madhya Maharashtra, farmers are advised to take crops like sunflower, arhar, castor, bajra etc. and intercrops like sunflower + arhar (2:1), arhar + cluster beans (2:1), bajra + arhar (2:1) etc.
- Due to deficient rainfall in Gangetic West Bengal, retting of early sown jute may be affected. In view of that, farmers are advised to follow microbial decomposition or staggered system of jute retting.
- Due to continuous rainfall, khasi mandarin orchard in the districts of Kolasib, Aizawl and Mamit in Manipur is facing severe infestation of leaf miner and aphid. Thrips and stem borer attack in rice in Gangetic West Bengal have also been reported. Most of the remaining parts of the country are reported to be free from major pests and disease incidences.
- Normal sowing of crops and other agricultural activities are continued over remaining parts of the country.

Zonewise Agromet Advisories

NORTH WEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, UP, RAJASTHAN]

- **Realised Rainfall:** Rain occurred most of the districts except in Bilaspur, Kinnaur and Lahul and Spiti districts in Himachal Pradesh, Fatehgarh Saheb, Ludhiana, and Patiala districts in Punjab, Bhiwani, Chandigarh, Faridabad, Hisar, Jhajar, Katihal, Kurushetra, Panipat, Rohtak and Yamunanagar districts in Haryana, Delhi, all districts in East Uttar Pradesh, many districts except Agra, Aligarh, Lalitpur, Mahayama Nagar and Mathura districts in West Uttar Pradesh, all districts in Uttarakhand and a few districts excluding Alwar, Baran, Bhilwara, Bundi, Chittorgarh, Dungarpur, Jhunjhu, Karauli, Kota, Rajsamund, Kota and Sawai Madhapur in East Rajasthan, Jammu and Kathua district in Jammu & Kashmir. No significant rainfall occurred in most of the districts of West Rajasthan and Jammu & Kashmir during last week.
- **Rainfall Forecast:** Rainfall is likely at many places during next five days in East Uttar Pradesh, West Uttar Pradesh and East Rajasthan. Rainfall is likely at many places in Uttarakhand, Haryana, Delhi, Punjab, Himachal Pradesh, Jammu & Kashmir, West Rajasthan during next 24 hours and at a few places thereafter. Isolated heavy rainfall would occur over Himachal Pradesh, Uttarakhand, Jammu, Punjab, Haryana and Uttar Pradesh during next 24 hours.
- **Major Crops:**
 - Rice(transplanting), jowar, pigeon pea and maize(sowing), vegetable crops (fruiting / harvesting) in Delhi
 - Rice(transplanting),vegetables (transplanting / vegetative) in Himachal Pradesh.
 - Vegetable crops (flowering / fruiting / harvesting), rice(transplanting/early vegetative), Early sown maize, groundnut and sunflower(early vegetative) in Jammu & Kashmir.
 - Sugarcane (vegetative), rice (transplanting), soybean, jowar, bajra, pigeon pea and ground nut(sowing) in Uttarakhand.
 - Sugarcane (vegetative), cotton, maize (early vegetative), rice (nursery sowing/transplanting), mung, mash(sowing) in Punjab.
 - Sugarcane (vegetative), cotton (early vegetative), rice, guar, bajra(sowing) in Haryana.
 - Sugarcane (vegetative), vegetable crops (sowing), black gram, green gram, jowar, bajra, groundnut, sesamum, lobia, maize, pigeon pea + pulses, groundnut and sesamum(sowing) in Uttar Pradesh.
 - Sugarcane(Vegetative), vegetable crops (flowering / fruiting / harvesting), maize, soybean, bajra, jowar, mung, cluster bean, sesamum and groundnut in Rajasthan.
- **Advisory:**
 - As rainfall is likely at many places during next five days in East Uttar Pradesh, West Uttar Pradesh and East Rajasthan and at many places in Uttarakhand, Haryana, Delhi, Punjab, Himachal Pradesh, Jammu & Kashmir, West Rajasthan during next 24 hours and at a few places thereafter, farmers are advised to postpone irrigation to the standing crops. As isolated heavy rainfall would occur over Himachal Pradesh, Uttarakhand, Jammu, Punjab, Haryana and Uttar Pradesh during next 24 hours, farmers are advised to arrange drainage facilities to avoid waterlogging of standing crops.
 - Farmers in Delhi are advised to start transplanting of rice and continue sowing of baby corn, sweet corn, guar, bajra, maize, cluster bean, spinach, amaranths and ladyfinger (varieties in Annexure I) utilizing the rainfall during last week.
 - Farmers in Delhi are advised to start sowing of radish, spinach, coriander and sowing of cucurbit vegetables.
 - Farmers in sub-montane & low hills sub-tropical zone (Chamba, Hamirpur, Una, Kangra districts) in Himachal Pradesh are advised to undertake transplanting of rice and tomato, brinjal, capsicum and chillies and sowing of bhendi utilizing rainfall during last week

- Farmers in Flood Prone Eastern Plain Zone (Alwar, Bharatpur, Dholpur, Karauli, Sawai, Madhopur districts) in Rajasthan are advised to continue sowing of bajra, jowar, urd, mung, cluster bean, sesamum and groundnut with available moisture due to rainfall received during last two weeks (varieties in Annexure I).
- Undertake sowing of short duration varieties of maize, cowpea, urd and mung in Sub Humid Southern Plain and Aravali Hill Zone (Bhilwara, Chittorgarh, Sirohi, Rajasmund districts) in Rajasthan with available moisture due to rainfall received during last two weeks.
- Farmers in Semi Arid Eastern Plain Zone (Dausa, Ajmer, Tonk, Jaipur districts) in Rajasthan are advised to complete of pearl millet, sorghum, maize, green gram, moth bean, cowpea and cluster bean with available moisture due to rainfall received during last two weeks. Also undertake sowing of rainy season cucurbits like *khira*, bottle gourd, ridge gourd, bitter gourd, radish sweet potato, cucumber and nursery for mid season cauliflower.
- In Southern Humid Plain Zone (Banswara district) in Rajasthan, undertake sowing of maize, mung, urd, cowpea, soybean and cotton utilising available moisture due to rainfall received during last two weeks.
- Farmers in Bhabar and Tarai Zone (Nainital and Uttam Singh Nagar) in Uttarakhand are advised to continue sowing of soybean and complete sowing of soybean, sesamum, moong, bajra and jowar this week with improved varieties of moong in Uttam Singh Nagar (varieties in Annexure I) utilising the rainfall during last week.
- Farmers in Hill Zone (Tehri Gharwal, Rudraprayag, Champawat, Uttarkashi, Pitorgarh, Bageshwar, Almora districts) in Uttarakhand are advised to complete transplanting of rice in valley region utilizing the rainfall during the last week.
- Farmers in Sub Tropical Zone (Jammu and Kathua) in Jammu & Kashmir are advised to undertake transplanting of rice and vegetables and sowing of maize, pulses, bajra and groundnut available moisture due to rainfall received during last two weeks.
- Farmers in Valley Temperate Zone (Srinagar, Anantnag, Kupwara, Budgam districts) in Jammu & Kashmir are advised to undertake sowing of sunflower in rainfed conditions with available moisture due to rainfall received during last two weeks.
- Undertake transplanting of rice and land preparation in Intermediate Zone (Doda, Rajouri, Udhampur districts) in Jammu & Kashmir for sowing of mash and moong crops utilizing monsoon rainfall during last week.
- Farmers in North Western Plain zone in Uttar Pradesh (Aligarh, Badaun, Bhagpat, Bareilly, Bijnor, Bulandshahar, Farrukhabad, Gaziabad, Jyotiba Phule, Meerut, Moradabad, Muzaffarnagar, Noida, Pilibhit, Rampur, Saharanpur, Shahajahanpur districts) are advised to complete transplanting of rice utilizing rains this week with 3 to 4 plants per hill, if plants are more than 30 days old and also reduce distance between rows and reduce quantity of recommended fertilizers. Also complete sowing of soybean utilizing rainfall realized during last two weeks.
- Due to inadequate spatial and temporal distribution of rainfall in Agra, Aligarh and Lalitpur districts of Uttar Pradesh, moisture stress conditions prevail in early sown crops. Undertaking intercultural operations will conserve the soil moisture to cope up the situation. Farmers are advised to select short duration rice crop and crops requiring less water like maize, yellow gram, soyabean, black gram, green gram and sesamum in place of rice in upland situation.
- Farmers in Central Plain Zone in Uttar Pradesh (Allahabad, Chitrkut, Fatehpur and Kaushambhi districts) are advised to undertake nursery sowing of short duration and medium duration rice varieties utilizing utilizing rainfall realized during last two weeks. Also undertake sowing of maize, pigeon pea, jowar, pigeon pea + urd, moong, lobia as cover crop in between two lines of pigeon pea utilizing rainfall realized during last week.
- Farmers in Bundelkhand zone in Uttar Pradesh are advised to undertake sowing of crops like black gram, green gram, jowar, bajra, groundnut, sesamum and lobia utilising rainfall realized during last week.

- Farmers in Punjab are advised to complete transplanting of rice in western zone (Bhatinda, Moga, Muktsar, Mansa, sangrur districts), Central Plain Zone (Amritsar, Kapurthala, Fatehgarh Sahib, Ludhiana and Jalandhar districts). Also undertake sowing of mash and moong in western zone utilizing rainfall received during last week.
- Farmers in Haryana are advised to complete the transplanting of rice in Eastern zone (Bhiwani, Fatehabad, Hissar, Jhajjar, Mahendragarh, Mewat, Rewari, Rohtak, Sirsa districts) and also undertake sowing of guar and bajra in rainfed areas utilizing rainfall during last two weeks.
- Farmers in flood affected areas of western zone are advised to sow short duration varieties of rice and basmati varieties in nursery. Alternate crops such as Urad can be sown upto 15th August whereas toria varieties may be sown upto September end.
- Continue sowing in Himachal Pradesh, Uttarakhand, Jammu, Punjab, Haryana and Uttar Pradesh after 24 hours as heavy rainfall is likely in these States and undertake fertilizer application, spraying and intercultural operations after current spells of rain.

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

- **Realised Rainfall:** Most of the districts of Sub Himalayan West Bengal, Bihar, Sikkim and Balasore, Bout, Kanthamahal, Koraput, Malkangiri, Nawarangapur districts of Orissa received good rainfall during last week. Many of the remaining districts of Jharkhand and Orissa also received some rain during last week.
- **Rainfall Forecast:** Rain is likely to occur at many places in Gangetic West Bengal, Sub Himalayan West Bengal and Sikkim, Bihar, Jharkhand and Orissa during next three days.
- **Major Rabi Crops:**
 - Rice, maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, French bean etc. (land preparation / sowing) in Bihar and Jharkhand.
 - Rice (nursery sowing / direct sowing / transplanting) and maize, groundnut, pulses, soybean, sesamum, ragi, cotton, vegetable crops (sowing / germination / seedling) in Orissa.
 - Sugarcane (vegetative), vegetable crops (vegetative / flowering / fruiting / harvesting), jute (vegetative), *aus* rice (early tillering), *aman* rice (nursery sowing / transplanting), pulses and vegetables (sowing / germination / seedling) in West Bengal.
 - Large cardamom (capsule formation / transplanting of suckers from nursery), orange (transplanting of seedling from nursery / early fruiting), seed potato and summer potato (tuberization), maize (tasseling & silking / flowering & cob filling / cob harvesting), *kharif* vegetable and off season vegetables (late vegetative / harvesting), ginger (early vegetative / vegetative), rice (Medium Hills) (early tillering), rice (Low Hills) (transplanting / early tillering) in Sikkim.
- **Advisories:**
 - As rain is likely to occur at many places in Gangetic West Bengal, Sub Himalayan West Bengal and Sikkim, Bihar, Jharkhand and Orissa during next three days, postpone irrigation in these regions.
 - As there was good rainfall in most of the districts during last couple of weeks and rain is also likely to occur during next few days in Orissa, farmers are advised to undertake field preparation and nursery sowing / direct sowing / transplanting of rice and also sowing of maize, ragi, cotton, pulses (green gram, black gram, arhar, cow pea, rice bean), oilseeds (groundnut, soybean, sesamum, niger), vegetable crops etc.
 - Farmers are advised to undertake sowing of maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, french bean etc. in Bihar utilizing recent rain and also rain likely to occur during next few days.
 - Farmers in North West Alluvial Plain Zone in Bihar are also advised to utilize the available rain water for transplanting recommended varieties in the medium land and low land situations with 2-3 seedlings / hill and closer spacing.

- As sowing time of long and medium duration varieties of rice in the nursery is almost over in South Bihar Alluvial Zone due to poor rain during earlier days, short duration varieties and photosensitive tall local varieties should be sown in the nursery, as soon as possible, utilizing realized rain and also expected rainfall likely during next few days.
- As there is rain in most of the districts of Jharkhand during last week and rain is also likely to occur during next few days, farmers are advised to undertake direct sowing / transplanting of rice and also sowing of *kharif* crops like maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables.
- Farmers are advised to complete wet nursery bed for *aman* rice and start transplanting with 21 – 25 days old seedlings in New Alluvial Zone, Coastal Saline Zone and Laterite and Red Soil Zone and also to sow arhar and also vegetables like brinjal, okra, pumpkin, bitter gourd, sponge gourd and ridge gourd in upland situation of West Bengal utilizing recent monsoon rainfall as well as rainfall likely to occur during next few days.
- Also start planting of fruit crops like coconut, mango and guava in Coastal Saline Zone of West Bengal.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Due to cloudy weather and high humidity, attack of fruit rot due to fungus may be prevalent in pointed gourd in New Alluvial Zone of West Bengal. Remove the infected fruits from the land. Spray Blitox (4 g per litre of water) or Blue-copper oxide after current spells of rain.
- Attack of swarming caterpillar in rice in Orissa has been reported and attack may increase under prevailing weather condition. Farmers are advised to apply plant protection measures after current spells of rain.

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

- **Realised Rainfall:** Rainfall occurred in most of the districts of the states in the region during last week.
- **Rainfall Forecast:** Rainfall is likely to occur at many places in the region during the period.
- **Major Crops:**
 - Vegetables (flowering / fruiting / harvesting), sugarcane (cane development), maize, jute, mesta (vegetative), *sali* rice (nursery sowing / transplanting / early vegetative), *ahu* rice (transplanted summer rice) (panicle initiation) and arhar, cotton and sesamum (sowing / germination / early vegetative) in Assam.
 - *Jhum* / WRC rice, pulses, sesame and vegetables (sowing / germination / early vegetative) and maize (sowing / vegetative) in Arunachal Pradesh.
 - Upland rice (tillering), *aman* rice (nursery sowing / transplanting / early vegetative) and vegetables like pumpkin, ridge gourd, cucumber, ladies finger (sowing / vegetative) in Tripura.
 - *Sali* rice and transplanted *ahu* rice (transplanting / early vegetative), arhar and potato (sowing / planting / early vegetative), ladies finger, bottle gourd, pumpkin, ridge gourd, cucumber, bitter gourd, snake gourd etc. (sowing / germination / early vegetative), tomato, chilli and brinjal (transplanting / early vegetative) and maize (vegetative) in Meghalaya.
- **Advisory:**
 - In view of realized rainfall during last few weeks in most of the districts of the States and also rain / thundershower likely at many places over the region during the period, postpone irrigation, intercultural operation, application of fertilizers and plant protection measures to maize, sugarcane, jute, green gram, black gram, ginger, turmeric and vegetable crop fields.
 - Farmers are advised to undertake transplanting of three week old seedlings for Sali rice in the main field and sowing of sesamum and cotton with the realized rainfall (varieties in Annexure I) in Diphu Hills Zone, transplanting of Sali rice and early cauliflower and sowing of sesamum, cotton, jute (for seed), pigeon pea, sesamum in Lower Bramhaputra Valley Zone (Barpetha, Bongaigaon, Dhubri, Golpara,

Kamrup, Kokhrajhar, Nalbari), transplanting of Sali rice and early cauliflower and sowing of sesamum in Upper Brahmaputra Valley Zone. Sowing/transplanting may be withheld at the time of heavy rainfall.

- Farmers in Barak Valley Zone are advised to undertake transplanting of semi dwarf autumn rice under medium land situation as there was sufficient rainfall in the previous week. For the cultivation of sesamum July month is the optimum time. Recommended high yielding sesamum varieties for this zone are Madhabi, Gouri, Vinayak, Punjab Til No 1 etc.
- Farmers in Central Brahmaputra Valley Zone in Assam are advised to drain out excess water from maize, green gram and black gram crop fields immediately as the crops can not withstand stagnant water.
- Farmers in Arunachal Pradesh are advised to undertake sowing of *jhum* / WRC rice and maize and also vegetable crops like ridge gourd, bitter melon, bottle gourd, pumpkin, okra, etc. and pulses like black gram, green gram, French bean, etc., preferably in raised beds and sesame.
- System of Rice Intensification (SRI) method can be adopted Ri-Bhoi, East Khasi, West Khasi and South Garo District. Ranjeet or Naveen variety of rice can be sown under this type of cultivation in Meghalaya. Also carry out transplanting of *ahu* rice and sowing of jute, arhar, toria and transplanting of brinjal and chilli and planting of potato at optimum moisture condition.
- Planting of banana, pine apple and papaya may be carried out in Mizoram during this period. Also carry out transplanting of rice and sowing of soyabean and black gram in Manipur.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Present weather conditions are favourable for the incidences of stem borer in sugarcane in Upper Brahmaputra Valley Zone in Assam. Undertake burying or burning the infested canes to check further spread. Proper earthing up will also reduce the shoot borer infestation.
- Due to continuous rainfall, khasi mandarin orchard in the districts of Kolasib, Aizawl and Mamit in Manipur is facing severe infestation of leaf miner and aphids. To control leaf miner and aphid undertake spraying of neem seed extract or mahua @ 2% at weekly interval. Also severe infestation of trunk borer and medium infestation of bark eating caterpillar is reported. Regular monitoring and killing of larva by inserting wire inside the tunnel or inserting cotton with kerosene or petrol followed by bordeaux paste (1:1.5:10) is recommended. Spraying is recommended after spells of rain.
- **Animal husbandry:**
 - In present weather conditions, to prevent skin infection animals should be washed with neem leaf extract. Neem leaf extract can be prepared by soaking crushed neem leaves overnight in a container.

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

- **Realised Rainfall:** All the districts in Kerala, all the districts in Andhra Pradesh except Anantapur, Hyderabad, Rengareddy and Vizayanagaram districts, all the districts in Karnataka except Bagalkote, Bangalore Rural, Chamrajnagar, Chitradurga, Gadag, Hassan, Mandya and Mysore districts and Chennai, Coimbatore, Kanchipuram, Kanyakumari, Nigiris, Thiruvallur and Vellore districts in Tamil Nadu received rainfall during last week.
- **Rainfall Forecast:** Rain is likely to occur at many places over Kerala and Coastal Karnataka and many/few places over South Interior Karnataka, North Interior Karnataka, Coastal Andhra Pradesh and Telangana during next three days. Rain is likely at a few/isolated places over Rayalaseema and Tamil Nadu. Very to very heavy rainfall is likely at a few places over Coastal Karnataka during next 48 hours.
- **Major Crops:**
 - *Kharif* crops viz., cotton, jowar, maize, green gram, groundnut, redgram and castor, etc. (sowing) in Andhra Pradesh. Early sown crops are at early vegetative/ vegetative stage.

- *Kharif* crops viz., pigeon pea, groundnut, bajra, castor, horsegram, sesamum, maize and navane, etc (sowing) and sugarcane (cane development) in Karnataka. Early sown crops are at early vegetative/ vegetative stage.
- *Virippu* rice (tillering), bhindi (sowing), upland rice (sowing), coconut, cashew, ginger and turmeric (planting), banana (bunching), ginger, vegetables (vegetative), pepper (berry development) and plantation crops (coconut, arecanut, pepper and cashew – various stages) in Kerala.
- *Kuruvai* rice (vegetative/tillering), green gram and groundnut (grain development), maize (cob development) and sorghum (grain filling) in Tamil Nadu.
- **Advisories:**
 - Early sown crops in North Interior Karnataka recover from moisture stress due to receipt of good amount of rainfall during last week. Wherever sowing has not been carried out till date, farmers are advised to select maize, chilli, spreading groundnut, sesamum and niger after receiving sufficient rainfall. Detailed contingent planning is given in Annexure II.
 - Rain is likely to occur at many places over Kerala and Coastal Karnataka, South Interior Karnataka, Coastal Andhra Pradesh and Telangana, farmers are advised to postpone irrigation to plantation crops and vegetable crops. Arrange for drainage facilities in Coastal Karnataka as very to very heavy rainfall is likely at a few places during next 48 hours.
 - As there was no sufficient rainfall in Tamil Nadu except Chennai, Coimbatore, Kanchipuram, Kanyakumari, Nagercoil, Thiruvallur and Vellore districts, farmers are advised to apply irrigation to standing crops. Postpone irrigation to standing crops in the above districts as there was rainfall during last week.
 - Farmers are advised to undertake sowing of red gram, ragi, groundnut and rice nursery in Eastern Dry Zone and rice, cotton, maize and ginger in Southern Transition Zone in Karnataka utilizing the monsoon showers.
 - Farmers in North East transition Zone (Bidar) are advised to soak the seeds of pigeon pea in a solution of 20 grams of calcium chloride dissolved in one liter of water for one hour and shade dry the seeds for seven hours before sowing so as to induce drought resistance in the crop.
 - As sufficient rainfall received during last week, farmers are advised to undertake transplanting of rice in main field in Coastal Zone (Udupi and Dakshina Kannada), planting of arecanut, cardamom and black pepper in Central Dry Zone (Sirsi) and sowing of groundnut, sunflower, redgram, maize and jowar in Hill Zone (Devangere, Kodagu, Tumkur) in Karnataka.
 - Farmers in Southern Telangana Zone (Medak, Nalgonda and Warrangal) of Andhra Pradesh are advised to undertake sowing of cotton, groundnut, maize, red gram, castor. Farmers in Southern Telangana Zone are advised to continue nursery sowing of short and medium duration rice varieties and sowing of bhendi, bitter gourd, ridge gourd, bottle gourd and snake gourd with monsoon showers received in the region. (varieties in Annexure I)
 - Good amount of rainfall received in Kurnool region of Rayalaseema. Farmers are advised to undertake sowing of groundnut in July. Select red gram as intercrop in 7:1 ratio for assured crop.
 - Farmers in Krishna Godavari Zone (West Godavari, Guntur, Krishna and Prakasam districts) are advised to undertake sowing of pulse crops like green gram and black gram and nursery sowing of rice with the rains received (varieties in Annexure I). Farmers in Guntur may start land preparation and sowing of cotton during second fortnight of June to second fortnight of July and short duration rice varieties in the nursery.
 - Farmers in High Altitude and Tribal Zone (East Godavari and Khammam) are advised to undertake sowing of short and medium duration rice in nursery and sowing of maize in the main field utilizing the recent rainfall.
 - As sufficient rainfall was received in remaining parts of Andhra Pradesh, farmers are advised to continue sowing of kharif crops like rice in the nursery, pulse crops, groundnut, etc.

- As high wind speed is expected in Hill Zone of Karnataka, Western and Southern Zones of Tamil Nadu and High altitude Zone of Kerala, farmers are advised to provide mechanical support to banana and sugarcane crops to prevent from lodging.
- Farmers in Northwestern Zone of Tamil Nadu are advised to undertake sowing of maize in *Adi pattam*
- Due to forecast of high cloud cover and humidity in Tirunelveli and Virudhnagar region during the coming days, there are chances of incidence of stem borer in rice, aphids and boll worms in cotton and leaf miner and leaf spot in groundnut. Undertake plant protection measures on a non rainy day.
- Prevailing weather conditions are congenial for the incidence of damping off in vegetable crops, flower drop in chilli and tomato and bacterial blight in pomegranate in Scarce Rainfall Zone (Ananthpur, Kurnool) of Rayalaseema. Undertake plant protection measures to control the pests.
- Plant protection measures may be continued after spells of rain in Kerala, Karnataka, Coastal Andhra Pradesh and Telangana and on a non rainy day in Rayalaseema and Tamil Nadu

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Most of the districts of Maharashtra State (except Pune, Satara, Sangli, Solapur, Nandurbar and Washim), Gujarat region (except Anand, Banaskantha, Baroda, Gandhi nagar, Narmada and Panchmahal) and Saurashtra and Kutch received rain during last week.
- **Rainfall Forecast:** Rain is likely at most places in Gujarat, Saurashtra & Kutch during next two days and at many places thereafter. Rainfall is likely at many places over Konkan and Goa and Vidarbha during next three days. Rainfall is likely at many places over the Madhya Maharashtra and Marathwada during next 24 hours and at a few places thereafter. Heavy to very heavy rainfall would occur at a few places over Gujarat region, Saurashtra & Kutch, Konkan & Goa with isolated extremely heavy falls over Gujarat region, Saurashtra & Kutch and Konkan & Goa during next 48 hours.
- **Major Crops:**
 - *Kharif* rice (germination / early seedlings in East Vidarbha and transplanting in South Konkan, Kolhapur, Nashik & Pune (western parts) divisions), soyabean and bajra (sowing / germination / early vegetative), jowar, cotton, sunflower and groundnut (germination / early vegetative), red gram, green gram (sowing / germination) and irrigated cotton (early vegetative / vegetative) in Maharashtra.
 - Rice, groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram (land preparation / sowing / germination / early vegetative) in Gujarat.
- **Advisory:**
 - As rainfall is likely at many places over Konkan and Goa and Vidarbha, most places during next two days in Gujarat, Saurashtra & Kutch and at many places thereafter and at many places over the Madhya Maharashtra and Marathwada during next 24 hours and at a few places thereafter, postpone irrigation to the standing crops.
 - As Pune, Sangli and Satara districts of Madhya Maharashtra received scanty rain during last fortnight; farmers are advised to undertake sowing of *kharif* bajra, sunflower, tur, castor, hulga (horse gram) by selecting improved and short duration varieties in second fortnight of July after receiving sufficient rain. Farmers may also undertake sowing of intercrops like sunflower + tur (2:1), tur +cluster bean (1:2) and bajra + tur (2:1) under this situation. Farmers of this region are also advised to apply protective irrigation to save the already sown crops and to preserve moisture by undertaking hoeing operation in the field through soil mulching.
 - In view of rainfall occurred during last few weeks and likely occurrence of rainfall during next few days, farmers in remaining parts of Maharashtra are advised to complete the sowing of *kharif* crops by selecting improved and high yielding varieties of bajra, groundnut, sunflower, *kharif* cotton, red gram, green gram etc.
 - As rain occurred in most of the districts of Saurashtra and Kutch and Gujarat region and rainfall is also expected over the State during next few days, farmers are advised to undertake sowing of the *kharif*

crops like groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram.

- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- There is report of infestation of green semi looper & tobacco leaf eating caterpillar in soybean in West Vidarbha and infestation is likely to increase under present weather condition; spray 5% Neem extract or Endosulfan 35% @ 15 ml or Fenvalerate 20% @ 5 ml in 10 liters water.
- Due to cloudy weather, there is chance of more infestation of fruit borer in brinjal in Maharashtra; spray 4% Neemark or Prophenophos @ 20ml or Carbosulfan @ 10 ml in 10 liters of water.
- There is attack of rust disease in fig in Maharashtra and infestation may increase under prevailing situation; spray mixture of 2 g Chlorothalonil and 1 g Carbendazim per litre of water at the interval of 14 days.
- Decrease in temperature, high cloud cover and humidity expected during the coming days are conducive for the incidence of cigatoca leaf spot in banana in South Gujarat Zone. If incidence is noticed, spray carbendazim @ 1 g / litre of water.
- Resume sowing after current spells of rain in Gujarat region, Saurashtra & Kutch, Konkan & Goa as heavy to very heavy rainfall is likely in these regions.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rain occurred over all the districts of Madhya Pradesh except Dindori, Satna, Shahdol, Badwani, Datia, Khandwa, Neemuch, Sheopur Kalani and Tikamgarh districts and all the districts in Chhattisgarh except Janjgir and Korba during the period.
- **Rainfall Forecast:** Rain is likely at many places over Madhya Pradesh and Chhattisgarh for the next three days.
- **Major Crops:**
 - *Kharif* crop like soybean, maize, sorghum, green gram and black gram (sowing) in Madhya Pradesh. Early sown crops are at early vegetative/vegetative stage.
 - *Kharif* crops like black gram, green gram, soybean, maize, etc (sowing), Rice (nursery sowing) and Sugarcane (cane development) in Chhattisgarh. Early sown crops are at early vegetative/vegetative stage.
- **Advisory:**
 - Insufficient rainfall in Datia and Sheopur Kalani districts in West Madhya Pradesh leads to delay in sowing and moisture stress in early sown crops. As cut off date for sowing of soybean is over, sowing of black gram or red gram is recommended till 30th July. However, in East M.P., sowing of soybean may be continued till 25th July.
 - As sufficient rainfall received during last week, farmers are advised to continue land preparation and sowing of crops like sesamum, red gram and other pulse crops in Bhundelkhand Zone (Tikamgarh, Chattarpur) and green gram, black gram, red gram and soybean in Vindya Plateau Zone (Bhopal, Sehore, Vidisha) (varieties in Annexure I). Start sowing of maize, soybean, groundnut and jowar in Bhundelkhand Zone. Provide drainage facilities for maize.
 - Farmers are advised to continue transplanting of brinjal, tomato, chilli, etc in Nimar Valley Zone, Grid Zone, Satpura Hill Zone and Jhabua Hills Zone in Madhya Pradesh utilizing the monsoon rainfall. Select short duration varieties for soybean maize, pigeonpea, etc (varieties in Annexure I) in Jhabua Hills Zone due to delayed monsoon.
 - Farmers in Malwa Plateau Zone (Dewas, Indore, Manduwar, Neemuch, Rajgarh, Ratlam, Shajapur, Ujjain) are advised to undertake intercropping of maize and mung / urad with soybean. Undertake transplanting brinjal, tomato, kharif onion, early cauliflower, chili and other *kharif* vegetables.
 - Postpone intercultural operations and application of fertilizers and pesticides in Madhya Pradesh and Chhattisgarh as rain is likely at many places.

- Farmers in Chhattisgarh Plain and Bastar Plateau Zones are advised to continue field preparation and sowing of rice in nursery / transplanting in the main field as sufficient rainfall (80-100 mm) received during last week. Select short duration varieties for rice due to delayed monsoon (varieties in Annexure I). Farmers in the upland of these zones are advised to continue sowing of soybean, groundnut, sesame, pigeon pea (varieties in Annexure I). Also undertake sowing of bottle gourd, okra, snake gourds, bitter gourd in the main field with realized rainfall.

Annexure I

List of Varieties

Andhra Pradesh

Groundnut: K-6, K-9, Narayani etc

Green gram (upland): ML 267, LGG 450, LGG 460, LGG 407, Pusa 105, PDM 54

Black gram: LBG 20, T 9, LBG 623, WBG 26.

Rice: MTU1010, MTU1081, Swarna and BPT 5204 .

Karnataka

Red gram: TTB-7, BRG-1 and Hyd-3C

Ragi: Indaf-8, MR-1

Kerala

Bhundi: Arka anamika and Susthira

Brinjal: Haritha

Chilli: Anugraha

Delhi

Rice: Hybrid varieties- KRH 2, PHB 71, Arich 6444, Pant hybrid Dhan1, Narendra hybrid Dhan 1 and PRH 10; High yielding varieties - Pusa Sughand 5, Pusa Improved Basmati, Pusa 44, Pusa Sughand 4, Pant Dhan 10, Pant Dhan 4, Narendra Dhan 359, Pusa 834, Ranvir Basmati and Taravadi Basmati.

Pigeon pea: Pusa 2001, Pusa 991 and Pusa 992, Paras, Manak and UPAS 120

Maize: AH-421, AH-58 Composites varieties; Pusa composite-3 Pusa composite-4

Cucurbit vegetables: Hybrid varieties: Bottle Gourd- Pusa Naveen, Pusa Sandesh; Bitter Gourd- Pusa Visesh, Pusa-2 mosumi; Pumpkin- Pusa Visvash; Ridge Gourd- Pusa Chikni, Pusa Supriya.

Uttarakhand:

Soybean: Brag, PK-262, PK-327, VL Soya-2 and VL Soya-21, Pant Soybean-1024, Pant Soybean-1042, Pant Soybean-1092, Pant Soybean-1347

Ghagat: VLG-1

Jammu & Kashmir

Rice: Jaya, RR-8585, PC-19, IET-1410 and Ratna

Groundnut: Punjab No.1, M-13 & JL-24

Maize: GS-2, super composite, mansar, C-6, C-8 and local varieties

Uttar Pradesh

Rice: Taravadi, Bansmati, Bansmati-370, Pant-15 & Pusa Bansmati-1, Pusa-1121, Sugandh-4, Narendra 118, Narendra-97, Ashwini, Saket-4, Pantdhan-12, Govind, Ratna, Saket-4, Pant-10, 12, Narendra-118, Ashwini, Manhor & Narendra-80

Groundnut: Type-64, Chandra, Kaushal, Prakash & Amber

Soybean: Pant soyabean-1024, Pant Soyabean-1092, PK-262, PK-472, PK -416, PS -564

Jowar: Hybrid: Vasha, CSH-16, CSH-9, CSH-14, Sankul: CSV-13, CSV-15, Bundela, CSV-13, CSV-15, CSV-17

Maize: Hybrid: Ganga-2, Ganga-1, Sankul: Navin, Kanchan, Sweta, Azad, Surya, Uttam, Desi:Meerut Pili.

Bajra: Hybrid: Pusa-322, Pusa-23, ISMH-451, Sankul: ICMV-155, WCC-75, ICTP-8203, Raj-171, Desi: Mainpuri

Pigeon pea : Bahar, Narendra arhar, Azad, malviya vikas, malviya chatmatkar

Black gram: Azad- 1 & 2 , Uttra, Narendra, urd -1, Pant urd-31

Green gram : Samrat, Narendra moong-1, T-44

Sesamum: Shekhar, Pragati

Punjab:

Rice: PR-120, PR-118, PR-116, PR-114, PR-111 and PR-113

Rajasthan

Maize : Him – 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, Pratap Makka-5

Jowar : CSV – 15, CSV – 17, Pratap Jowar – 1430, CSH – 13, CSH – 14, CSH-16

Soybean : JS-335, MACS-13, PK – 472, MACS-58, PS – 16, JS – 71 – 05, Pratap Soya-1 **Moong :** K 851, RMG – 62, K – 851, Pusa Baisakhi, RMG 268 and Ganga

Urd : Krishna, T – 9, PU – 19 and Barkha.

Pearmillet: Pusa 334, Pusa 383, HHB 67, HHB 94, Raj 171, ICMH 356, ICTP 820 and RHB 121

Cleaster bean: RGC 936, RGC 986, RGC 1002, RGC 1003, RGC 1017, M83 and HG 365

Sesamum: Pratap,TC 25, RT 46, RT 54, RT 103, RT 125 and Tt 13

Ground nut: GG 2, GG 7, HNG 10, Prakash and M 13

Radish: Pusa Chetki

Cauliflower: Improved Japanese, Pusa hybrid-2 & Himjoyti

Madhya Pradesh

Paddy:

Early: JR-201, Poornima, JRH-5, JRH-8 (Hybrid)

Medium:IR-36, IR-64, Pusa sugandha-5, MTU-1001, Pusa basmati-1, Mahamaya, Kranti

Late: Syamla, Swarna

Jowar: JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15

Arhar: Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

Soybean: JS-95-60, JS-93-05, JS-97-52, JS-80-21, JS-335, NRC-37

Green gram: K-851, JHawahar moong-721, Pant Moong-4, TJM -3,

Black gram: Pant U 30, RBU – 38, Jawahar Urd-3, JU 86.

Jhabua Hills Zone:

Soybean: JS 93 05, JS 9560

Maize: JVM-421

Pigeonpea: TJT 501 etc.

Chhattisgarh

Rice:

Matasi soil- Samleshwari, Aditya, Poornima, Annada, Danteshwari.

Dorsa soil- MTU 1010, IR – 36, IR-64.

Kanhar soil- Mahamaya, Karma Masuri, MTU 1001, etc.

Soybean: JS 335, Indira, Soya-09, JS 93-0

Assam

Sali rice: Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijaha etc. (Long duration), Satya and Basundhara (medium duration).

Rice for flood affected areas: Jalashree, Plaban, Jalkonwari.

Red gram: T-21.

Sesamum: AST-1, Madhavi, Vinayak, Punjab Til -1, Gauri, SG 1981, RT-1 etc.

Cotton: J-34, MCU-1, MCU-4, Khaki etc.

Jute (for seed purpose): Tarun.

Early varieties of cauliflower: Pusa Keteki, Pusa Dipalee, Early Kowari, Jowahar Moti etc.

Meghalaya

SRI rice: Ranjeet or Naveen.

Bihar:

Rice:

North West Alluvial Plain Zone:

Medium land: Rajshree, Santosh, Rajendra Suvasni, Rajendra Bhagwati.

Low land: Rajshree, R. Sweta, R. Mansoori 1.

South Bihar Alluvial Zone:

Short duration varieties: Pusa 2-21, IR-36, Saket, Prabhat.

Photosensitive tall local varieties: Katarni, Kamini, Sugandha, Tulsi Munjari etc.

Kharif maize: Ganga -11, Shaktiman 1, 2, Devki and Suwan etc.

Jharkhand:

Rice:

Medium land: IR – 36, IR – 64, Rajendra Dhan 202, Kanak, Sugandha, Lalat, BR 10, Birsa Vikar Sugandh Dhan 2, Birsa Vikas Dhan 203, Birsamati, Pro Agro 6444, Birsa Dhan 202, Rajshree etc.

Low land: Birsa Dhan 202, Rajshree, Suvarna (MTU 7029), Sambha Mahsoori (BPT 5204).

Kharif maize: Suwan Composite – 1, HQMP – 1, Birsa Makai – 1, Kanchan, Birsa Vikas–2 etc.

Black gram: T-9, PU-19.

Green gram: K-851, Pusa Vishal.

Groundnut: Birsa Groundnut 2, 3, Verginia, BAU 13.

Soybean: Birsa Soybean, JS 335, Birsa safed soybean 2.

Arhar: Birsa Arhar 1, Bahar.

Orissa:

Rice:

Up land: Khandagiri, Vandana, ZHU XI-26, Parijat, Annada, Heera.

Medium land: Lalat, Konark, Surendra, Naveen, Swarna, Kharavela, Pratikhya, MTU-1001 and Geetanjali (aromatic rice).

Low land: Mahanadi, Moti, Indravati and aromatic rice like Dubraj and Ketakijoha.

Maize:

Composites: Navjot, Megha, Pratap, Shakti 1, Pragati.

Hybrids: Decan 103, Decan 109, Decan 115, Bio 9681, Pro 311, Ganga II, Cargil 900 M, Cargil 633, Sartaj.

Ragi:

Early varieties: Dibyasinha, VL 149.

Medium varieties: Bhairavi, Subhra, Godavari, Chilika.

Cotton: Bunny, Sri Tulasi, Bhaskar and Atal.

Arhar: Mahak, UPAS 120, Asha, Laxmi, Jagruti, Maruti.

Green gram: PDM-54, HUM 1, TARM 1, TARM 2, K 851, Dhauri.

Black gram: Sarala, Pant U 30, Pant U 35, KU 301, KU 300

Cowpea: SEB 2, FS 68, Swarna, SGL 1.

Soybean: JS-72-44, PK-73-163, T-49, Ankur.

Ground nut: AK-12-24, Kisan, Jawan, Smruti.
Sesamum: Uma, Usha, Prachi, Kanaka, Kalika.
Nizer: GA-10 (Deomali), IGP-76 (Sahayadri).
Brinjal: Utkal madhury, Utkal tarrini, Utkal keshari, Pusa kranti
Chilli: Utkal rashmi, Utkal ava, Pusa jwala, Pant C 1, NP 46A
Tomato: Utkal pallavi, Utkal dipti, Panjab chhuara, Pusa hybrid-1
Onion: N 53, Arka kalyan, Agrifound dark red, Arka pragati
Radish: Pusa chetki, Pusa rashmi, Japanese white.
Cowpea: Pusa barsati, Arka garima , Utkal manik, Pusa dofasali.

West Bengal:

Aman rice: IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002, IET-5656, IET-4694, IET-4786, IET-1444, MTU-7029 etc.
Arhar: JSA-59, Pusa-9, Bahar etc.
Coconut: East Coastal, Hazari.
Mango: Himsagar, Bombai, Langra, Amrapali, Mallika.
Guava: Safeda, L-49.
Banana: Joint Governor, Robusta, Kabuli, Mortaman.

Gujarat:

Groundnut: GAUG-10, GG-11, GG-12, GG-13, GG-20 for groundnut (spreading), GAUG-1, GG-2, GG-4, GG-5 for groundnut (bunch).
Castor: GAUCH-1, GCH-2, GCH-4, GCH-5.
Maize: GM-3, GM-4, GM-6, Ganga Safed-2, Farm sameri, Narmda Moti.
Bajra: GHB-183, GHB-215, GHB-316, GHB-528.
Green gram: GM-3, GM-4 and K-851.
Black gram: T-9 and GU-1.
Cowpea: Gujarat cowpea-1, 2, 4 and Pusa Falguni.
Pegion pea: BDN-2, GTH-1, GT-100 and GT-101.
Sesamum: GT-2 or GT-3 for sesamum.
Soybean: Guj. Soyabean-1, Guj. Soyabean-2.

Maharashtra:

Bajra: Shardha (RHRBH-8609), Saburi (RHRBH-8924) and ICTP-8203.
Groundnut: SB-11, Phule Pragati (JL-24), TG-26, Phule Vyas (JL-ii220), Phule Unap and TGP-41 for Madhya Maharashtra, Konkan Gaurav and Trombay Konkan (Tapora) for Konkan.
Red gram: ICPL-87, Vipula, B.M.S.R.-853 & BSMR-736 in Madhya Maharashtra.
Cotton: Indian improved varieties AKA-5, 7 and 8, Indian hybrid varieties like PKV DH-1, American improved varieties AKH-081, PKV-Rajat and AKH- 8828 for Vidarbha.
Green gram: Vaibhav, Kopergaon-1 and B.P.M.R- 145, Jalgaon 781, S-8, PhuleM-2.
Sunflower: EC-68414, Modern, SS-56, K.B.S.H-1, B

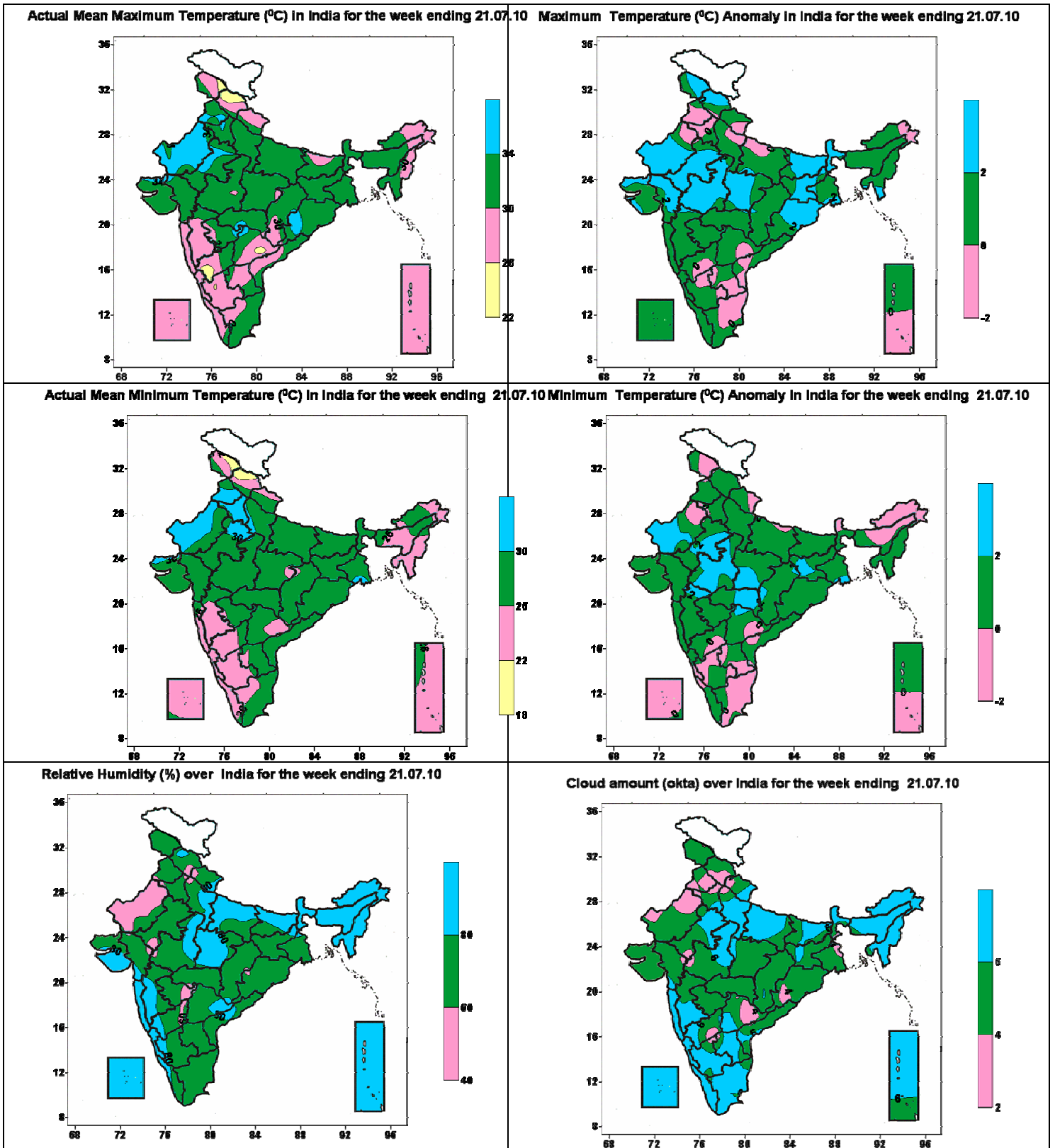
Annexure II

Contingency planning

	Normal Cropping system :	<u>(If sowing not yet done up to July 2nd week).</u>
Haveri Medium to deep black soil	Maize(maize hybrids) –Rabi sorghum (M 35-1) Maize + Redgram (maruti) (6:2) Hybrid cotton (Bt) Rice followed by short duration pulse (green gram/ black gram) Groundnut (GPBD 4, JL 24)-R.Jowar Soybean(JS 335) -R.Sorghum Green gram (china mung)- Sorghum Chilli (B. Dabbi , B.Kaddi) +Desi cotton (Jayadhar)	No change in normal cropping system.
Red loamy soil	Maize Hybrid cotton Sorghum (CSH 14) + Pigeon pea (Maruti) (5:1 and 4:2) Spreading groundnut (S-230, Murdar local) Little Millet + Redgram (6:1)	No change in normal cropping system
Belghum Medium to Deep black soil	Groundnut (JL-24, GPBD-4) / Soybean / Black gram Green gram- R.Jowar/wheat/chickpea/safflower Hybrid cotton Green gram/ Black gram-R.Jowar / safflower Maize-Chickpea Sunhemp- Tobacco	Avoid green gram, black gram, soybean, Sorghum. Maize (Early maturing maize hybrids (Vivek-9), PEMH-2 / composites (Renuka)). Sunflower, sole tobacco, groundnut, cotton, transplanted Chilli, Chilli+ cotton(1:1) Cotton+ Red gram(1:2) Maize + Red gram(4:2) Tobacco + Onion(1:2), Hybrid Bajra Agronomic Measures: Apply enriched compost (FYM+ press mud + poultry manure) to tobacco. .Adopt 60 x 60 cm in cotton
Red loamy soil (If sowing not yet done up to July 2nd week).	Normal cropping: Spreading groundnut (DSG-1) Hy.Bajra, Horse gram, Hybrid cotton (Bt.),Groundnut, Chilli, Foxtail millet Hy.Sorghum + Redgram (Maruti) (4:2) Groundnut + Redgram (4:1)	Change in cropping: Avoid sorghum+ Red gram. Go for groundnut + Red gram Bajra+Horse gram(2:2) Bajra +Sesamum(4:2) Bajra+ Moth bean (2:4)
Crop contingency: Normal onset followed by 15-20 days dry spell after	Agronomic measures: Intercultivation, Conservation furrows, go for gap filling & crop residue mulching as a crop management measure. For soil and water management, adopt: Crop Residue Mulching Spraying of MOP (2%) / Kaoline (1%)	

sowing leading to poor germination/crop stand etc.	Urea spray (1.5%) in maize Protective irrigation	
Dharwad	<p>Crop contingency: If sowing not yet done up to July 1 week Normal cropping system: Maize (maize hybrids) - Chickpea (A-1) Soybean (JS 335)- Rabi Jowar(M 35-1) Groundnut (GPBD 4, TMV2, JL 24) - R. Jowar / Wheat (DWR 162) Green gram (CM/SM)-Rabi Jowar/Wheat Chilli (B. Dabbi & B. Kaddi) + desi Cotton (Jayadhar) + Onion .</p>	<p>Change in cropping system Normal cropping can be continued up to July 15th week, but avoid green gram , ground nut and soybean based cropping system.. Maize + Red gram (4:2) Groundnut + Red gram (4:2) Sunflower (hybrid)- Chickpea Agronomic measures: Follow ridges & Furrow method of sowing. Reduce the spacing in Hy. Cotton to 60 X 60 cm.</p>

Annexure III Contour maps for the week ending 21.07.10



Wind speed (knots) over India for the week ending 21.07.10

