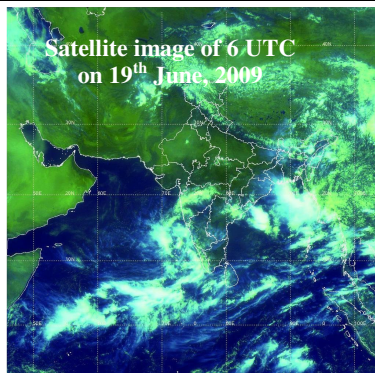


National Agromet Advisory Bulletin

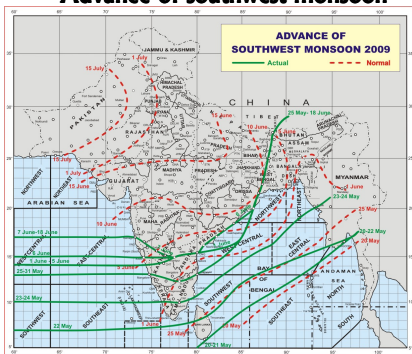
Thursday, 18th June, 2009 (For the period 18th to 22nd June, 2009)



Chief Synoptic Feature (Based on 1430 hours IST observations of 18th June 2009)

- Under the influence of an off-shore trough, fairly widespread rainfall will occur over Coastal Karnataka, Kerala and Lakshadweep during next 3-4 days with gradual northward progression.
- Heat wave conditions prevailed over some parts of Chhattisgarh, Vidarbha, Orissa, Coastal Andhra Pradesh, Bihar and Jharkhand. They are likely to continue during next 1-2 days. Maximum temperatures are also likely to increase subsequently over northwest India during next 5 days.
- Convective clouds are seen over north Andaman Sea, central & southeast Bay of Bengal and parts of southeast Arabian Sea. Low / medium clouds are seen over parts of western Himalayan region, Peninsular India and northeastern States.

Advance of southwest monsoon



The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th June till date. Current meteorological analysis and numerical weather prediction models suggest that southwest monsoon is likely to advance over remaining parts of Konkan & Goa including Mumbai around 21-22nd June.

Salient Advisories

Advisories for Late monsoon

- As per current meteorological analysis and numerical weather prediction models, southwest monsoon will not advance further during next 3 days and only likely to advance over remaining parts of Konkan & Goa including Mumbai around 21-22nd June. Hence, farmers in Madhya Maharashtra, Marathwada, Vidarbha, Orissa, North Interior Karnataka, Telangana, North Coastal Andhra Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh and Gujarat are advised to undertake field preparation utilizing the realized pre-monsoon showers and wait for monsoon rain to undertake sowing.

Advisories for sowing

- In Andhra Pradesh, farmers are advised to undertake sowing of black gram and green gram in Krishna and Prakasam districts and sowing of nursery rice and vegetables in south coastal Andhra Pradesh and Rayalaseema.
- In Karnataka, farmers are advised to undertake sowing of green gram, groundnut, direct sown rice and maize in Dharwad and sowing / transplanting of rice, planting of sugarcane and pulses in Mysore, Mandya and Chamraj Nagar districts as there was adequate rainfall during last week over these districts.
- Farmers in Assam, West Bengal and Sikkim are advised to continue nursery sowing / transplanting of rice utilizing the monsoon showers.
- Farmers in Konkan and also Kolhapur district in Maharashtra are advised to undertake sowing / transplanting of *kharif* rice by utilizing the monsoon showers.
- Farmers in Kerala and coastal Karnataka are advised to undertake sowing / transplanting of rice after current spells of rain.

Advisories for heat wave

As heat wave conditions are likely over some parts of Chhattisgarh, Vidarbha, East Madhya Pradesh, Bihar, Jharkhand, Orissa and Telangana during next two days, apply light and frequent irrigation to protect the crops from high temperature.

Issued by National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division, India Meteorological Department, Shivajinagar, Pune.
The bulletin is also displayed in the website (<http://www.imdagrimet.org>) of the Division

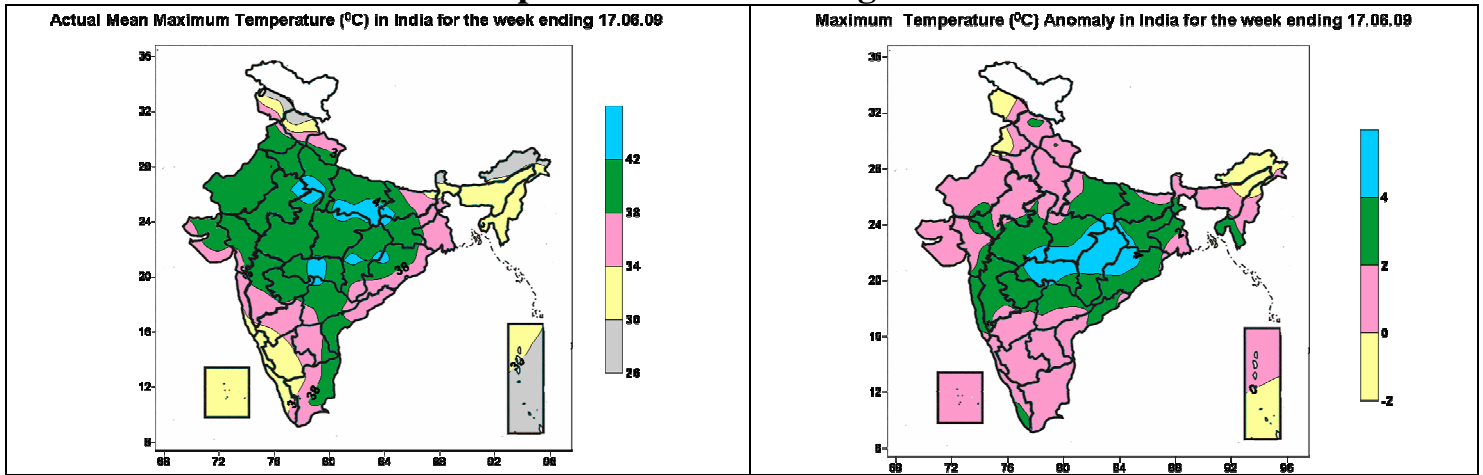
Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks

Sub-division	Cumulative Rainfall for the period									
	20 th May		27 th May		3 rd June		10 th June		17 th June	
	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.	Normal (mm)	% Dep.
A & N Islands	90	-47	117.7	14	121.1	-3	136.6	-11	100.3	117
Arunachal Pradesh	70	-59	61.2	-16	87.2	-50	98.6	-38	121.9	-29
Assam and Meghalaya	89	-83	88.6	-31	101.5	-63	128.3	-62	143.6	-30
NMMT	47	18	49.2	59	66.2	-36	85.6	-9	100.1	-77
SH West Bengal & Sikkim	58	-69	67.2	158	76.5	-46	88.3	-36	124.2	-22
Gangetic West Bengal	18	137	21.0	507	30.6	8	46.6	-78	52.3	-78
Orissa	14	-3	12.2	184	20.0	-11	31.0	2	43.8	-70
Jharkhand	9	-1	9.8	91	14.9	9	29.1	-81	45.3	-52
Bihar	11	-49	12.5	54	17.5	120	27.3	-55	41.6	-82
East Uttar Pradesh	4	8	3.4	228	7.2	111	14.0	-67	18.2	-99
West Uttar Pradesh	3	-51	2.6	182	5.5	1	9.2	-68	11.8	-97
Uttarakhand	16	-91	11.8	-59	18.8	54	23.1	-67	31.2	-90
Haryana, Chandigarh & Delhi	3	-95	3.3	-31	3.3	116	6.8	-99	8.1	-42
Punjab	4	-88	3.2	-79	3.1	8	5.6	-92	8.7	-67
Himachal Pradesh	16	-76	12.6	-64	12.6	-29	13.7	-43	18.5	-17
J & K	16	-50	18.2	-51	11.7	-79	12.0	91	15.7	72
West Rajasthan	22	-100	3.1	-93	3.8	18	3.1	-100	5.0	91
East Rajasthan	22	-66	3.0	-90	5.1	-86	6.6	-100	10.9	-7
West M. P.	21	154	1.8	-60	5.9	-81	11.1	-99	19.8	-90
East M. P.	12	-11	1.7	-70	6.4	-55	14.9	-80	21.1	-89
Gujarat region	1	-100	2.0	-100	5.6	-100	14.6	-100	22.3	-90
Saurashtra & Kutch	1	-100	0.5	-100	2.4	-100	7.7	-100	13.0	-100
Konkan and Goa	5	-99	14.0	-73	35.0	-95	88.7	-14	152.2	-90
Madhya Maharashtra	6	38	10.6	-72	11.3	-97	25.1	-38	29.7	-92
Marathwada	4	-4	8.0	-88	11.9	-84	25.1	-78	32.8	-87
Vidarbha	2	102	2.4	248	7.5	-68	17.7	-40	31.9	-94
Chhattisgarh	55	-46	3.5	-52	9.1	-37	22.0	-95	35.2	-89
Coastal A. P.	14	-68	15.4	-14	14.9	-5	17.6	-56	22.3	-31
Telangana	8	6	7.3	35	11.2	-10	20.6	-22	28.9	-60
Rayalseema	16	-23	16.7	100	15.5	55	15.4	-77	13.5	119
TamilNadu & Pondicherry	20	15	14.0	-1	12.7	21	9.8	-19	9.3	34
Coastal Karnataka	30	3	52.8	-13	78.7	-56	168.8	31	218.5	-77
N. I. Karnataka	14	81	18.0	11	17.1	-77	22.2	13	24.0	43
S. I. Karnataka	27	87	26.0	-18	22.7	-7	25.9	-19	27.9	13
Kerala	67	-40	78.7	23	102.0	-78	151.8	17	150.8	-69
Lakshadweep	36	65	61.1	28	79.3	-31	88.7	3	67.4	-15

The subdivisions like Assam & Meghalaya, Gujarat, Saurashtra & Kutch and Chhattisgarh, received scanty / deficient rain in all the 5 weeks; Arunachal Pradesh, SH West Bengal & Sikkim, Uttarakhand, Himachal Pradesh, Haryana, Chandigarh & Delhi, Punjab, East Rajasthan, Madhya Pradesh, Konkan & Goa, Madhya Maharashtra and Marathwada received scanty / deficient rain in 4 out of last 5 weeks; Bihar, West Uttar Pradesh, Jammu & Kashmir, West Rajasthan, Vidarbha, Coastal Andhra Pradesh and Kerala received scanty / deficient rain in 3 out of last 5 weeks. Remaining States received normal / excess rain in 2 or more weeks during last 5 weeks.

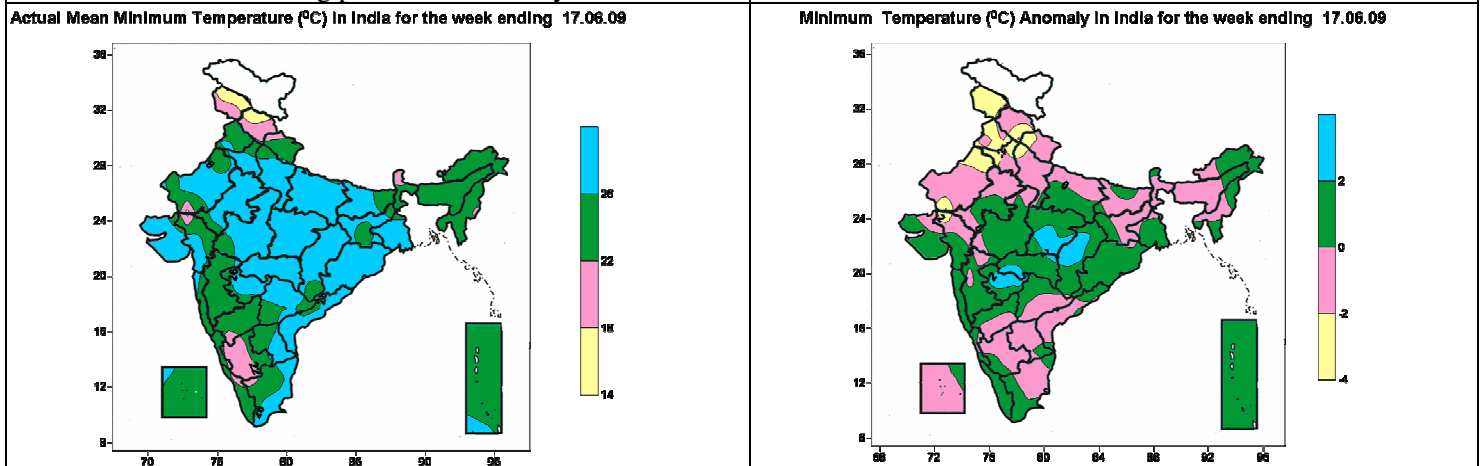


Contour maps for the week ending 17.06.09



Actual Mean Maximum temperature ranged between 42⁰C and above over some parts of East Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand Vidarbha, Chattisgarh, Orissa, 34 to 38⁰C over most parts of Gangetic West Bengal, Coastal Orissa, Konkan, North Interior Karnataka, Rayalaseema, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttarakhand, Bihar, Jharkhand, Chattisgarh, Gujarat, Saurashtra & Kutch, Coastal Andhra Pradesh, Telengana, Kerala, South Interior Karnataka, Tamil Nadu, 30 to 34⁰C over most parts of Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Coastal & South Interior Karnataka, Kerala, Lakshdweep, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Sub-Himalayan West Bengal, Arunachal Pradesh, North Interior Karnataka, Tamil Nadu, Andman & Nicobar Islands, 26 to 30⁰C over most parts of Sikkim, Arunachal Pradesh, Andaman & Nicobar Island, some parts of Jammu & Kashmir, Himachal Pradesh, 38 to 42⁰C over remaining parts of the country.

Actual Mean Maximum temperature anomaly ranged between 4⁰C and above over most parts of Chattisgarh, Vidarbha, some parts of East Uttar Pradesh, Madhya Pradesh, Orissa, 2 to 4⁰C over most parts of East Uttar Pradesh, Bihar, Jharkhand, Coastal Orissa, Tripura, West Madhya Pradesh, Maharashtra, some parts of Himachal Pradesh, Rajasthan, Gujarat, West Bengal, Mizoram, Coastal Andhra Pradesh, Telengana, Kerala, -2 to 0⁰C over most parts of Arunachal Pradesh, Andaman & Nicobar Island, some parts of Jammu & Kashmir, Punjab, Assam & Meghalaya, Nagaland, 0 to 2⁰C over remaining parts of the country.



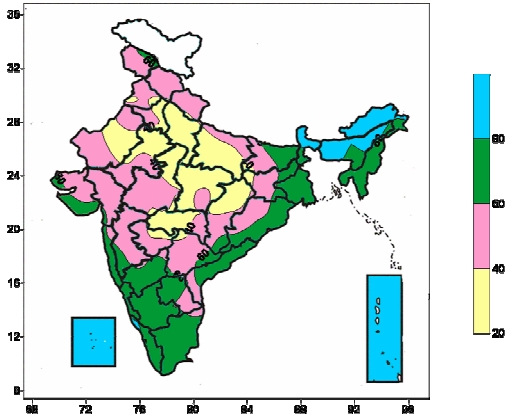
Actual Mean Minimum Temperature ranged between 22⁰C and 26⁰C over most parts of Punjab, Uttarakhand, Sub-Himalayan West Bengal, Northeast India, Gujarat, Konkan & Goa, Madhya Maharashtra, Coastal Karnataka, North Interior Karnataka, Kerala, Lakshdweep, Andaman & Nicobar Islands, some part of Haryana, West Uttar Pradesh, Rajasthan, Bihar, Jharkhand, Gangetic West Bengal, Saurashtra & Kutch, Marathwada, West Madhya Pradesh, Chhattisgarh, South Interior Karnataka, Andhra Pradesh, Tamil Nadu, 18 to 22⁰C over most parts of Himachal Pradesh, Sikkim, South Interior Karnataka, some

Minimum Temperature anomaly ranged between 2⁰C and above over some parts of East Madhya Pradesh, Chhattisgarh, Marathwada, Vidarbha, 0 to 2⁰C over most parts of East Uttar Pradesh, Gangetic West Bengal, Arunachal Pradesh, Nagaland, Mizoram, Orissa, Saurashtra & Kutch, Maharashtra, Central India, Coastal Karnataka, Kerala, Andaman & Nicobar Islands, some parts of East Rajasthan, Bihar, Jharkhand, Sikkim, Assam & Meghalaya, Manipur, Tripura, Gujarat, Interior Karnataka, Andhra Pradesh, Tamil Nadu, Lakshdweep, -4 to -2⁰C over most parts of Jammu & Kashmir, some parts

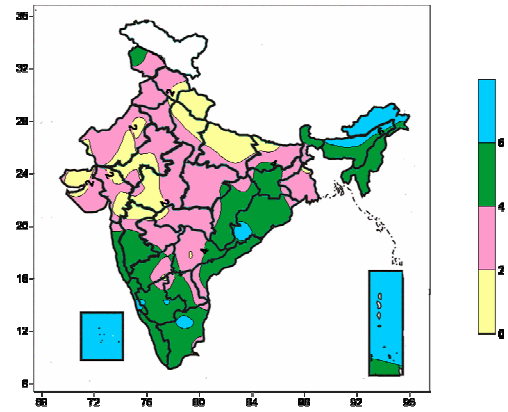
parts of Jammu & Kashmir, Uttarakhand, West Rajasthan, Gujarat, North Interior Karnataka, Kerala, Tamil Nadu, 14 to 18°C over some parts of Jammu & Kashmir, Himachal Pradesh, 26°C and above over remaining parts of country.

of Himachal Pradesh, Uttarakhand, Punjab, Haryana, West Uttar Pradesh, West Rajasthan, Gujarat, -2 to 0°C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 17.06.09



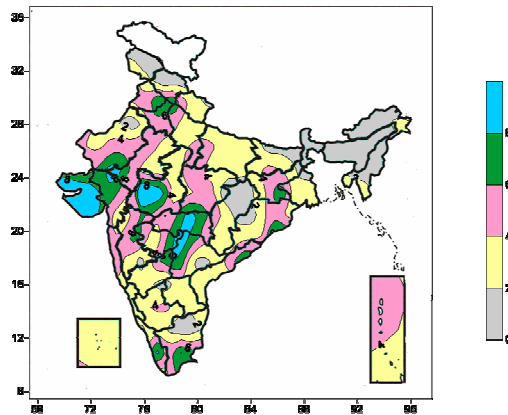
Cloud amount (okta) over India for the week ending 17.06.09



Relative humidity more than 80% over most parts of Sikkim, Arunachal Pradesh, Assam & Meghalaya, Lakshadweep, Andaman & Nicobar Islands some parts of Kerala, 60 to 80% over most parts of West Bengal, Tripura-Meghalaya-Manipur-Mizoram, Coastal Orissa, Konkan & Goa, Coastal Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, some parts of Jammu & Kashmir, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Saurashtra & Kutch, Madhya Maharashtra, Telengana, Rayalaseema, 20 to 40% over most parts of Uttar Pradesh, East Madhya Pradesh, Vidarbha, some parts of Punjab, Haryana, Rajasthan, Bihar, Jharkhand, West Madhya Pradesh, Marathwada, Chhattisgarh, Telengana, , 40 to 60 % over remaining parts of the country.

Cloud amount ranged from 6 to 8 okta over most parts of Arunachal Pradesh, Andaman & Nicobar Islands, Lakshadweep, some parts of Assam & Meghalaya, Orissa, Coastal Karnataka, South Interior Karnataka, Tamil Nadu, 4 to 6 okta over most parts of Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Orissa, Chattisgarh, Konkan & Goa, Madhya Maharashtra, Coastal Andhra Pradesh, Rayalaseema, Karnataka, Kerala, Tamil Nadu, some parts of Jammu & Kashmir, Bihar, Jharkhand, Sub-Himalayn West Bengal, East Madhya Pradesh, Marathwada, Telengana, 0 to 2 okta over most parts of Uttarakhand, Uttara Pradesh, some parts of Himachal Pradesh, Haryana, Rajasthan, Bihar, Gangetic West Bengal, Gujarat, Saurashtra & Kutch, west Madhya Pradesh, Marathwada, Vidarbha, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 17.06.09

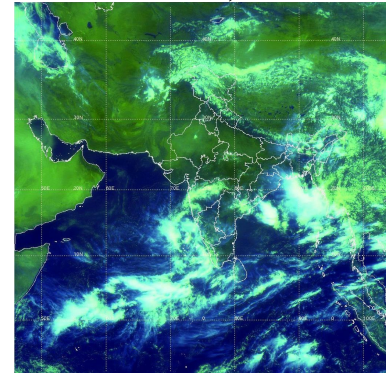


Wind speed ranged between 8 knots and above over most parts of Saurashtra & Kutch, some parts of Gujarat, West Rajasthan, West Madhya Pradesh, Marathwada, Vidarbha, Telengana, 6 to 8 knots over some parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, West Uttar Pradesh, Jharkhand, Orissa,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

Chief Synoptic Feature (Based on 1430 hours IST observations of 18th June, 2009)

- Under the influence of an off-shore trough, fairly widespread rainfall will occur over Coastal Karnataka, Kerala and Lakshadweep during next 3-4 days with gradual northward progression.
- Heat wave conditions prevailed over some parts of Chhattisgarh, Vidarbha, Orissa, Coastal Andhra Pradesh, Bihar and Jharkhand. They are likely to continue during next 1-2 days. Maximum temperatures are also likely to increase subsequently over northwest India during next 5 days.
- Convective clouds are seen over north Andaman Sea, central & southeast Bay of Bengal and parts of southeast Arabian Sea. Low/medium clouds are seen over parts of western Himalayan region, Peninsular India and northeastern States.

Satellite image of 6 UTC on 19th June, 2009



Zone-wise Forecast (Forecast valid upto 1430 hours IST of 21st June, 2009)

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

- Isolated rain/thundershowers over Jammu & Kashmir.
- Isolated duststorm/thundershowers over Rajasthan.
- Mainly dry weather over the rest region.

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

- Rain/thundershowers at a few places over coastal Orissa and West Bengal & Sikkim.
- Isolated rain/thundershowers over the rest region.

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

- Rain/thundershowers at many places over the region.

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

- Rain/thundershowers at many places over Andaman & Nicobar Islands, Coastal Karnataka, Kerala and Lakshadweep.
- Rain/thundershowers at a few places over Interior Karnataka and north Coastal Andhra Pradesh.
- Isolated rain/thundershowers over the rest region.

WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT REGION, SAURASHTRA & KUTCH]

- Rain/thundershowers at a few places over south Konkan & Goa during next 24 hours and increase thereafter.
- Isolated rain/thundershowers over north Konkan & Goa and south Madhya Maharashtra during next 24 hours and increase thereafter.
- Mainly dry weather over the rest region.

CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA]

- Mainly dry weather over the region.

WARNING: (For next 48 hours)

- Isolated heavy rainfall over Andaman & Nicobar Islands, Coastal Karnataka, Kerala and Lakshadweep during next 48 hours.
- Heat wave conditions are likely over some parts of Chhattisgarh, Vidarbha, East Madhya Pradesh, Bihar, Jharkhand, Orissa and Telengana during next 48 hours.

Weather Outlook from 1430 IST of 21st June, 2009 to 1430 IST of 23rd June, 2009 (Based on numerical weather products):

- Fairly widespread rainfall activity over west coast and Andaman & Nicobar Islands.
- Southwest monsoon likely to advance over remaining parts of Konkan & Goa including Mumbai around 21-22nd June.

Zonewise Agromet Advisories

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

Himachal Pradesh

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), potato (early vegetative / vegetative), *kharif* vegetables (sowing / transplanting), apricot, peach, pear and plum (fruit development).
- As there was no significant rain in most of the districts during last week over the State and mainly dry weather is likely for next five days, apply irrigation to the standing crops. Apply mulch in the orchards for conservation of moisture.
- As the weather is opening up & snow is almost gone in Hill Temperate Dry Zone, the sowing season is about to commence. Therefore, plough the fields and leave them as such for control of soil borne pests by sun exposure. It will mitigate the losses by soil borne pests at later stages.
- Complete sowing / transplanting of french bean, tomato and capsicum and also sowing of ladies finger in sub-mountain low hills sub tropical zone.
- Provide mulch in the tree basins (apricot, peach, pear and plum) with straw or UV Sheet in sub-mountain low hills sub tropical zone to reduce evaporation and moisture conservation. Harvest the ripened fruits of early varieties of peach and apricot as there is forecast of high wind speed in the coming 5 days.
- As temperature increases, the marigold and carnation flowers are at first bud development stage (after 20-25 days of transplanting) in sub-mountain low hills sub tropical zone. Pinch the first bud from the top. Cut the liliun flower at the complete bud stage as temperature is sufficiently high to open the flower in 1-2 days. Complete transplanting of chrysanthemum in this week.
- Plucking of tea leaves may be continued at 7-8 days interval in Mid Hills Sub Humid zone.
- It is time for transplanting of summer vegetables like tomato, brinjal, capsicum and chillies in Mid Hills Sub Humid zone. It is time for sowing of *agei* bhindi and pole type French bean, asparagus French bean and cowpea for vegetable in the field. It is time for direct sowing of Khira, bitter gourd, tori in fields. The nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields. It is also time for sowing of ginger, *arbi*, amaranthus and turmeric.
- Sowing of rice nursery and maize and also soybean and cowpeas as intercrop with maize in the fields in Mid Hills Sub Humid zone should be completed. Treat the rice seeds with bavistin @ 2 gram per kg of seed before sowing.
- Details of crop varieties are mentioned in Annexure I.

Plant protection

- Weather is favourable for attack of peach leaf curl disease in peach and pear fruit plants in Mid Hills Sub Humid zone where fruit bearing has started, spray Nuvan 1 ml + 3 g Blitox per litre of water.
- There is report of infestation of mealy bug in tea in Mid Hills Sub Humid zone and there is also chance of increase of infestation, for control spray Deltamethrin (Decis 2.8 EC) @ 1340 ml in 750 litres of water for one hectare.
- Fruit fly attack is reported in the cucurbits in Mid Hills Sub Humid zone and there is chance of increase in infestation, for control spray malathion @ 1ml / litre or carbaryl @ 2 g / litre of water.
- Weather is conducive for appearance of aphids in rose in Mid Hills Sub Humid zone, for control spray rogor @ 1 ml per litre of water.

Apiary

- Keep colonies in shade conditions and examine colonies for barroa mites.
- Dust sulphur on sealed brood in the colony and not on larvae to control mites attack on honeybees.

Animal husbandry

- It is high time for vaccination of animals against FMD.
- Keep the animals under shed in sub-mountain low hills sub tropical zone as the day temperature can cause heat strokes. Provide adequate fresh and cold water baths.

Fishery

- Temperature is good for breeding of the minor carp in Mid Hills Sub Humid zone. Monitor the physicochemical parameters and growth rate of cultivable fish in ponds. Supplement the feed @ 2% of the body weight stocked twice a day. The cloudy day or warmer part of day is to be avoided for stocking. Give feed 4% of their body weight up to 15 days and after that reduce to 3% of their body weight.

Forestry

- Do not apply fire to twigs of trees to prevent forest fires as the day temperature has already reached 32^oC.

Uttarakhand

- **Major Standing Crops:** Sugarcane ratoon (early vegetative), cabbage, garlic, tomato (vegetative), onion (maturity), maize, french bean (early vegetative), rice(nursery sowing / transplanting)
- Farmers are advised to prepare the field utilizing the realized rainfall during last week and arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over the State.
- Farmers are advised to continue nursery sowing of rice, soybean, ragi and bhindi in Nainital district, rice and maize in Uttam singh nagar district and sowing of rice in Haridwar, Dehradun and Pauri districts. Continue transplanting of rice in irrigated areas of Nainital and Uttam singh nagar districts, if the seedlings are ready.
- As there was no significant rainfall during last week in most of the districts in the State and mainly dry weather is likely to occur for next five days, apply irrigation to the crops.
- Undertake weeding, intercultural operations and top dressing in ratoon sugarcane, maize, french bean and vegetable crops.
- Farmers are advised to feed the animals with balanced diet and give fresh water for drinking.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
- fruit borer in tomato, shimla mirch etc., spray Prophenophos 50 EC @ 1 ml per litre of water.

Punjab

- **Major Standing Crops:** Spring sugarcane (early vegetative / vegetative), vegetable crops like chilli, tomato, brinjal (vegetative), bhindi (early vegetative) and onion (vegetative / bulb formation), *kharif* groundnut (seedling), cotton and berseem (early vegetative), *Kharif* rice (nursery sowing / transplanting)
- As there was no significant rain during last few weeks and mainly dry weather is likely over the State during next five days, apply irrigation to the crops.
- Continue preparation of the land and nursery raising of basmati rice varieties. For the nursery sown during middle of May, apply second dose of nitrogen to get the seedlings ready for transplanting. If seedlings in nursery show the yellowing of leaf tips, spray three times with 0.5-1 percent ferrous sulphate solution at weekly intervals. Irrigate the nursery bed at regular intervals. Continue transplanting of rice seedlings wherever irrigation facilities are available. Details of crop varieties are mentioned in Annexure I.
- Undertake weeding, intercultural operations and earthing up in sugarcane. Provide straw mulching in between the rows to conserve the soil moisture.
- Undertake sowing of *kharif* fodder at regular intervals for continuous supply of sufficient green fodder. For getting good growth of fodders, provide irrigation at regular interval.
- Continue sowing of bhindi with irrigation facilities and use resistant to yellow vein mosaic virus.
- Prepare land utilizing the rainfall received during previous weeks and undertake sowing of maize hybrids with irrigation facilities.
- Protect young and tender fruit plants from hot weather by giving white washing or wrapping over the exposed trunk portion and give frequent irrigation. To protect the fruit trees from scorching effect, lower portion of the exposed trunks should be white washed.
- As temperature is expected to rise during these days, the farmers are advised to apply light and frequent irrigation to vegetable crops mainly to tomato and chillies and also to other crops like

cucurbitaceous crops i.e. bitter guard, watermelon, muskmelon etc. The muskmelon harvesting should be completed as high temperature could affect the quality.

- Keep the animals in shade and bath the animals 1-2 times daily. Grazing of dairy animals may be allowed in the morning and evening hours. In case of high rise of temperature, get dairy animals blood tested for protozoan diseases from district laboratories.

Plant Protection: Weather conditions are favourable for mild incidences of –

- jassid in bhindi, spray the crop with Malathion 50 EC @ 560 ml in 100-125 litres of water per acre.
- mite in sugarcane, spray the crop with Malathion 50 EC @ 400 ml in 100 litres of water per acre.
- jassid incidence in cotton, spray 40 ml Confidor 200 SL or 20 g Pride 20 SP or 40 g Actara 25 WG in 100 litres of water per acre.

Haryana

- **Major Standing Crops:** Spring sugarcane (early vegetative / vegetative), vegetable crops (vegetative), cotton (early vegetative) and berseem (vegetative), *Kharif* rice (nursery sowing / transplanting).
- As there was no significant rain during last few weeks and mainly dry weather is likely over the State during next five days, apply irrigation to the crops.
- Continue preparation of the land and nursery raising of rice. Farmers may transplant the rice seedlings in the field with the availability of irrigation water.
- Farmers are advised to prepare the land by utilizing the rainfall during previous weeks and arrange the certified seeds for sowing of pearl millet. Start the sowing of guar crop with certified varieties with irrigation facilities.
- Undertake hoeing and weeding and conserve soil moisture by application of mulches in sugarcane. Apply the remaining dose of nitrogen fertilizer to the crop.
- Farmers are advised to undertake weeding and hoeing in cotton and intercultural operations in tomato, onion and chilli as dry weather is likely for the next five days.
- As temperature is likely to increase in the coming days, the farmers are advised to whitewash the trunks of fruit trees, provide shelter to young trees and give frequent irrigation to protect fruit trees. Protect the young fruit plants from heat stress by giving frequent irrigation.
- Farmers are advised to vaccinate animal for protecting them against foot and mouth, galghontu disease and rinderpest by nearest veterinary hospital at fortnightly interval so that this disease may not appear during rainy season.

Delhi

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), beans, maize, cluster bean, ladies finger, leafy and cucurbitaceous vegetables (sowing), chilly, tomato, brinjal, onion and cauliflower (nursery preparation) and rice (nursery sowing).
- Farmers are advised to watch rice nurseries. Weeding should be done in nurseries. If nursery is 20-25 days old and plant height is 6-8 inch, transplanting should be done with assured irrigation facilities.
- Keeping in view the mainly dry weather conditions, weeding should be done in all vegetable crops. If the crop is one month old, first dose of nitrogen should be applied.
- Present weather conditions are favourable for sowing of *kharif* maize and bajra with irrigation facilities. Farmers are advised to procure quality seeds and start sowing.
- Keeping in view the high temperature, farmers are advised to apply irrigation in the fruit orchards.
- Farmers are advised for preparation of nurseries for marigold and make arrangement for quality seeds.
- Present weather is favourable for sowing of green Jowar.
- Farmers are advised to start sowing of *Kharif* ladies finger. Present weather conditions are also ideal for sowing of green leafy vegetables (spinach, coriander etc.) and cucurbitaceous crops (gourd, smooth gourd and cucumber).

- Farmers are advised to prepare nurseries for chilly, tomato, brinjal, onion and cauliflower. Nurseries should be prepared in raised beds and should be free from water logging condition.
- Details of crop varieties are mentioned in Annexure I.
- Solarization of fallow fields should be taken up to kill insect pests and destruction of weed seeds beneath the soil. Deep ploughing / discing in fallow lands is advised after harvesting of *rabi* crop.

Plant protection

- In view of recent rain, there is high possibility of occurrence of downy mildew in cucurbitaceous crops. Farmers are advised to spray Redomil @ 2 ml / litre of water.
- Present weather with high humidity are highly favourable weather parameters for spread of viral disease through insect vector in vegetable crops. Farmers are advised to spray Rogor or Endosulfan solution @ 2 ml per litre of water.
- Spraying should be done in the evening after 6 pm when the wind is calm.
- Forecasted cloudy conditions are highly favourable for incidence of soil borne disease in nurseries. Farmers are advised to make proper drainage and start drenching of nurseries.

Uttar Pradesh

- **Major Standing crops:** Summer sugarcane (vegetative) and vegetables (vegetative / fruiting), mango (fruit setting).
- As there was no significant rain during last few weeks mainly dry weather is likely for the next five days, apply irrigation to the crops.
- Continue field preparation and nursery sowing of rice and vegetables with irrigation facilities.
- Undertake field preparation for sowing of mung bean, maize and vegetables utilizing the realized rainfall during last week.
- Undertake weeding, intercultural operations and application of fertilizers in the standing crops like sugarcane, vegetables and mentha.
- Continue field preparation and planting of turmeric and ginger.
- Undertake digging of pits for plantation of new garden of fruit crops.
- To save the mango fruits from falling, spray the solution of Naphthalene acetic acid @ 15 ppm.
- **Plant Protection:** Weather conditions are favourable for mild incidences of fruit borer in tomato and brinjal, spray the solution of Carbaryl @ 2 g / litre of water. Monitor the crops for the pests and undertake plant protection measures to control the pests.

J & K

- **Major Standing Crops:** This is proper time for sowing of rice in the nursery and maize and transplanting of solanaceous vegetable crops.
- As there was no significant rain during last week and no significant rainfall is expected during next five days over the State, apply irrigation to the crops.
- Undertake sowing of rice in the nursery and maize in the main field in Jammu, Kathua and Rajouri divisions.
- Details of varieties are given in Annexure I.
- Continue transplanting tomato and capsicum in the main field in Leh division with rainfall received during last week.
- Undertake intercultural operations, irrigation, application of fertilizers and pesticides in vegetable crops like brinjal, tomato, chilli, capsicum, bhindi, beans, cucurbits and pumpkin in Doda, Udampur, Kathua, Leh and Rajouri divisions.
- **Plant Protection:** Weather conditions are congenial for mild incidences of –
- fruit borer in tomato, brinjal and bhindi crop in Jammu, Kathua and Kashmir, spray Endosulphan @ 0.07%, or carbaryl @ 0.1% or DD Chlorvos @ 0.03%.
- downy mildew in onion in Srinagar region, spray Metalaxyl @ 0.2% solution.

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

Bihar

- **Major Standing Crops:** Sugarcane (vegetative / grand growth), summer vegetables (vegetative / flowering / fruiting / harvesting), fodder maize, jowar, lobia and sudan grass (vegetative).
- As there was no significant rain during last few weeks in most of the districts and the heat wave conditions are likely to continue over some parts of the State for the next 1-2 days and no significant rainfall is likely for next five days over the State, apply light and frequent irrigation to the crops.
- Continue field preparation and sowing of *kharif* rice in nursery and maize where the irrigation facilities are available. Details of crop varieties are mentioned in Annexure I.
- Farmers are advised to prepare the field utilizing the realized rainfall during previous weeks for sowing of *kharif* arhar, sorghum, til, groundnut and sunflower. Arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over the State.
- Undertake intercultural operations, application of fertilizers and pesticides in summer vegetables, like tomato, brinjal, cauliflower, cabbage and sugarcane as weather is likely to be favourable for these operations in the next five days.
- Farmers are advised to prepare the nursery for flower cultivation with irrigation facilities.

Jharkhand

- **Major Standing Crops:** Sugarcane (vegetative / grand growth), summer vegetables (vegetative / flowering).
- Farmers are advised to prepare the field utilizing the realized rainfall during previous weeks and arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over the State.
- As there was no significant rain during last few weeks in most of the districts and the heat wave conditions are likely to continue over some parts of the State for the next 1-2 days and no significant rainfall is likely for next five days over the State, apply light and frequent irrigation to the crops.
- Farmers are advised to undertake sowing of flower crops with irrigation facilities.
- Farmers are advised to undertake weeding, intercultural operations in sugarcane and vegetables as weather is likely to be favourable for these operations.
- Site selection of new orchards and digging of pits for mango, jackfruit, litchi, guava, papaya and banana may be undertaken.
- Undertake planting of turmeric and ginger with irrigation facilities.
- Rinderpest disease is common in goat. TPR vaccine @ 1 ml subcutaneous should be vaccinated except for those goats that are less than 3 months of age and are pregnant.

Orissa

- **Major Standing crops:** Sugarcane (early vegetative), vegetables (fruiting / harvesting), onion (vegetative), jute (early vegetative).
- As there was no significant rainfall during last week in most of the districts and no significant rainfall is likely for the next five days over the State, farmers are advised to apply irrigation to the crops.
- Digging of pits may be done to undertake planting of fruit trees on receipt of rain.
- Farmers are advised to undertake field preparation and dry sowing of rainfed direct seeded rice in medium and medium - low lands in the west and central Orissa as sufficient rainfall was received in the State in the preceding weeks. Go for dry bed nursery in rainfed medium land and wet bed nursery in irrigated land and in rainfed low land.
- Farmers are advised to undertake land preparation utilizing the rainfall received during previous weeks and undertake sowing of arhar and maize.
- Undertake land preparation and sowing of *kharif* cotton utilizing the rainfall received during last week and undertake sowing after receipt of sufficient monsoon rains. Arrange good quality certified seeds. Details of crop varieties are mentioned in Annexure I.

- Farmers are advised to prepare field and undertake sowing of ginger, turmeric, colocasia and elephant foot yam as sufficient rainfall was received in the State in the preceding weeks.
- Harvest all the cultured fish from the pond and drain out water from it for complete drying. In perennial ponds where water draining is impossible, apply Mahua oil cake 1 t / acre to kill all the predatory and weed fishes. Clear the aquatic weeds from the pond and strengthen the embankments.

West Bengal

- **Major Standing Crops:** Sugarcane (vegetative), green gram (maturity / harvesting), jute (early vegetative / vegetative) and *aus* rice (direct sowing / transplanting), *aman* rice (nursery sowing), vegetables (sowing).
- Harvest already matured crops of green gram on bright sunny days and undertake land preparation of the harvested lands for *kharif* crops.
- Due to the devastating cyclonic storm 'AILA', salinity of the soil has been raised highly in more than 90% of cultivated land due to inundation of sea-water in South 24-Parganas district. At first it is required to drain out the saline water and then reclamation of saline soil before *kharif* paddy cultivation. Sowing of dhaincha (*Sesbania* sp.) may be undertaken in the flood affected area, because green manures not only supplies organic matter and nitrogen, it also reduces the salinity of the soil. Select good salt tolerant local varieties like Dodhersar, Bhanskanta, Khayersal, Langalmota, nona Bokra, Marichsal etc. for cultivation in the flood affected areas.
- Undertake sowing of cowpea, leafy vegetables like *Amaranthus* and nursery sowing of cauliflower in Terai and Teesta zone.
- Prepare land and undertake sowing of turmeric in Coastal Saline zone. Adopt spacing of 45-60 cm between the ridges and 15-25 cm between the plants. The seed rate (rhizome or finger) may vary from 250-350 kg per bigha. Also undertake sowing of ladies finger.
- Undertake nursery sowing of *aman* rice in Gangetic Alluvial zone, Vindhyan Alluvial zone and Undulating Red and Lateritic zone. One and half katha land is required for the transplanting of one bigha land. For this, 7 to 8 Kg seeds are required.
- Start land preparation for pigeon pea in New alluvial zone. For a bigha of land 3 kg seeds are required. Sow treated seeds in rows at a distance of 3ft.
- Complete intercultural operations followed by top dressing of fertilizer in jute in New Alluvial zone. For crops of three-week stage, apply 6 to 7 Kg Urea (per bigha) as first top dressing and for crops of six-week stage apply the same amount of fertilizer as second top-dressing.
- Complete the sowing operation of *aus* rice in New Alluvial zone as early as possible. Apply 25 Kg SSP and 6.5 Kg MOP per bigha before sowing. Sow 11 to 12 kg of seeds in rows at a distance of 8 inch apart. Undertake transplanting of *aus* rice, if seedlings are ready.

Plant protection

- The prevailing weather is conducive for infestation of cancer disease in citrus and also collar rot disease in elephant foot yam disease in New alluvial zone. To control citrus cancer spray 1 gm streptomycin / 10 litres of water. To control collar rot disease in elephant foot yam spray 1 gm Carbendazim and 2 gm Thiram combinely after mixing in 1 litre water.
- Undertake intercultural operation and application of fertilizer and plant protection measures on a non-rainy day.

Sikkim

- **Major standing crops:** (a) **High hills: off-season vegetable crops** (Vegetative/Late Vegetative); **seed potatoes** (vegetative/tuberization); (b) **Medium hills: Orange** (transplanting of seedlings / flowering / early fruiting / fruiting); (c) **Medium & Low Hills: rice** (nursery sowing / land preparation for transplanting / transplanting); **kharif vegetables** (vegetative / late vegetative); **maize** (late vegetative); **large Cardamom** (transplanting of seedlings / secondary flowering / primary capsule formation).

- There was sufficient rainfall during last week. Farmers are advised to continue preparation of land for transplanting of seedlings in the low hills & transplanting of seedlings of rice in the medium hills.
- 2nd round of weeding of maize crop in middle and low hills may be done on a non rainy day before initiation of corn and cob. Earthing up should be done thereafter to protect the plants from strong wind.
- Transplanting of orange seedling may be continued. Deshooting / debugging of newly planted to 1 – 4 years old trees upto a basal height of 40 – 50 cm should be done on monthly basis.
- Top dressing of ginger with organic manures and mulching to be done on non rainy days on monthly basis. Proper drainage to be maintained and weeding to be done on non rainy days.
- As there are chances of scattered thundershowers in high hills, the seedlings of off-season vegetable crops may be protected from onslaught of hail stone showers.
- Planting of suckers of large cardamom may be continued. Trenches of width 30 cm and depth 45 cm with convenient length may be opened with 30 cm interspacing. Trenches to be filled by mixture of FYM and soil. Disease free high yielding grown up shoots with emerging buds may be planted at 45 cm apart in the trenches within June & July. Base may be mulched with forest leaves. Bamboo/wooden support stakes may be provided for the suckers.
- Chirke and Foorkey infected cardamom plants may be destroyed by uprooting and buried in the pits at regular intervals.
- Regular inspection may be carried out to observe caterpillar/shoot borer/shoot fly incidence, if any, and may be hand picked and destroyed mechanically.

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

Assam

- **Major Standing crops:** vegetables (vegetative / flowering / fruiting / harvesting), early *ahu* rice (tillering / panicle initiation), direct seeded regular *ahu* rice (vegetative / tillering), transplanted regular *ahu* rice (transplanting / early tillering), jute (vegetative), maize (vegetative) and sugarcane (vegetative), *sali* rice (nursery sowing)
- As there was quite good rain in most of the districts during last week and rain is likely to occur at many places over the State for next five days, postpone irrigation to the crops. As maize and jute crops are sensitive to water logging, provide adequate drainage facilities to remove excess water.
- Undertake top dressing in one month old crop of maize with urea @ 30 kg per hectare and also in March planted ginger with urea @ 20 kg per hectare after current spells of rain.
- Undertake earthing up and application of fertilizer in sugarcane after current spells of rain. Apply Urea and MOP in the field @ 26 kg per bigha and 7.5 kg per bigha.
- Farmers are advised to collect the seeds of recommended varieties of *Sali* rice for better production. Prepare nursery beds of dimensions 10 m x 1.25 m x 0.10 m. Separation of two beds should be about 30 cm.
- Maintain 3-5 cm stagnant water in early *ahu* rice and direct seeded regular *ahu* rice field.
- Undertake land preparation and sowing of arhar.
- This is proper time for planting of coconut in high land. 1 year old seedlings with 5-6 leaves should be used for planting. Time is also suitable for planting of banana, pineapple, papaya, arecanut etc.

Plant protection:

- There is chance of attack of fruit fly, red pumpkin beetle and epilachna beetle in summer gourds. Spray endosulphon or malathion 50 EC @ 1 ml per litre of water after current spells of rain.
- Attack of stem borers may be observed in sugarcane. Spray monocrotophos 40 EC @ 150-200 ml per 150 litres of water with hand sprayer in the field after current spells of rain to control attacks.

Animals

- The cattle, goat and pigs should be vaccinated against foot and mouth disease as well as anthrax disease. They should be fed with anti worm drugs.

Fishery

- The beds of ponds for fisheries should be ploughed followed by application of cow dung and lime at recommended dose.

Arunachal Pradesh

- **Major Standing crops:** Maize, millet (vegetative), ginger (vegetative), summer vegetables (vegetative / harvesting), *jhum* rice (early tillering), WRC rice (early tillering).
- As there was sufficient rainfall in most of the districts during last week and rain / thundershowers are likely at many places over the State for the next five days, postpone irrigation, weeding and intercultural operations. Provide adequate drainage facilities to avoid water logging due to excess rainfall during last week.
- Farmers are advised to harvest the matured summer vegetables and regularly monitor the crops for pest and diseases.
- Prophylactic measure for protection of seed ginger rhizome from fungal disease may be taken. Water logging in the field must also be avoided.

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

Andhra Pradesh

- **Major Standing Crops:** sugarcane (cane development), vegetable crops (fruiting/harvesting) and chilli (fruit development/picking).
- Farmers in Rayalaseema and South Coastal Andhra Pradesh are advised to undertake sowing of *kharif* crops like rice, brinjal, tomato and chillies in the nursery and sowing of bhindi and gourds in the main field by utilizing the monsoon rains.
- Undertake sowing of black gram and green gram in Guntur, Krishna, Prakasam and West Godhavari districts.
- Details of varieties are given in Annexure I.
- Arrange seeds and other inputs to undertake sowing of *kharif* crops as soon as monsoon arrives over rest of the state.
- Foot and mouth disease in cattle, sheep pox in sheep and ranikhet disease in poultry may occur under prevailing weather. To prevent the diseases, vaccinate the animals and poultry.
- **Plant Protection:** Weather conditions are favourable for mild incidences of –
- shoot and fruit borer in brinjal; undertake plant protection measures;
- thrips and mites in chilli in Guntur, Krishna, Prakasam and West Godhavari districts; spray Acephate @ 1.5 g per litre of water for thrips and Phosalone @ 2 ml per litre of water to control the pests.
- Undertake plant protection measures on a non rainy day in north Coastal Andhra Pradesh

Karnataka

- **Major Standing Crops:** Annual sugarcane (maturity/harvesting), green gram, black gram and cowpea (pod maturity/harvesting), groundnut (pod development/maturity).
- As rain/thundershowers is likely to occur at many places during next five days along with isolated heavy falls over Coastal Karnataka, postpone irrigation to the crops. Arrange drainage facilities to drain out excess water.
- Undertake sowing of green gram, groundnut, direct sown rice and maize and planting of potato in Dharwad. Undertake sowing of tomato, brinjal and chilli in the nursery by utilizing the monsoon showers.
- Undertake sowing of rice in the nursery in Bidar. Farmers are advised to arrange for inputs and undertake sowing as soon as monsoon arrives over the region. Normal sowing dates of important *kharif* crops are as follows
Ground nut, Niger, Sesamum and Blackgram - June end

Greengram, Paddy - June to July first fortnight

Jawar - June end

Soybean - Upto first fortnight of July

Maize - Upto July end

Bajra and Pigeonpea - July end

Horsegram - June to September

- Also undertake ratooning in sugarcane.
 - Undertake sowing/planting of rice, sugarcane and pulses in Mysore, Mandya and Chamraj Nagar districts.
 - Arrange seeds and other inputs to undertake sowing of *kharif* crops like green gram, red gram, bajra, cowpea, cotton, groundnut and jowar in Raichur and Gulbarga as soon as monsoon arrives over the region.
 - Continue planting of seed-nuts for coconut and arecanut in nursery in Sirsi region
 - Details of varieties are given in Annexure I.
 - Intercultural operations, application of fertilizers and pesticides may be continued in Coastal Karnataka after spells of rain.
- Plant Protection:** Weather conditions are favourable for mild incidences of –
- bacterial blight in pomegranate and citrus canker in Bijapur and leaf spot in sapota in Dharwad; Undertake plant protection measures on a non rainy day.

Kerala

- **Major Standing Crops:** vegetable (transplanting/vegetative/flowering/fruitletting/harvesting) and plantation crops (coconut, arecanut, pepper and cashew). This is proper time for sowing of rice and vegetable crops in the nursery and transplanting in the main field.
- As rain/thundershowers is likely to occur at many places during next five days along with isolated heavy falls over the State, postpone irrigation to the crops. Arrange drainage facilities to drain out excess water.
- Avoid sowing/transplanting during spells of heavy rain.
- Complete nursery sowing of *virippu* rice and continue transplanting by utilizing the monsoon showers.
- Undertake planting of Dioscoria, ginger, turmeric and tapioca in Thrissur, Ernakulam and Palakkad by utilizing the monsoon showers.
- Sowing/transplanting of rice and vegetables may be continued in Kannur, Kasargod, Malappuram and Kozhikode districts.
- Continue planting of coconut, arecanut, pepper and cardamom in Wayanad by utilizing the monsoon rains.
- Continue sowing of *virippu* rice in Kollam and Thiruvananthapuram districts; planting of coconut for seed nuts may also be continued with proper care to prevent the seed bed from soil erosion. Prevent banana from strong winds by providing mechanical support.
- Intercultural operations, application of fertilizers and pesticides may be continued after spells of rain.
- Weather conditions are favourable for the attack of bud rot, red palm weevil and rhinoceros beetle in coconut, mahali in arecanut, quick wilt and pollu beetle in pepper, Sigatoka leaf spot and rhizome weevil in banana, soft rot in ginger, rhizome rot in cardamom and leaf rust in coffee in Wyanad and aphids in cowpea in Kottayam district. Undertake plant protection measures on a non rainy day.

Tamilnadu

- **Major Standing Crops:** Sugarcane (cane maturity) and cotton (picking stage). This is proper time for raising nursery for *kuruvi* rice and vegetable crops.

- As there was no significant rain during last week except in Dindigul, Perambalur and Villupuram districts and no significant rainfall is expected during next five days over the State, apply irrigation to the crops. Postpone irrigation in the above districts as there was excess rainfall during last week
 - Continue land preparation and transplanting of *kuruvai* rice in the man field in Cauvery deltaic areas.
 - Undertake intercultural operations in early transplanted brinjal crop in Namakkal district to keep the field clean.
 - Complete land preparation and sowing of crops like cotton in Thirunelveli, Thooththukkudi and Virudhunagar districts.
 - Undertake sowing of groundnut in Erode district.
 - Start harvesting of maize in Virudunagar district and pulse crops in Thirunelveli district due to favourable weather.
 - Undertake earthing up operations in sugarcane in Thirunelveli district Propping may be undertaken to prevent from lodging due to high winds
 - Undertake transplanting of vegetable crops during monsoon in Kanyakumari district.
- Plant Protection:** Weather conditions are favourable for mild incidences of –
- stem borer in rice in Coimbatore, leaf folder in rice in Erode and leaf spot in banana in Kanyakumari districts; undertake plant protection measures to control the pests.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

Maharashtra

- **Major Standing Crops:** *Kharif* rice (sowing in Nashik, Kolhapur and Nagpur divisions and nursery sowing / germination in South Konkan & Kolhapur division), soyabean (sowing in Kolhapur division), cotton (sowing in Nashik, Kolhapur, Amravati divisions).
- As there was no significant rain in most of the districts during last week and no significant rainfall is likely to occur in most of the districts of the State except in South Konkan during next five days, apply irrigation to the standing crops. Postpone irrigation in South Konkan as there is chance of rain during next five days.
- Land preparation may be completed for new plantation of fruit crops like mango, cashew, coconut, areca nut, etc. in Konkan. Dig the pit for plantation of mango at the spacing of 10 x 10 m or 5 x 5 m and for cashew at 7 x 7 m.
- Undertake nursery sowing of onion, tomato, brinjal and chilli in the raised beds of suitable size. Sowing of improved varieties may be done with the help of pre-monsoon showers.
- Sowing of *kharif* (drill) rice may be carried out in Nashik, Kolhapur and Nagpur division with irrigation facilities. Before sowing treat rice seeds with 3% brine solution for 5 – 10 minutes and apply fungicide Thiram @ 3 – 5 g per kg of seeds. Also undertake sowing of *kharif* rice in nurseries for rice seedlings in Konkan & Kolhapur division. Continue sowing of soybean in Kolhapur division with the help of recent rain and optimum soil moisture in the field.
- Complete preparatory tillage with the help of pre-monsoon showers. Selection of crops and varieties, arrangement of seeds and fertilizers may be done immediately in view of likely advance of monsoon. Details of crop varieties are mentioned in Annexure I.

Fishery

- Feed management of brackish water shrimps may be followed. Water level in the pond may be maintained at 1.5 m.

Plant protection

- Due to favourable weather condition there is chance of infestation of shoot borer in sugarcane. Spray Endosulfan 35 EC @ 15 ml in 10 liters of water.
- Weather is also favourable for the incidence of blast on cucumber, bottle gourd etc. Spray Mancozeb @ 10 gm in 10 liters of water.

Gujarat

- **Major Standing Crops:** Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting / harvesting), groundnut (seed maturity / harvesting), pearl millet (grain maturity / harvesting) and green gram, black gram, cow pea, cluster bean (pod maturity / harvesting), *kharif* vegetables (sowing), *kharif* rice (nursery sowing).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail for next five days, apply irrigation to the standing crops.
- Undertake harvesting of matured crops of groundnut, pearl millet, green gram etc. as prevailing dry condition is favourable for harvesting.
- As there is no possibility of rain, undertake intercultural operation to keep the fields weed free.
- As dry condition is prevailing, farmers are advised to undertake intercultural operation and apply nitrogen fertilizer (87.5 kg nitrogen / ha) followed by earthing up in sugarcane. Provide straw mulching to conserve soil moisture.
- Harvest the matured fruits of vegetable crops in the morning hours.
- Prepare rice nursery with soil having irrigation facility and good fertility level. It is recommended to treat rice seeds with 3 g of saresan or agrosan or emesan fungicide per 1 kg rice seeds before sowing of nursery. Select the desired rice varieties from early maturing cultivars and late maturing cultivars. Adopt seed rate of 25 to 30 kg per hectare.
- Prepare land and undertake pre monsoon sowing of cotton and groundnut with assured irrigation facilities. For control of stem rot in groundnut 2.5-3 kg Tricodarma with 500 kg castor cake should be applied at the time of sowing in furrow. Also undertake intercultural operation to keep the fields weed free and apply irrigation to these crops.
- After harvesting of summer crops, undertake deep ploughing to prepare the land for *kharif* sowing. This will help for natural control of soil borne pathogens and pest.
- Details of crop varieties are mentioned in Annexure I.

Animal Husbandry

- Make arrangements for shade with proper ventilation to protect the animals from sunlight and temperature.

Poultry

- Put curtains on west direction in poultry shed and spray water on them during noon hours to avoid heat stress.

Rajasthan

- **Major Standing Crops:** vegetable crops (flowering / fruiting / harvesting). Sowing of crops like groundnut and transplanting of chilli is in progress.
- As there was no significant rain during last few weeks and no significant rainfall is expected during next five days over the State, apply light and frequent irrigation to the crops.
- Undertake intercultural operations to conserve moisture in bajra, jowar, sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Pali, Barmer, Churu, Jalore and Jodhpur.
- Undertake field preparation for sowing of groundnut and cucurbits in Bhiwara, Chittorgarh, Sirohi and Udaipur.
- Complete sowing of groundnut in Bikaner and Jaisalmer, cotton in Sriganganagar and Hanumangarh and transplanting of chilli in Bhiwara, Chittorgarh, Sirohi and Udaipur.
- Undertake sowing of chili and Shimla Mirchi.
- Details of varieties are given in Annexure I.

Plant Protection: Weather conditions are favourable for mild incidences of –

- mango hopper in mango tree at flowering stage in Ajmer, Dausa, Jaipur and Tonk districts, spray Malathion 50 EC @ 1.0 ml or Endosulfan 35 EC @ 1.5 ml per litre water.
- powdery mildew in mango and vegetables in Banswara, spray Karathane @ 1 ml or Sulphur Fungicide @ 2.5 g / litre of water.
- fruit borer in tomato, brinjal and bhindi in Banswara, spray Endosulphan @ 2 ml per litre of water.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Major Standing Crops:** Sugarcane (cane development), cotton (boll development/maturity) and vegetable crops (vegetative).
- Arrange seeds and other inputs to undertake sowing of *kharif* crops like paddy, maize, jowar and soybean as soon as monsoon arrives over the state.
- As there was no significant rain during last few weeks and mainly dry weather is likely to prevail in the next five days over the State, apply irrigation to the crops.
- Undertake planting of sugarcane in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Details of varieties are given in Annexure I.
- Undertake intercultural operations to conserve moisture in early sown sorghum, jowar, sunflower and vegetables like ladies finger, cow-pea, tomato, brinjal, chilli and cucurbitaceous crops in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- **Animal Husbandry:** To control ticks and mite in cattle, sheep and goat, apply butox / deltox @ 4 ml / litre of water on the body in Jhabua and Dhar districts.
- **Plant Protection:** Weather conditions are favourable for-
- fruit fly in okra in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts, spray trizophos crops in open weather conditions @ 1.5 ml per liter.
- fruit fly in bhindi, tomato, beetle guard, cucurbit in Tikamgarh, Chattarpur and Datia, spray Malethyon 50 EC 1 ml or Trijophos 40 EC 1.5 ml per litre of water.

Chattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), vegetables (flowering / fruiting / harvesting), irrigated maize (early vegetative / vegetative), *kharif* rice (nursery sowing).
- As there was no significant rain during last few weeks over the State and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops. Farmers, who have drip irrigation system, are also advised to regulate the discharge rate of the system for proper water management.
- Due to dry conditions, evaporation rate increases upto 11 mm/day. So farmers are advised to irrigate the fields to overcome stress conditions.
- Wherever irrigation facilities are available, farmers are advised to irrigate the fields and undertake nursery sowing of rice in June. In view of higher temperatures and possibility of late onset of monsoon farmers are advised to maintain proper moisture level in nurseries to avoid water stress conditions during initial phase of the crop.
- As the *kharif* season is approaching, farmers are advised to ensure the arrangement of inputs like seed fertilizers etc., before the onset of monsoon. Farmers are also advised to use certified seeds of improved / high yielding varieties for sowing of *kharif* crops for higher production.
- After harvesting of rice, sunflower, groundnut etc., deep ploughing is advised wherever sufficient moisture is available in the fields. It will help in effective pest / weed management for the coming *kharif* crops due to soil solarisation.

Annexure I

Crop varieties

Uttarakhand

- **Rice:** Saket-4, Govind, Narendra-80, Pusa 2-21, scented varieties like Pant Sugandh-15, Tarawadi Basmati, Pusa Basmati-1, Type-3, Basmati-370
- **Ragi:** VL- Mandua-124 and VL-149, VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VL- Mandua-146
- **Bhindi:** VL Bhindi-1
- **Maize:** Ganga-2, Gannga-5, Pusa Hybrid-1, Pusa Hybrid-2 and Composite varieties like Gaurav, Amar and Surya.
- **Soyabean:** Brag, PK-262, VL Soya-2, VL Soya 21, VL Soya-47 etc.

Punjab

- **Rice:** PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115, Pb Mehak, Pb Basmati No 2, Pusa Basmati no 1, Pusa 1121, Sper Basmati
- **Bhindi :** Punjab-8 and Punjab-7

Haryana

- **Cotton:** desi cotton varieties: HD 107, HD 123 and AAH 1, american cotton with varieties: HS6 & H1117.
- **Rice:** PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115 etc.
- **Guar :** HG 365 and HG 563.

Delhi

- **Cauliflower:** Pusa Megha and Pusa Kranti Sankar.
- **Beans:** Pusa Beans -3.
- **Cluster bean:** Pusa Sadabahar and Pusa Navbahar.
- **Rice:** Pusa Basmati 1, Pusa Sugandh 2 & 3.
- **Jowar:** PC-9

Uttar Pradesh

- **Rice :** Aswani, Manhar, Saket-4, Govind, Narendra-118, Narendra-97

J & K

- **Maize:** GS-2, Vijay, Mansar, C-5 and C-8.

Bihar

- **Rice:** Rajshree, Santosh, Kanak, Rajendra Mansuri, Kishori, Nata mansuri, BPT 5204, Satyam Pankas, Nata Mansuri and Swarna (MTU 7029), Turanta, & Pravat
- **Maize :** Suwan, Deoki, Shaktiman 3 and 4, Ganga Safad -2, Ganga-11.

Jharkhand

- **Ginger:** Reo-de-genero, Nadia, China, Samastipur, Suprava, Suruchi
- **Turmeric:** Suravi, Rajendar, Roma

Orissa

- **Jute:** JRC-212, JRC-321, JRC-9442, JRC-4444. KC-1, For up land: JRD-632, JRD-878, JRD-5204
- **Rice:** Early varieties: Parijat, Khandagiri, Vandana, Jogesh, Siddant, Medium varieties: MTU-1001, MTU1010, Pratikshya, Tapaswini, Konark, Surendra, Lalata, Kharavela, Naveen, Surendra, Late varieties: CR-1009, CR-1018, Ranidhan, Swarna, RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu.
- **Arhar:** Early duration: Prabhat, Upas-120, ICPL-86012, Medium duration: Asha, Visakha, Late duration – D-11, Pusa-9, Bahar.

- **Ginger** : Suprava, Suravi, Suruchi
- **Turmeric**: Ranga, Rashmi, Rama, Surama
- **Colocasia**: Pallabi, Rashmi, Satamukhi and
- **Elephant foot yam** : Gajendra, M-15, Santaragachhi

West Bengal

- **Aman rice**: IET-4094, 2233, Ratna, Bikash, Kshitish, Sasyashree, IR-42, Swarna, Mashuri, IET-8002 etc.
- **Pigeon pea**: Sweta, Churni etc.

Assam

- **Transplanted *ahu* rice**: Lachit, Chilarai, Govind, IR-50, Rachi, Jaya etc.
- **Sali rice**: Mahsuri, Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijaha etc.
- **Arhar**: T-21.

Andhra Pradesh

- **Greengram**: PDM 54, WGG 37, LGG 407, LGG 460, TM 96-2.
- **Greengram (upland)**: ML 267, LGG 450, LGG 460, LGG 407, Pusa 105, PDM 54
- **Blackgram**: LBG 20, T 9, LBG 623, WBG 26.

Karnataka

- **Greengram**: Selection-4 (delayed/Non shattering), China Moong
- **Blackgram**: T-9, TAU-1
- **Tur**: Medium to Long Duration: PT-221,GS-1, ICP-8863 (Maruti), ICPL-87119 (Asha) WRP-1 & Short Duration: ICPL-87 (Pragati), Selection-31 (Zone 2 irrigated areas) GCS-11-39 (Zone-2)
- **Cowpea**: C-152
- **Horsegram**: GPM-6 (accepted to release)
- **Groundnut**: R-2001-3, R-2001-2, R-8808, R-9251, S-206, TMV-2
- **Castor**: 48-1, GCH-4
- **Niger**: No-71 (High yielding), RCR-18
- **Sesame**: E-8, DS-1 (White)
- **Bajra**: ICTP-8203
- **Kharif Sorghum Hyb/ Ver**: CSH-14, CSH-5, CSH-16, CSH-18 and DSV-1, SSV-74
- **Fodder Bajra**: DFB-1, DRBS-2 (Short duration around 50 days)
- **Coriander**: DWD-3
- **Mesta**: AS-73-CP-560, HS-2, HC-583, LGG 407, Pusa 105, PDM 54

Maharashtra

- **Kharif rice**: Karjat 1, 2, 3, 184, Ratnagiri 3, 73, 711, Sahyadri, Bhogavati, Phule Radha, Phule Maval, Pusa in Konkan, Madhya Maharashtra and PKV- Khamanga, PKV-HMT, Sindewahi-1, 5, PKV-Ganesh, Sakoli-8 & Karjat -6 in east Vidarbha.
- **Kharif bajra**: Shraddha, Saboori, Shanti, ICTP-8203.
- **Kharif jowar**: C.S.H-14 to 18,C.S.H -23 ,S.S.V-84, Phule Amruta(RSSV).
- **Kharif groundnut**: SB-11, Phule Pragati, TMV-10, M-13, TAG-24, TG-26, Phule Vyas (JL-220).
- **Kharif tur**: I.C.P.L-87,A.K.T-8811,Vipula, B.S.M.R.-853,B.S.M.R-736.
- **Kharif maize**: Ganga-11, Deccan-105, Trisulata, Pro-311, Bio-9681, Samishra,Dhaval, African tall.
- **Kharif Soybean** : MACS-13, 58, 124, 450, JS-335, PK-1029 & Phule Kalyani for Madhya Maharashtra, PKV 1, TAMS 38 for Vidarbha, MACS 47, 61, 61-2 & Samruddhi for Marathwada.

Gujarat

- **Kharif rice**:
 - **Early maturing cultivars**: Sukhvel-20, GR-3, 4, 6, 7.

- **Late maturing cultivars:** GR-101, 102, 103, 104, Narmada and Masuri.

Rajasthan

- **Groundnut:** TG-37 A, TBG-39, HNG-10, PG-1, GG-20 and Chandra.
- **Narma Cotton:** RS 2013, RS 810, RS 875 and MRT 9.
- **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.

Madhya Pradesh

- **Sugarcane:** Co Jawahar-86141, Co Jawahar-86572, Co Jawahar-86600, Co 86032.

Himachal Pradesh

- **Ageti bhindi:** P-8, Prabhini kranti, Arka anamika.
- **French bean:** Kentucky Wonder.
- **Brinjal:** Arka Nidhi, PPC.
- **Capicum:** California Wonder.
- **Ladies finger:** Harbhajan, Pusa Savani and P-8.
- **Soybean:** Sivalik, Lee, Bragg and Hatrit Soya.
- **Cowpea:** Himachal Lobia-1.