



National Agromet Advisory Service Bulletin

Friday 15th June 2018
(For the period 15th to 20th June 2018)



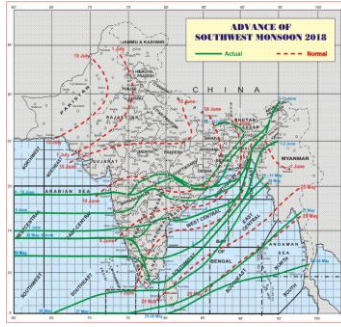
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District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

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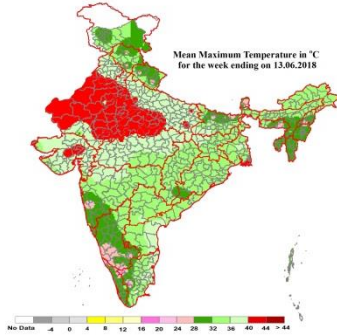
Advance of South West Monsoon



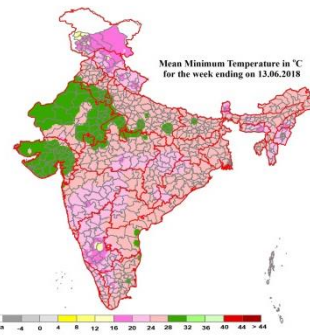
- The Northern Limit of Monsoon (NLM) continues to pass through Lat. 19°N/ Long. 60°E, Lat. 19°N/Long. 70°E, Thane (including Mumbai), Ahmednagar, Buldhana, Amravati, Gondia, Titlagarh, Cuttack, Midnapore, Lat. 24°N/Long. 89°E, Goalpara, Baghdogra and Lat. 27°N/Long. 87°E. Further advance of southwest monsoon is not likely during next one week due to the likely prevalence of weak monsoon pattern.

Spatial distribution of weather parameters for the week ending 13.06.2018

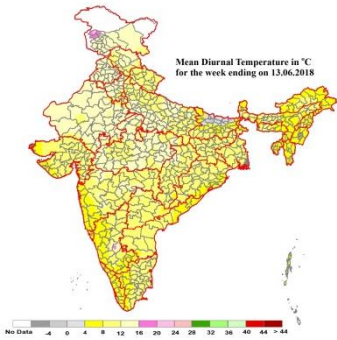
Mean Maximum Temperature (°C) for the week ending 13.06.2018



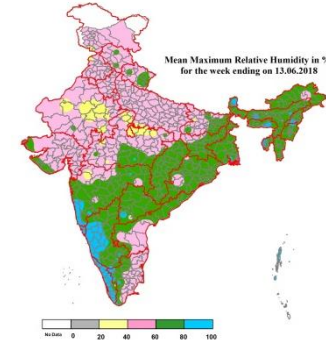
Mean Minimum Temperature (°C) for the week ending 13.06.2018



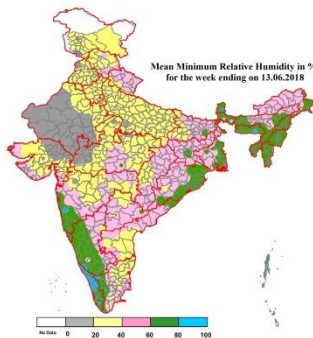
Mean Diurnal Temperature Variation (°C) for the week ending 13.06.2018



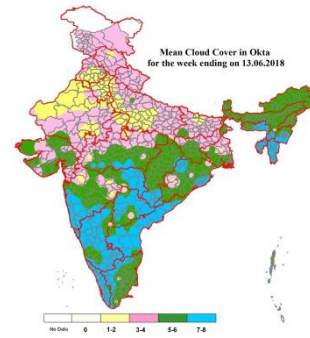
Mean Maximum Relative Humidity (%) for the week ending 13.06.2018



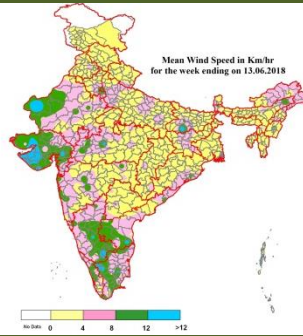
Mean Minimum Relative Humidity (%) for the week ending 13.06.2018



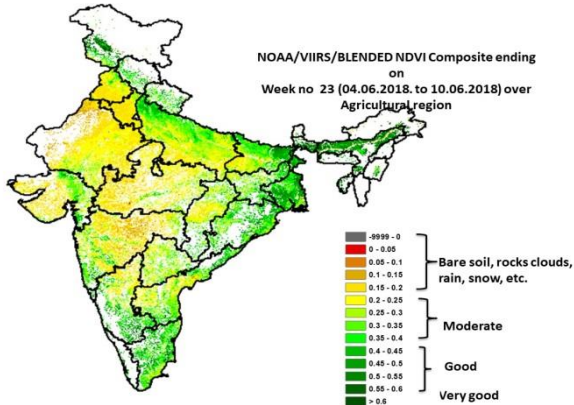
Mean Cloud Cover (okta) for the week ending 13.06.2018



Mean Wind Speed (km/hr) for the week ending 13.06.2018

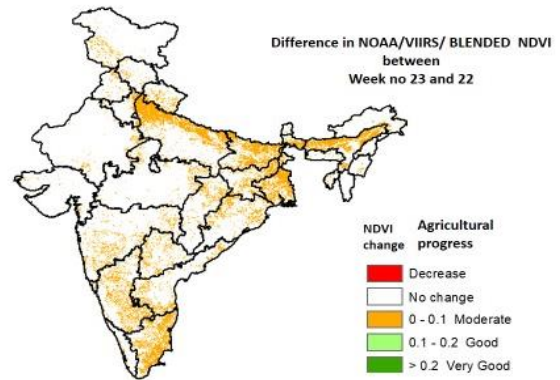


NOAA/VIIRS NDVI composite ending on 10th June 2018 over Agricultural regions of India



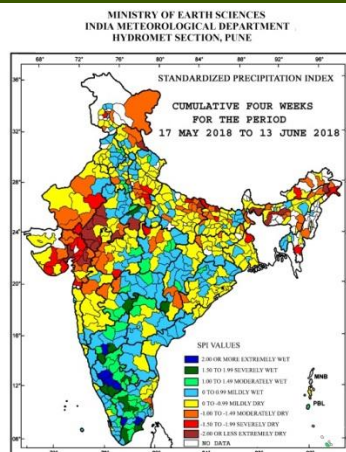
- Agriculture vigour is good over most parts of Jammu & Kashmir, West Bengal and adjoining Assam and few parts of Bihar, moderate over most parts of Tamilnadu and some parts of Uttarakhand, Himachal Pradesh and adjoining Punjab, Uttar Pradesh, Bihar, Coastal Odisha, Coastal Andhra Pradesh, South Interior Karnataka, South Konkan, Madhya Maharashtra and Gujarat.

Difference in NOAA/VIIRS NDVI between 3rd June and 10th June 2018



- Moderate progress of agricultural vigour was observed over many parts of Tamilnadu, Interior Karnataka & adjoining Rayalaseema, Assam, West Bengal, Bihar, few parts of Maharashtra, Odisha, & Telangana and isolated pockets of Madhya Pradesh, Chattisgarh, Jharkhand, Jammu & Kashmir, Uttar Pradesh, Himachal Pradesh and Uttarakhand.

Standardised Precipitation Index Cumulative 4 weeks for the period 17th May to 11th June 2018

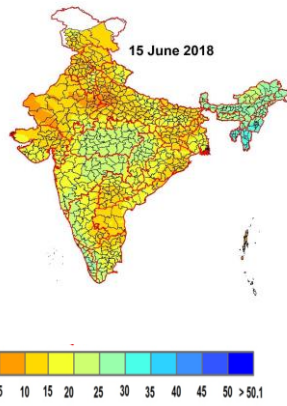


- Extremely/severely wet conditions experienced in few districts of Karnataka; Morena district of Madhya Pradesh; Nanded district of Maharashtra; Bijapur district of Chhattisgarh; Erode, Karur, Ramanathapuram, Sivaganga, Theni, Tirunelveli districts of Tamil Nadu & Puducherry.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; Rajasthan; Gujarat Region; Saurashtra, Kutch & Diu; Goalpara, Kamrup, Tinsukia districts of Assam; West Garo Hills district of Meghalaya; Lunglei district of Mizoram, Cooch Behar, Murshidabad district of West Bengal; West

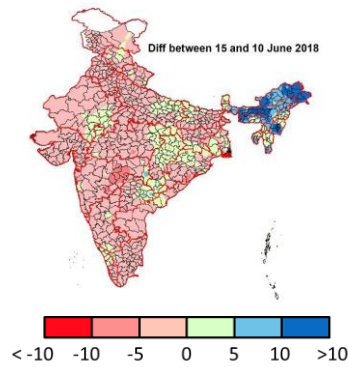
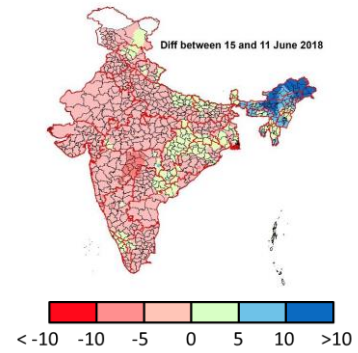
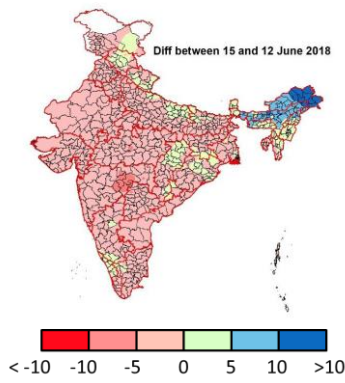
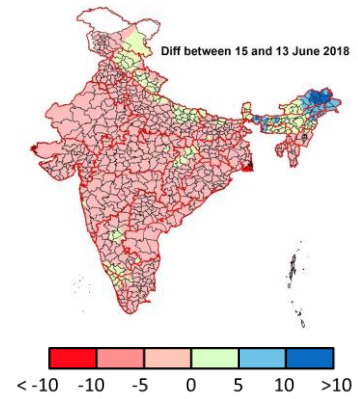
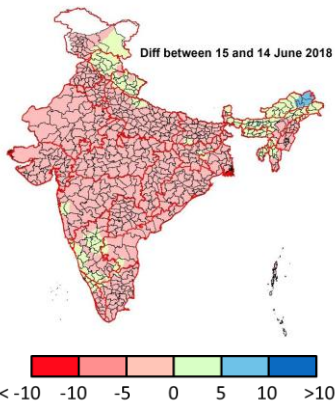
Champan, Sitamarhi, Sheohar, Vaishali districts of Bihar; Kushi Nagar, Siddharth Nagar, Badaun, Etah, Mainpuri districts of Uttar Pradesh; Kinnaur district of Himachal Pradesh; Badgam district of Jammu & Kashmir; Shivpuri, Burhanpur, Tikamgarh districts of Madhya Pradesh; Nagapattinam district of Tamil Nadu & Puducherry.

- Moderately dry conditions experienced in few districts of Arunachal Pradesh; Assam; Delhi; Jammu & Kashmir; Gujarat Region; Saurashtra, Kutch & Diu; Ri-Bhoi district of Meghalaya; North Dinajpur, South Dinajpur districts of West Bengal; Nawarangpur district of Odisha; Garhwa, Koderma, Sahibganj districts of Jharkhand; Buxar, East Champaran, Khagaria, Kishanganj, Saran, Siwan districts of Bihar; Ballia, Deoria, Faizabad, Fatehpur, Gorakhpur, Maharajganj, Sant Kabir Nagar, Aligarh, Bulandshahar, Kanshiram Nagar, Etawah, Mahamaya Nagar districts of Uttar Pradesh; Bhiwani district of Haryana; Kullu, Lahaul & Spiti districts of Himachal Pradesh; Barmer, Bikaner, Jalore, Pali, Baran districts of Rajasthan; Dhar, Indore, Jhabua, Ratlam, Alirajpur, Damoh, Panna districts of Madhya Pradesh; Nashik, Aurangabad, Buldhana districts of Maharashtra; Bastar, Kanker districts of Chhattisgarh; Cuddalore district of Tamil Nadu & Puducherry.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

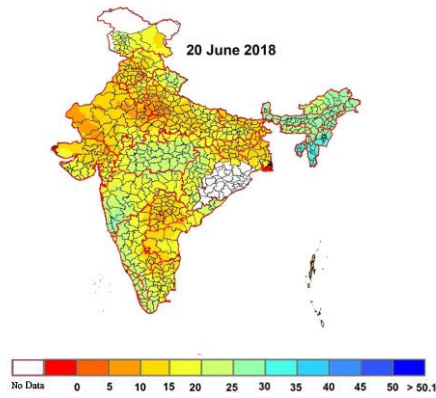
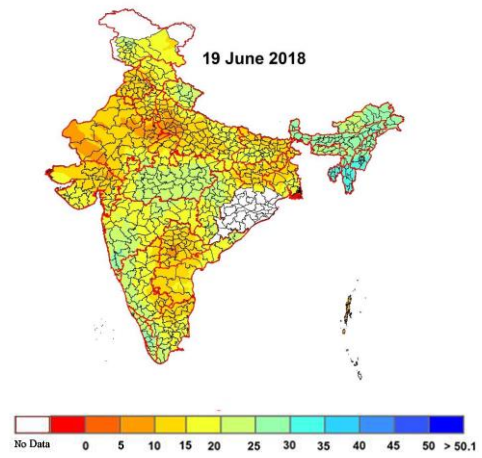
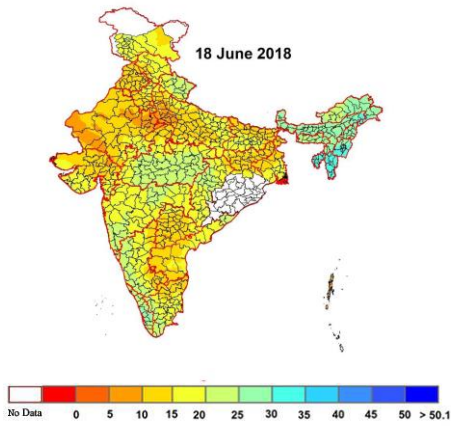
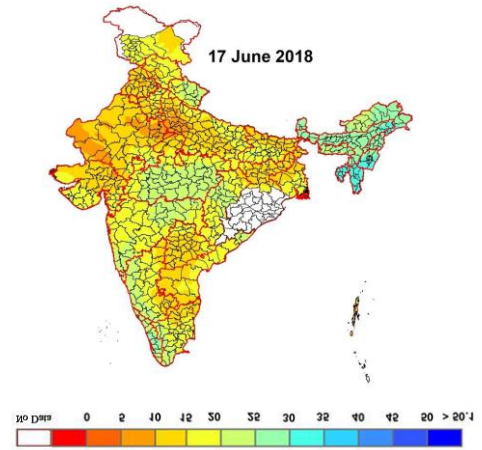
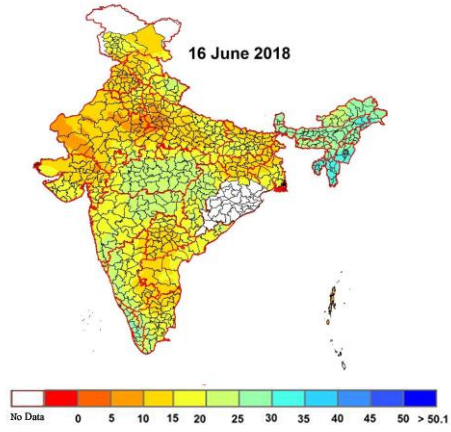
Daily Soil Moisture (mm) for 15th June 2018 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 16th June to 20th June 2018 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 20th June 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- Day maximum temperatures are very likely to rise by 2-3°C over eastern parts of India during next 2-3 days.
- They are likely to continue in the range of 40-42°C over parts of northwest and adjoining central India during next 2 days.

5 Day Rainfall Forecast (Mid day) 15th June 2018

Met-Sub-Division	15-Jun Today	16Jun Sat	17Jun Sun	18Jun Mon	19Jun Tue
1. Andaman & Nicobar Islands	FWS	WS	WS	WS	WS
2. Arunachal Pradesh	WS	WS	FWS	FWS	FWS
3. Assam & Meghalaya	WS	WS	FWS	FWS	WS
4. N. M. M. & T.	WS	FWS	FWS	FWS	FWS
5. S.H. West Bengal & Sikkim	FWS	FWS	FWS	FWS	FWS
6. Gangetic West Bengal	ISOL	ISOL	ISOL	ISOL	ISOL
7. Odisha	ISOL	ISOL	ISOL	ISOL	ISOL
8. Jharkhand	ISOL	SCT	ISOL	SCT	ISOL
9. Bihar	ISOL	SCT	ISOL	ISOL	ISOL
10. East Uttar Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
11. West Uttar Pradesh	ISOL	ISOL	SCT	ISOL	ISOL
12. Uttarakhand	WS	WS	WS	SCT	ISOL
13. Haryana, Chd & Delhi	ISOL	ISOL	SCT	SCT	ISOL
14. Punjab	ISOL	SCT	SCT	SCT	ISOL
15. Himachal Pradesh	FWS	FWS	SCT	SCT	ISOL
16. Jammu & Kashmir	FWS	FWS	SCT	SCT	ISOL
17. West Rajsthan	DRY	ISOL	ISOL	DRY	DRY
18. East Rajasthan	DRY	ISOL	ISOL	DRY	ISOL
19. West Madhya Pradesh	DRY	DRY	DRY	ISOL	ISOL
20. East Madhya Pradesh	DRY	DRY	DRY	ISOL	ISOL
21. Gujarat Region	ISOL	ISOL	ISOL	ISOL	ISOL
22. Saurashtra & Kutch	ISOL	ISOL	ISOL	ISOL	ISOL
23. Konkan & Goa	FWS	WS	WS	WS	WS
24. Madhya Maharashtra	ISOL	ISOL	ISOL	SCT	SCT
25. Marathawada	DRY	ISOL	SCT	SCT	SCT
26. Vidharbha	DRY	DRY	ISOL	ISOL	ISOL
27. Chhattisgarh	DRY	ISOL	ISOL	ISOL	ISOL
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
29. Telangana	DRY	ISOL	ISOL	ISOL	SCT
30. Rayalaseema	ISOL	ISOL	ISOL	ISOL	ISOL
31. Tamilnadu & Puducherry	ISOL	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	WS	WS	WS	WS	WS
33. North Interior Karnataka	ISOL	ISOL	ISOL	SCT	FWS
34. South Interior Karnataka	FWS	SCT	SCT	SCT	FWS
35. Kerala	WS	WS	WS	WS	WS
36. Lakshadweep	WS	WS	FWS	FWS	FWS

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- **15 June (Day 1):** Heavy to very heavy rain at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya, Coastal & South Interior Karnataka and Kerala and heavy rain at isolated places over SubHimalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Uttarakhand, and Tamilnadu. Thunderstorm accompanied with squall very likely at isolated places over Jammu division and Himachal Pradesh. Thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Uttarkhand, Punjab, Haryana, Chandigarh & Delhi, Bihar, and Interior Tamilnadu. Duststorm/Thunderstorm very likely at isolated places over West Uttar Pradesh. Duststorm very likely at isolated places over Rajasthan. Sea conditions are likely to be rough to very rough along and off Karnataka, Kerala coasts, Tamilnadu Coast, Lakshadweep coast, Odisha West Bengal Coasts and Andaman & Nicobar Islands. Fishermen are advised not to venture into these areas.
- **16 June (Day 2):** Heavy to very heavy rain at isolated places very likely over Coastal Karnataka and Kerala;

heavy rain at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Uttarakhand, Konkan & Goa and South Interior Karnataka. Thunderstorm accompanied with squall very likely at isolated places over Jammu division, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh. Thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Uttarakhand, East Uttar Pradesh, Bihar and Interior Tamilnadu. Duststorm/Thunderstorm likely at isolated places over Rajasthan.

- **17 June (Day 3):** Heavy rain at a few places with very heavy rain at isolated places very likely over Konkan & Goa and heavy rain at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Coastal Karnataka and Kerala. Thunderstorm accompanied with squall likely at isolated places over Himachal Pradesh, Haryana, Chandigarh & Delhi, West Uttar Pradesh and Punjab. Thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Jammu & Kashmir and East Uttar Pradesh. Duststorm/Thunderstorm likely at isolated places over Rajasthan.
- **18 June (Day 4):** Heavy to very heavy rain at isolated places likely over South Konkan & Goa and Coastal Karnataka and heavy rain at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Madhya Maharashtra and Kerala. Thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Jammu & Kashmir and Himachal Pradesh.
- **19 June (Day 5):** Heavy rain at a few places with very heavy rain at isolated places likely over Coastal Karnataka; heavy to very heavy rain at isolated places likely over south Konkan & Goa, South Interior Karnataka and Kerala and heavy rain at isolated places over Assam & Meghalaya and North Interior Karnataka and Madhya Maharashtra.

Weather Outlook for subsequent 2 days from 20th to 22nd June 2018

- Widespread rainfall with isolated heavy falls likely along the west coast and northeastern states.
- Fairly wide spread to widespread rainfall likely over Andaman & Nicobar Islands, Isolated to scattered rainfall is likely over Northwest India, Western Himalayan region and south peninsula and isolated rainfall over central India and northern plains.

Salient Advisories

- Continue transplanting of *Viruppu* rice in **Kerala**. Continue nursery sowing for *Sali* rice in **Assam**, sowing of normal sown WRC in **Meghalaya** and sowing of soybean, groundnut, black gram and rice bean in **Manipur** after the current spells of heavy rain. Undertake ploughing and puddling for transplanting *kharif* rice in **Konkan**. In **Coastal Karnataka**, continue nursery raising of rice after current spells of heavy rain and undertake main field preparation for transplanting of rice. Continue sowing of cow pea, groundnut, green gram and black gram in **South Interior Karnataka**. In **North Interior Karnataka**, undertake sowing of soybean, green gram, black gram (DU-1, DBGV-5), red gram (TS-3R), groundnut (G 2-52, GPBD-4, GPBD -5 (rainfed), HD-86, TAG-24 (irrigated) and maize (Arjun, GH-0727) crops where sufficient rainfall is received. In Andhra Pradesh, continue land preparation for rainfed crops *viz.*, pulses, ragi, groundnut and green manure crops. Keep the seed ready for sowing and take up sowings of rainfed crops after receipt of sufficient rain. In **Telangana**, continue land preparation for sowing of *kharif* crops and undertake sowing of rainfed crops like soybean, jowar, maize, redgram, greengram, cotton etc., after receiving cumulative rainfall of 50-60 mm in light soils and 60-75 mm in heavy soils or the soil should be wet up to 15-20 cm depth. In **Madhya Maharashtra**, complete preparatory tillage operations and undertake sowing of *kharif* crops like cotton, tur and soybean after receipt of sufficient rain. In **Marathwada**, complete preparatory tillage and undertake sowing of *kharif* soybean, sorghum bajra and planting of *adsali* sugarcane after receipt of sufficient rain.
- As further advance of southwest monsoon is not likely during next one week due to the likely prevalence of weak monsoon pattern, undertake preparatory tillage and keep inputs ready for sowing of *kharif* crops in Madhya Pradesh and Chhattisgarh. Undertake land preparation for sowing of direct seeded upland rice, maize, groundnut, pigeon pea, urad and moong in Jharkhand.
- As thunderstorm accompanied with gusty winds and lightning very likely at isolated places over **Interior Tamilnadu** and over **Bihar** on 15th and 16th June, it is advised to provide support to young fruit plants, banana and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds.
- As thunderstorm accompanied with squall very likely at isolated places over **Jammu division** on 15th and 16th, over **Himachal Pradesh** on 15th, 16th and 17th, over **Punjab, Haryana, Chandigarh & Delhi** and **West Uttar Pradesh** on 16th and 17th, thunderstorm accompanied with gusty winds and lightning very likely at isolated places over **Uttarakhand** on 15th and 16th, over **Punjab, Haryana, Chandigarh & Delhi** on 15th, over **East Uttar Pradesh** on 16th and 17th, over **Jammu & Kashmir** on 17th and 18th, over **Himachal Pradesh** on 18th, Duststorm/Thunderstorm very likely at isolated places over **West Uttar Pradesh** on 15th, over **Rajasthan** from 15th to 17th June, provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
- As sea conditions are likely to be rough to very rough along and off **Karnataka, Kerala coasts** and **Tamilnadu Coast** and **Andaman & Nicobar Islands** on 15th June. Fishermen are advised not to venture into these areas.

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala, all districts of Coastal Karnataka, all districts of North Interior Karnataka except Bagalkote, Raichur and Yadgir, in Chikamangaluru, Hasan, Kodagu, Mysuru and Shivamogga districts of South Interior Karnataka, all districts of Coastal Andhra Pradesh except Nellore and Prakasam, in Kurnool district of Rayalaseema, all districts of Telangana except Hyderabad, Mahabubnagar and Vikarabad and in Coimbatore, Kanyakumari, Nilgiris, Puducherry, Theni and Thirunelveli districts of Tamilnadu & Puducherry during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers would occur at most places over Kerala and Coastal Karnataka during the period, at many places over South Interior Karnataka on 15th and 19th, over North Interior Karnataka on 19th, along with heavy rain at a few places with very heavy rain at isolated places likely over Coastal Karnataka on 19th, heavy to very heavy/heavy rain very likely at isolated places over Coastal Karnataka from 15th to 18th, over South Interior Karnataka on 15th, 16th and 19th, over Kerala during the period, heavy rain at isolated places very likely over Interior Tamil Nadu on 15th, over North Interior Karnataka on 19th June, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - As thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Interior Tamilnadu on 15th and 16th June, it is advised to provide support to young fruit plants, banana and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - As sea conditions are likely to be rough to very rough along and off Karnataka, Kerala coasts and Tamilnadu Coast on 15th June. Fishermen are advised not to venture into these areas.
 - **Kerala:**
 - Continue transplanting of Viruppu rice and planting of vegetables. Continue planting of coconut saplings, ginger and turmeric. Farmers may intercrop with Colaccasia, Banana, Ginger and Turmeric in coconut gardens. Undertake planting of seedlings of cucurbits like bittergourd, snakegourd at 4-5 leaf stage. Undertake main field planting of cardamom. Fix rain guard for rubber trees during the month.
 - Sigatoka leaf spot disease in banana may become severe due to increase in relative humidity. Spray 1% Bordeaux mixture or Tilt 25 EC (1ml/litre of water) after cutting the severely affected leaves and burning them after current spell of rain. For sucking pests in vegetable crops, spray Pride @ 2.5 g/10 litres of water or Rogor @ 1.5ml/litre of water at initial stage and neem based pesticides @ 4-5 ml/litre of water or tobacco decoction or neem soap @ 5-10 g/litre of water at later stage. Leaf rust disease in coffee plants may become severe due to increase in relative humidity. Apply 0.5% Bordeaux mixture or plant wax 20 EC @ 1-2 ml per litre of water to control the disease. Undertake plant protection measures after current spells of rain.
 - **Andhra Pradesh:**
 - Rainfed sugarcane can be planted by utilizing the realized rainfall. Treat the setts with 10 % lime solution. Take up land preparation for rainfed crops viz., pulses, ragi, groundnut and green manure crops. Keep the seed ready for sowing and take up sowings of rainfed crops after receipt of sufficient rain. Seed treatment should be followed with Mancozeb @ 3 g/ kg seed. Choose high yielding varieties like K 6, K 9, Dharani, Kadiri, Chitravani and Amaravathi for groundnut and LRG 41, PRG 176 and LRG 52 varieties for redgram. Take up timely sowings of early maturing cotton varieties so that the cotton bolls mature before the heavy population of pink bollworm builds up.
 - The present weather conditions are highly favorable for occurrence of fruit fly in mango orchards. To control erect plastic trays with 2 ml Methyl Eugenol and 3 g Carbofuran 3G granules mixed with 1 litre of water in mango orchards.
 - **Telangana:**
 - In view of the forecast for weak monsoon during the week, take up sowing of rainfed crops like Soybean, Jowar, Maize, Redgram, Greengram, Cotton, etc. only after receiving cumulative rainfall of 50-60 mm in light soils and 60-75 mm in heavy soils or if the soil is wet up to 15-20 cm depth. Take-up sowing of Sunhemp and Dhaincha as in-situ green manure crop preceding rice. Do not start paddy nurseries of Telangana Sona (RNR 15048) rice in the month of June. Take-up nursery sowing of Tomato, Brinjal and Chilli. Take-up direct sowing of Gourds, Beans and Bhendi wherever irrigation facility is available.
 - For control of incidence of sucking pests in vegetables, spray Dimethoate @ 2 ml or Acephate @ 1.5 g per litre of water.
 - **Tamil Nadu:**
 - This is the suitable time for sowing rice in nursery for kuruvai season. Use rice varieties, viz., ADT 36, ADT 43, ADT 45 and ADT 47 suitable for kuruvai season. By utilizing received rainfall in command areas where rice is grown during August, green manure crops like daincha or sunnhemp may be grown and insitu ploughed

@ 45 days after sowing. Start field preparation for rain-fed tomato crop. Provide staking to 5 months old banana and sugarcane crops.

- In summer irrigated black gram, occurrence of white fly is being noticed. To control this spray Azadirachtin 0.03% @ 3 ml/litre of water along with sticking agent in the morning or evening using hand sprayer. If damage is more, spray Imidacloprid 200 SL @ 40 ml/ acre using water @ 200 litre/ acre. To control the incidence of sucking pest in the vegetable crops spray neem seed kernel extract 5%. Spray Monocrotophos 36 SL 1000ml/ha (or) Quinalphos 25 EC1000 ml/ha (or) Phosphamidon 40 SL 600 ml/ha (or) Profenophos 50 EC 1000 ml/ha for incidence of stem borer in paddy.

- **Karnataka:**

- In Coastal Karnataka, drain out excess water from crop fields. Continue nursery raising of rice after spells of heavy rain; undertake main field preparation for transplanting of rice. Transfer strong and better arecanut seedlings from primary seed bed to secondary seed bed. Apply basal dose of fertilizer to plantation crops after current spells of heavy rain.
- In South Interior Karnataka, as heavy rainfall is expected, avoid harvesting of rice and ragi. In areas where sufficient rainfall is received, under double cropping, continue sowing of cowpea (TVX-944, KBC-1, TVC-152), green gram (PS-16, PDM-84,178, KKM-3), black gram (Karagao-3, T-9, Rashmi (LBG-625), horse gram, field bean (HA 1, 2, 3 & 4), ragi (Indaf -9, ML-365), sesamum (Navile-1, T-7), groundnut (TMV-2, JL-24, KCG-6), onion (ArkaKalyan, Bhima Super, Bellary Red & Satara Local), maize (Hema Shree, Nitya Shree) and under mono cropping sowing of long duration crops like red gram (TTB-7, BRG-1,2,4,5,7), castor (DCS-9 (Jyothi), DCH-177 & 32), cotton (Bt cotton-Bollgard-I&II). Intercropping of groundnut + red gram in 8:2 proportion and groundnut+ castor in 8:2 proportion is suggested for good income. Drain out excess water from (chikkamangaluru, Hassan, Shivamogga districts) standing crop fields.
- In North Interior Karnataka, in areas where soil moisture condition is favorable for sowing, undertake sowing of soybean (JS-335, Dsb-21, JS-93-05), green gram (BGS-9, DGGV-2, S-4, PusaBaisaki), black gram (DU-1, DBGV-5), red gram (TS-3R), groundnut (G 2-52, GPBD-4, GPBD -5 (rainfed), HD-86, TAG-24 (irrigated), cotton and maize (Arjun, GH-0727) crops. Continue fresh plantation of fruit trees, teak, neem or other trees on the bunds, uncultivated and marginal land which are useful to prepare the agricultural implements.
- In South Interior Karnataka, due to cloudy weather, there is chance of blast infestation in rice nursery; to manage, spray fungicide Tricyclozoal @ 0.6 gm/litre of water on a non-rainy day.

- **Animal Husbandry**

- In Telangana, prevailing weather conditions are congenial for the occurrence of sheep pox disease in sheep and goat and Foot and mouth disease in cattle and Buffaloes. To prevent the diseases, vaccinate the animals. To protect the poultry birds from high temperature, arrange fans and foggers in sheds, cover the sheds with paddy straw and arrange sprinklers. Feed with wet mash to increase the feed intake and provide cool water for drinking. Vaccinate birds against Ranikhet disease.
- In Kerala, take extra care for wound healing in cattle. Apply fly repellents (CAADECCS, KVASU, Mannuthy) around the wound.
- In Tamil Nadu, feed the dairy cattle early in the morning and late in the evening along with mineral mixture to avoid heat stress. For every 100 poultry birds, add 10-20 ml of B-complex or liver tonic to the drinking water to reduce heat stress. Feed the calves with 30 gms of mineral mixture per day. Also, de-worm calves as per regular schedule with the support of nearby veterinarian.
- In Karnataka, maintain proper ventilation for free circulation of air in the sheds. Vaccinate the livestock for Black Quarter and foot and mouth diseases. Carry out deworming of animals.

- **Agro Forestry**

- Agro forestry on the bund involving Melia Dubia (Hebbevu), Silver oak and agase, halubevu, glyceridia is recommended for sustainable income under abnormal extreme rainfall events.

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

- **Realised Rainfall:** Rainfall occurred in Kurung Kumey, Papumpare, Tirap and West Kameng districts of Arunachal Pradesh, all districts of Assam except Darrang, Dhemaji and Tinsukia, in East Khasi, Ribhoi, West Garo and West Khasi districts of Meghalaya, Aizawl, Lunglei and Serchip districts of Mizoram, Chudachandrapur, Imphal East, Imphal West, Senapati and Thoubal districts of Manipur, Dimapur and Kohima districts of Nagaland and in all districts of Tripura during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers would occur at most/many places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during the period, along with heavy to very heavy/heavy rain at isolated places very likely over Arunachal Pradesh on 15th and 16th, over Assam & Meghalaya during the period, heavy rain at isolated places over Nagaland, Manipur, Mizoram & Tripura on 15th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing

crops. Provide adequate drainage in standing crop fields to avoid water stagnation.

▪ **Arunachal Pradesh:**

- Provide proper drainage facility in the fields of Jhum rice, vegetables, ginger and turmeric crops. Continue sowing of larger cardamom in primary nursery bed at 2 cm depth & 10 cm. Continue harvesting mature cobs of maize.
- Apply foliar spray of Azadirachtin 0.15% EC 2@ 6ml/litre of water against leaf eating insects in vegetable crops at vegetative stage after current spells of rain. Spray Triazophos 40EC @ 4 ml/lit against stem borer in rice nursery as well as in main field after current spells of rain.

▪ **Assam:**

- Carry out field preparation for early cauliflower. Continue land preparation /nursery sowing of well germinated seeds of high yielding Sali rice varieties such as Ranjit, Bahadur, Kushal, Maniram, Mahsuri, Keteki, Joha, etc. in typical lowland areas and medium duration varieties like Satya and Basundhara in medium lowland areas. Continue land preparation/sowing of groundnut varieties like TG-1A, JL-24, etc. Continue sowing of maize with seeds (2.5-3.0 Kg/bigha) of normal hybrids like Ganga 11, Deccan 107, Deccan 109, Vivek 9; Quality Protein Hybrid like HQPM-1; normal Composite variety like NLD, Parbhat, Novjot, Pusa Comp 1 & 2 and Quality Protein composite like Shakti-1 . Continue planting of pineapple and papaya. Undertake sowing/planting of crops after current spells of heavy rain.
- Continue planting black pepper cuttings varieties Panniyur-1 (hybrid), Kalluvalli, Balankotta, Karimunda, Kottandam, Arkulam Munda etc. Provide proper drainage in jute field and carry out thinning 3-4 weeks after emergence.
- Spray Carbendazim @1gm per litre of water to control blast disease in Sali paddy seedlings after the current spells of rain. Spray Phosphamidon @ 400-500 ml per acre in 800 litres of water for stem borer in sugarcane after the current spells of rain. For effective control of Gundhi bug, apply 5% Malathion dust @ 20 kg per ha of land after current spells of rain. Powdery mildew attack may be seen in bitter gourd, ash gourd and bottle gourd crops. Spray Bavistin @ 0.1% to control the disease after the current spells of rain.

▪ **Meghalaya:**

- Prepare raised nursery bed of size 10m (length) × 1.25m (width) × 10cm (height) with 20-30cm wide channel between the two seed beds for lowland Sali/kharif rice HYVs like Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri, etc. Carry out field preparation for upland kharif rice. Provide support of bamboo structure for climbers of bottle/ash gourd.and carry out weeding & earthing up operations. Continue sowing of okra seeds on raised bed at spacing 45x30cm. Undertake sowing/planting of crops after current spells of heavy rain.
- Use bamboo sticks for staking in French bean, cow pea and cucurbit crops.
- Spray Rogor@1ml/litre of water to control pest in cucurbits after current spells of rain.

▪ **Manipur:**

- Continue land preparation and sowing of soybean, groundnut, black gram and rice bean after current spells of heavy rain. Maintain optimum water depth of 5-8cm in the pre-kharif rice field. Continue land preparation/seed collection for nursery raising of kharif rice varieties RC Maniphou-7, RC Maniphou- 10 and RC Maniphou- 13. Provide staking to cucurbitous crops and undertake timely harvesting. Harvest mature fruits of tomato in clear weather.
- For sheath blight/sheath rot in pre-kharif rice, apply Propiconazole @ 15ml/ 15 litres water after current spells of rain. To prevent Leaf Spot disease in ginger and turmeric at vegetative stage, apply Bordeaux mixture (5:5:50) after 4 – 5 weeks of sowing or Captan @ 1.5 g/litre of water after current spells of rain.

▪ **Mizoram:**

- Carry out land preparation for sowing kharif pulses like green gram, black gram and rajma. Carry out earthing up in Jhum rice, chilli, cowpea, okra and maize fields on a non rainy day. Undertake planting of ginger and turmeric crops after treating rhizomes with Thiram @ 4 g per kg seeds. Apply irrigation to coffee plants every alternate day as it will help improve fruit retention, fruit development and the fruit quality.
- In cucurbitous crops, apply Carbaryl 0.2 per cent or Malathion 0.15 per cent suspension containing sugar or jaggery at 10 g/litre of water at fortnightly intervals at flowering and fruit initiation against fruit fly and pumpkin beetle after current spells of rain.

▪ **Tripura:**

- Continue sowing of groundnut (varieties are TAG 24, TG 37A, ICGS 76 etc.) and maize (varieties DMH- 849, 117, HQPM 1, BQPM 9, etc.). Maintain 2-3 cm of water level in Aus rice field.
- In case of attack of shoot borer in mango, find the hole and put kerosene into the hole and plug the hole with mud.

▪ **Nagaland:**

- Undertake nursery preparation for sowing of low-land paddy. Undertake weeding/earthing up in maize and green gram crops after current spells of rain. Maintain proper drainage in ginger field.
- Monitor cucurbit plants against red pumpkin beetle especially in bottle gourd, pumpkin, cucumber, water

melon etc. Mechanically collect and destroy the pest if incidence is low. Remove infested okra and brinjal fruits and shoots regularly and destroy them.

- **Animal Husbandry**

- Due to gradual increase in air temperature animals may get exposed to heat stress. Provide them adequate drinking water and green fodder. Provide vitamin B complex @ 7ml/litre in drinking water daily in broiler for healthy growth.
- De-worm pigs and cattle with anti helminthic drugs such as Fento Plus @ 1 tablet per 30 kg body weight. Vaccinate pigs against FMD & swine fever and cattle/sheep/goat against FMD, Hemorrhagic Septicaemia, Black Quarter. Vaccinate poultry birds against coccidiosis, Ranikhet and Gamboro diseases. Vaccinate all newly born piglets against swine fever at the age of 3 months followed by annual booster dose. Vaccinate 6-9 months old calves with Brucella Abortus cotton strain-19 @ 5ml subcutaneous on the neck.

- **Fishery**

Prepare the fingerling rearing tanks and nurseries by cleaning them and applying agricultural lime at the rate of 65-70 gm per sq.m for raising fingerlings. Apply cowdung at the rate of 500 gm per sq m at least 15 days ahead of releasing fingerlings into the tanks. Broadcast mustard Oil Cake (MOC) @5kg/day over the pond twice daily to feed fish fingerlings. Feed common carp brooders with protein rich diet for proper maturation of eggs. Use Eichornia or plastic mob for common carp to lay eggs.

EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman and Nicobar Islands, all districts of Odisha except Angul, Khurda, Koraput, Nawarangpur, Nayagarh and Raygada, in Begusarai,, Bhagalpur, Darbhanga, Katihar, Kishanganj, Lakhisarai, Madhepura, Madhubani, Muzaffarpur, Purnea, Rohtas, Saharsha and Samastipur districts of Bihar, Bokaro, Dhanbad, East Singhbhum, Giridih, Godda, Hazaribagh, Lohardagga, Simdega and West Singhbhum districts of Jharkhand, all districts of Gangetic West Bengal except Murshidabad and Nadia and in all districts of Sub-Himalayan West Bengal except Malda during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - Sea condition is likely to be rough to very rough along and off Andaman & Nicobar Islands on 15th June. Fishermen are advised not to venture into these areas.
 - As thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Bihar on 15th & 16th June, it is advised to provide support to young fruit plants, banana and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds.
 - As rain/thundershowers very likely at most/many places over Andaman & Nicobar islands and over Sub-Himalayan West Bengal & Sikkim during the period, along with heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim on 15th to 18th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Sub-Himalayan West Bengal & Sikkim to avoid water stagnation.
 - **Odisha:**
 - Complete land preparation for sowing of non-paddy crops like pulses, oilseeds and kharif vegetables in up land so that sowing can be made immediately after the revival of monsoon.
 - Complete dry seeding of paddy in medium land. Before sowing treat the seeds with 3 g Thiram or 1.5 g Topsin-M/kg seeds. Use 20 kg seeds per acre for line sowing and 25 kg for broadcasting. Apply all the recommended dose of fertilizer as basal in upland, while 50% N and all P& K as basal in medium and low land. Wait for nursery sowing of paddy in dry bed to 4th week of this month as the monsoon will be expected to be active in last week of June.
 - Continue sowing of green manuring crops like Dhaincha and sunhemp. Green manure crops are sown in medium and low land condition at 6-8 weeks before transplanting of rice. Use 10 kg seeds per acre. Sowing time should be adjusted in such a way that the crop will attain 5-week stage just at 7 days before transplanting. Undertake field preparation and keep inputs ready for kharif sowing.
 - **Bihar:**
 - Farmers are advised to start seed bed preparation for nursery raising of long duration and medium paddy varieties. Long duration varieties like Rajshree, Rajendra Mansuri, MTU 7029, Suwrna Sub-1, Aries 6444 and medium duration varieties like Kanak, Sita, Rajendra Sweta, BPT 5204, MTU- 1001 are recommended for this area. Method for preparation of nursery bed – Well treated and sprouted rice seed is used. For sprouting and treating, the seed is wetted for 12 hours in a jute bag treated with 2g/kg of Carbendazim 50 WP. Spread the treated rice seed over hard surface covered with wetted jute bag. Sprinkle water 2-3 times during daytime. Seed starts sprouting after 24 hours and can be broadcasted in puddled area for raising rice seedlings.

- Undertake sowing of maize varieties Devki, Suwan, Shaktimaan-1, Shaktimaan-2, Rajendra shanker makka-3 and Ganga 11. Application of 100 quintal of FYM, 30 kg Nitrogen, 60 kg Phosphorus and 50 kg potash per hectare is advised before sowing. Continue preparation of nursery for Kharif onion, chilli and brinjal.
- Monitoring is advised for infestation of fruit borer in tomato crop. If infestation of fruit borer is found, installation of bird perches in tomato crop is advised. Hand picking of damaged fruit and burying are also advised. Spraying of Spinosad 48EC @ 1ml/4 litres of water, if pest population reaches ETL.
- **Jharkhand:**
- Undertake land preparation for sowing of direct seeded upland rice, maize, groundnut, pigeon pea, urdbean and moong. Sowing of rainy season vegetables may be carrying out after receipt of rainfall. To increase the fertility of Rice field, farmers may sow the green manure crops like Sunhemp and Dhaincha. The seed rate for both is 20-25 kg per acre.
- In Central and North eastern Plateau Zone, undertake land preparation for sowing of sesame and soybean (vari. Birsa Soya bean-1, Birsa safed soya bean etc) before sowing treat the seed with Thiram, Captain or Carbendazime.
- For plantation of different fruit seedlings and prepare/dig the pit and maintain the distance between pit as per requirement of fruit tree.
- **West Bengal:**
- In the Sub-Himalayan West Bengal, provide proper drainage facility in soybean, round chilli, ginger and turmeric fields. Undertake land preparation for new plantation of large cardamom and shade trees. Carry out weeding in large cardamom field. Harvest mature cobs of maize. Start seedbed preparation for kharif paddy @ 5kg/bigha seeds. Treat seeds with Tricoderma Viride @ 4g/1.5 liter of water/kg seeds soaked for 24 hour.
- In Gangetic West Bengal, continue land preparation and seed sowing of Aman paddy varieties like Lalswana (long duration) and MTU 1010, PD 12, Pratiksha, Bidhan 1 etc (short duration) with the help of pre monsoon rainfall. Continue sowing of Sweta, Churni, Jagriti, Probhat varieties of arhar during next week after seed treatment with Mancozeb, Thairam or Captan.
- In Sub-Himalayan West Bengal, for the management of cucurbitaceous fruit fly population, use pheromone traps along with bait spray of Molasses 200 ml + 20 ml Malathion 50% EC mixture as spot spray. To control Bhindi Yellow vein mosaic virus, spray Imidachloropid @ 0.2 ml/liter of water after current spells of rain.
- In Gangetic West Bengal, for Phytophthora root rot in betel vine at green leaf stage, apply 1% Bordeaux mixture at the base at 1 month's interval. For Chitla disease in betel vine, apply 0.5% Bordeaux mixture at 15-20 days' interval. For jassids in bhindi crop, apply Thiomithoxam 0.3 SG 1g / 3litres of water. To prevent fruit drop in mango, apply NAA (Planofix) @ 3ml per 15 lt of water.
- **Andaman & Nicobar Islands:**
- Prepare the nursery bed of paddy and use seed @ 40 kg/ha of medium duration variety like CARI Dhan3 and Swarnadhan. Transplant already grown vegetable seedlings of brinjal and chilli in upland area or BBF with well drainage facility. Harvest the mature banana and provide support to the fruit bearing banana tree as wind speed may rise to 55 km/h.
- **Animal Husbandry**
- In West Bengal, vaccinate/treat cattle against HS and black quarter. Avoid grazing animals during mid noon and after noon hours. Keep less number of bird per cage. Arrange electric fans in the cage. Provide more number of fresh water pots and avoid pond water for drinking purpose. Mix electrolyte and vitamin C with drinking water. Vaccinate goats against Peste des Petits Ruminants (PPR) before onset of monsoon.
- In Andaman & Nicobar Islands, provide clean and hygienic water treated with potassium permanganate (1 ppm) to the poultry and local chickens to avoid gastrointestinal infection.
- In Jharkhand, deworm the animals and give mineral mixture along with salt regularly and wheat grains, jaggery etc. may be provided @ 10%-20% in the daily ration to meet the energy requirement of the animals.
- **Fisheries**
- In West Bengal, apply cow dung @ 1000-1500 kg/bigha-m in the fish culture pond.
- In Odisha, maintain 6 ft water depth with pH 6.8-7.5, turbidity 20-30 cm and plankton growth of 2.5/50 liter water. Avoid over crowding. The fishes should be fed daily with oil cake bran mixture at the rate of 2-3 % of their total biomass.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Kolhapur, Satara and Solapur districts of Madhya Maharashtra, all districts of Marathwada except Aurangabad and Jalna, all districts of Vidarbha except Buldhana during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - As rain/thundershowers would occur at most/many places over Konkan & Goa during the period, along with

heavy rain at isolated places very likely over Konkan & Goa on 16th and over Madhya Maharashtra on 18th and 19th, heavy rain at a few places with very heavy rain at isolated places very likely over Konkan & Goa on 17th, heavy to very heavy rain at isolated places likely over south Konkan & Goa on 18th and 19th, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.

- In South Konkan, undertake ploughing and puddling for transplanting of rice. Continue land preparation for sowing of groundnut (varieties: Konkan Gaurav, Trombay Konkan (Tapora), TAG-26, TAG-24 and TPG-41). Plough the field deeply and after last leveling add FYM or Compost @ 10 tonnes of per ha in the soil. Use seed @ 100 to 125 kg per ha for sowing. Continue sowing of mango stone in the mango nursery. Before sowing wash mango stone thoroughly with water and dip in Carbendazim solution @ 1g per litre of water to control wilt. Undertake sowing of kharif vegetables like okra, cucumber, bitter gourd, snake gourd, ridge gourd. okra should be planted on ridges and furrows and sowing of gourd vegetables be done on soil mounts.
- In Madhya Maharashtra, complete preparatory tillage operations and undertake sowing of *kharif* crops like cotton, tur and soybean after receipt of sufficient rain. Complete nursery sowing of rice on raised bed for *kharif* rice and finger Millet.
- In Marathwada, complete preparatory tillage and undertake sowing of *kharif* soybean, sorghum bajra, turmeric and *adsali* sugarcane after receipt of sufficient rain. Continue sowing of *kharif* vegetables like brinjal, chilli and tomato in raised nursery beds.
- In Vidarbha, prepare rice seed beds at 1.2 x 4.0 m size for rice nursery on uplands field. Undertake sowing of kharif crops like sorghum, cotton, green gram, black gram and soybean after receipt of sufficient rainfall.
- **Gujarat:**
 - In North Gujarat, carry out land preparation for sowing of irrigated groundnut under assured irrigation facilities; select semi-spread GG.20 or erect GG.2, GG.5, GG.7 and TG-26 varieties. Undertake sowing of irrigated hybrid cotton and B.T. cotton with irrigation facility. Continue harvesting of matured groundnut, pearl millet and picking of matured pods and fruits of vegetable and fruits. Plan for preparation of nursery of fennel under well irrigation facilities.
 - In South Gujarat, complete harvesting of matured groundnut and pulses crops and keep the harvested produce at safer places. Continue sowing of Bt. cotton with irrigation facility, nursery sowing of rice (NAUR-1, GNR-2 (coastal area) GNR-3, GNR-4, GNR-5, GNR-6 (long duration), Jaya, Gurjari, GR-5, 7, 8, 9, IR-28, Purna and GAR-13) under irrigation facility. Prepare the pits for plantation of horticultural crops. Undertake cultivation of amaranth, fenugreek, coriander, spinach and green garlic.
 - In Saurashtra, continue land preparation and keep inputs ready for sowing of *kharif* groundnut (semi spreading-GG-20, GG-22, bunch-GG-2, GJG-31, GJG-32, GG-5, TAG-24, TG-37 A, TPG-41, TLG-45), sesame (GT-2 or GT-3), pearl millet (GHB-558,577,538,719,732,744), green gram (GM-4, K-851), black gram (Guj. Adud-1), cowpea (Gujarat cowpea-1,2,4, Pusa Falguni), pigeon pea (BDN-2, GT-100, GTH-1), cotton (early: Bg-II GCH-8, ATM, Jay, First Class, Beejdhan-2, Sarju, Atom, Bhakti; Medium late: Bg-II GCH-6, RCH-659, Agritop-777, Agritop-444, Solar-76, Swapna, Mallika, Ajit-155) crops. Adopt cotton-sesame, cotton-groundnut and cotton-maize inter cropping system as risk management. In South Saurashtra and Kutch, continue land preparation for sowing of hybrid cotton and B.T. cotton and keep inputs ready (G. cot. 6, 8, 10 and approved varieties of B.T. cotton). In Kutch, undertake land preparation for pre-sowing of irrigated groundnut under assured irrigation facilities. Complete harvesting of matured groundnut, sesame, bajra, green gram and black gram in South Saurashtra and Kutch and keep the harvested produce at safer places.
 - In Middle Gujarat, carry out land preparation for sowing of B.T.cotton and ground nut. Continue nursery raising for rice. Cover papaya fruits using gunny bags; decrease the interval between two irrigations in vegetable crops. Provide staking in banana to counteract the effect of wind speed.
- **Agro Forestry**
 - In South Gujarat, prepare the pits of size (1 ft. x 1 ft. x 1 ft.) and fill the pits with 5 kg of FYM before onset of monsoon for Agro forestry.
- **Animal Husbandry**
 - In Gujarat, keep animals under shade during noon hours and provide plenty of cold water mixed with minerals for drinking and shower the animals with cold water two to three times in a day. Protect shed from rain and wind. Take care of cattle and stored dry fodder during rainy days.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in Anuppur, Balaghat, Chhindwara, Dindori, Jabalpur, Mandla, Narsingpur, Sagar, Seoni, Shahdol, Sidhhi and Umari districts of East Madhya Pradesh, Betul, Dewas, Harda, Hoshangabad, Khandwa, Morena, Raisen, Sehore, Shajapur and Sheopur Kalani districts of West Madhya Pradesh, Balod, Bemetara, Bijapur, Bilaspur, Dantewada, Dhamtari, Janjgir, Jashpurnagar, Kabirdham, Korba, Koriya, Mahasumund, Mungeli, Narayanpur, Raigarh, Raipur, Sukma and Surajpur districts of Chhattisgarh during the

week. Weather remained mainly dry/dry over rest of the region.

• **Advisories:**

▪ **Madhya Pradesh:**

- In West Madhya Pradesh, continue land preparation for sowing of red gram and soybean. Undertake nursery preparation for brinjal, chilli and tomato. Continue nursery preparation for rice. Continue sowing of ginger and turmeric. Apply irrigation in vegetables, orchards, green gram, black gram, maize and groundnut. Continue harvesting of matured vegetables, moong and urad.
- In East Madhya Pradesh, undertake direct sowing of rice in areas where irrigation facilities are available in Kymore Plateau and Satpura Hill Zone. Continue nursery preparation for rice. Continue seed bed preparation for onion. Keep inputs ready for sowing of maize, soybean and red gram. Apply irrigation in maize, groundnut, sugarcane, summer moong, urad and cucurbits. Continue harvesting of matured vegetables, moong and urad. Continue intercultural operations in sugarcane.
- In West Madhya Pradesh, for attack of red pumpkin, whitefly in cucurbit crops; spray Triazophos 40 E.C. @ 2.0 ml per litre of water.

▪ **Chhattisgarh:**

- Undertake land preparation for sowing of *khari* crops. Continue nursery preparation for rice. Continue nursery preparation for vegetables. Undertake line sowing of rice. Undertake digging of pit for planting of fruit crops like papaya, guava, mango, litchi and pomegranate.
- In Bastar Plateau Zone, undertake planting of tuber crops and nursery preparation for papaya and custard apple.

• **Animal Husbandry**

- In Madhya Pradesh, before the onset of monsoon dairy farmers are advised to vaccinate the animals against mouth and jahari fever disease and to develop the immunity power.
- In Chhattisgarh, carry out vaccination of animals against Black Quarter, Anthrax and other disease.

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

- **Realised Rainfall:** Rainfall occurred in Mandi, Shimla, Sirmour, Solan and Una districts of Himachal Pradesh, Fatehgarh Sahib, Gurdaspur, Nawasahar, Ropar and Mohali districts of Punjab, Ambala, Jhajar, Mewat, Rohtak and Yamunanagar districts of Haryana, South West Delhi district of Delhi, Udampur district of Jammu & Kashmir, Bahraich and Farukabad districts of East Uttar Pradesh, Bijnour and Saharanpur districts of West Uttar Pradesh, Bageshwar, Chamoli, Champawat, Haridwar, Nainital, Pithorgarh, Raudraprayag and Udham Singh Nagar districts of Uttarakhand during the week. Weather remained mainly dry/dry over rest of the region.

• **Advisories:**

- As thunderstorm accompanied with squall very likely at isolated places over Jammu division on 15th and 16th, over Himachal Pradesh on 15th, 16th and 17th, over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 16th and 17th, thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Uttarakhand on 15th and 16th, over Punjab, Haryana, Chandigarh & Delhi on 15th, over East Uttar Pradesh on 16th and 17th, over Jammu & Kashmir on 17th and 18th, over Himachal Pradesh on 18th, Duststorm/Thunderstorm very likely at isolated places over West Uttar Pradesh on 15th, over Rajasthan from 15th to 17th June, provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.

- As rain/thundershowers would occur at most places over Uttarakhand from 15th to 17th, at many places over Himachal Pradesh and Jammu & Kashmir on 15th and 16th June, along with heavy rain at isolated places over Uttarakhand on 15th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

▪ **Jammu & Kashmir:**

- Complete nursery sowing of Basmati 370 and Ranbir Basmati without any delay. Continue land preparation of the fields where rice seedlings are to be transplanted. Harvest the matured summer pulses (moong, mash) crops in clear weather. Undertake sowing of early sown maize crop under irrigated and rainfed conditions as there was sufficient rainfall received in past few days. Sowing of *khari* pulses should be preferably completed in this week to minimize cut work damage. Prepare land for the sowing of rainy season bitter gourd, sponge gourd & bitter melon. Start land preparation and sowing of seeds for raising nursery of rainy annuals after receipt of rain.

- There may be chance of bacterial wilt in tomato, brinjal, chilli and cucurbits, if observed, apply Streptocyclin Sulphate @ 1.0 gm/10 litre of water on clear sunny day and repeat the spray at the time of flowering.

▪ **Uttarakhand:**

- Complete preparation of nursery for mid duration varieties of paddy like - Narendra-359, Pant dhan-18, HKR-147, PR-113 etc in this week. Continue transplanting of 20-25 days old seedlings of paddy in the main field. Apply Butachlor 50%EC @ 60ml/Naali over the field within 1-3 days of transplanting to control the weeds.

- Continue transplanting of capsicum and brinjal in the polyhouse in mid and high hills and planting of turmeric, ginger and arbi.
- Optimum time for sowing of seeds of babul, subabul, khair, amla and prosopis in polythene bags.
- In view of prevailing weather conditions, incidence of blight disease and fruit borer insect may affect the vegetable crops like tomato, capsicum, brinjal, chilli etc. To control the disease and fruit borer insect, make a solution of Mancozeb @ 2 g + Imidacloprid @ 1.5 ml/litre water and spray it in clear weather. Repeat after 15-20 days interval.
- In view of prevailing weather conditions, rhizome rot disease may affect ginger crop. To prevent, drench through a mixture of Bavistine fungicide @ 2gm + Chlorpyrifos insecticide 1.5ml + Streptocycline bactericide @ 0.1g per litre of water in clear weather.
- **Himachal Pradesh:**
 - Due to possibility rainfall, it is advised to withheld irrigation and spraying of any pesticides on the crops. If any spray is essential then mix a sticker in the spray mixer. In middle areas transplant the healthy and ready nursery of summer vegetables like tomato, capsicum, gourd, chilli etc. in the well prepared fields. Sowing of bhindi, arvi etc. may be done in prepared fields.
 - Continue preparation of nursery for mid duration varieties of paddy like - Narendra-359, Pant dhan-18, HKR-147, PR-113 etc. up to 10th June.
 - Continue sowing of cucurbits crops. Continue sowing of spinach, coriander, fenugreek in present weather conditions. Continue transplanting of vegetables like tomato, capsicum, gourd, chilli etc. in the well prepared fields.
 - In Himachal Pradesh to minimise the effect of hails on fruit and plants where hailstorms has occurred, immediately spray Carbendazim 100g or Mancozeb 60g @ 100 litres of water and another spray within 3-4 days of Boric acid 200g+ ZnSo₄ 500 g+ CaO 250 g @ 200 litres of water.
- **Punjab, Haryana & Delhi:**
 - In Punjab, continue harvesting of matured vegetables. Continue nursery sowing of rice (varieties i.e. PR 126, PR 124, PR 123, PR 122, PR 121, PR 116, PR 114, PR 115, PR 113). Continue sowing of rainy season vegetables like okra, cucurbits and cowpea. Apply irrigation in sugarcane, moong, mash, vegetables and orchards. Undertake field preparation for transplanting of rice. Undertake harvesting of matured maize.
 - In Haryana, continue sowing of green gram, Lobia, moth and pigeon pea. Continue nursery sowing of rice. Continue field preparation for transplanting of rice. Apply irrigation in rice nursery, cotton, vegetables and orchards.
 - In Delhi, apply frequent irrigation in vegetables, fodder crops and orchards. Continue nursery preparation for chilli, brinjal and cauliflower. Continue sowing of red gram. Continue nursery preparation for rice (Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10, High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509). Undertake sowing of baby corn (HM-4) and sweet corn.
- **Uttar Pradesh:**
 - Undertake harvesting of matured maize, green gram and black gram. Apply irrigation in vegetables and standing crops. Continue nursery preparation for rice. Continue sowing of pigeon pea under irrigated condition. Continue sowing of ginger and turmeric.
 - Continue sowing of *kharif* maize. Continue sowing of jowar, soybean and groundnut. Continue nursery sowing of chilli, brinjal and cauliflower.
- **Rajasthan:**
 - For sowing of *kharif* crops like red gram, pearl millet, sorghum, maize & cluster bean etc. arrange seed, fertilizers & chemicals. Apply irrigation in summer groundnut, vegetables, orchards, sugarcane and moong. Continue nursery preparation of early cauliflower, chilli and brinjal. Continue sowing of groundnut and okra. Continue nursery sowing of rice. Apply first irrigation in cotton after 20-30 day of sowing.
 - Chilli crop is affected by leaf curl & mosaic disease. To check the spread of disease uproot & burn affected plants & spray Dimethoate 30 EC @ 1.0 ml per litre of water.
- **Animal Husbandry**
 - In Jammu & Kashmir, add calcium supplement in the diet of dairy animals and heifers especially feed rice straw these days to prevent calcium deficiency and intestinal blockage. Sheeps and goats need to be vaccinated against Sheep and Goat pox.
- **Apiculture:**
 - In Jammu & Kashmir, harvest honey from the bee colony. Migrate bee colonies to flora rich areas. Avoid antibiotics. For protection against ants, put the legs of apiary into water so that ants could not attack the apiary.
 - In Himachal Pradesh in this time bee collects extra honey and stores it, so farmers are advised to give extra frames to the colony for more honey accumulation. Save the colony from insects. The colony may be divided to increase the numbers.