



National Agromet Advisory Service Bulletin

Friday 27th July 2018

(For the period 27th July to 1st August 2018)



Issued by

India Meteorological Department

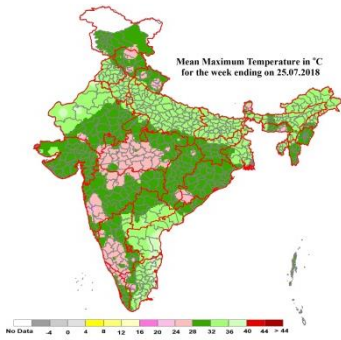
Weblink For

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

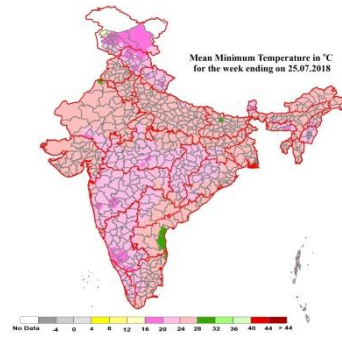
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 25.07.2018

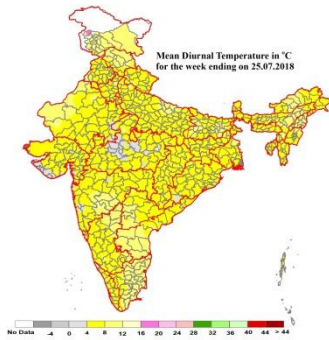
Mean Maximum Temperature (°C) for the week ending on 25.07.2018



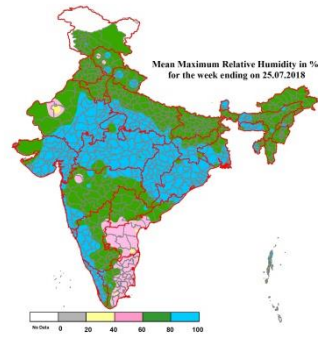
Mean Minimum Temperature (°C) for the week ending on 25.07.2018



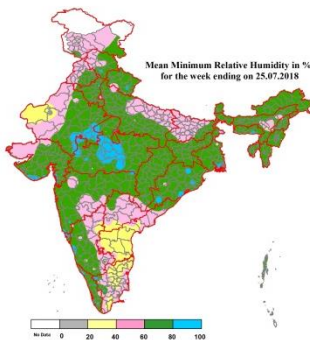
Mean Diurnal Temperature Variation (°C) for the week ending on 25.07.2018



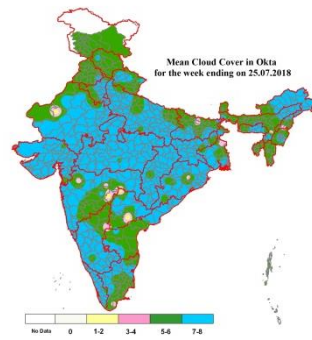
Mean Maximum Relative Humidity (%) for the week ending on 25.07.2018



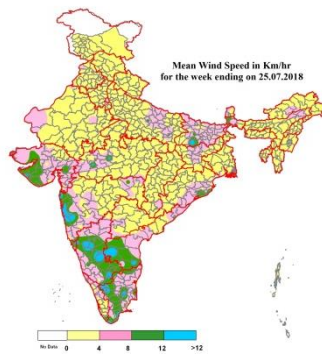
Mean Minimum Relative Humidity (%) for the week ending on 25.07.2018



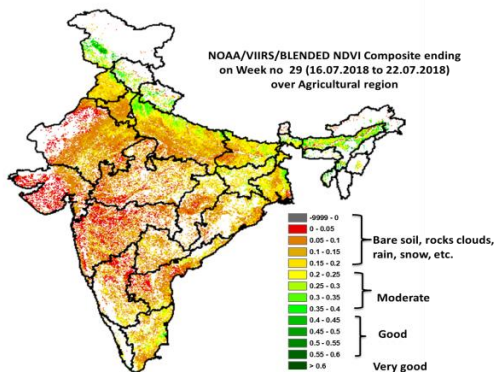
Mean Cloud Cover (okta) for the week ending on 25.07.2018



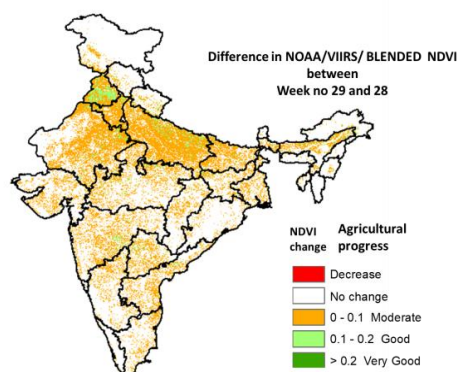
Mean Wind Speed (km/hr) for the week ending on 25.07.2018



NOAA/VIIRS/BLENDED NDVI composite for the week ending on 22nd July 2018 over Agricultural regions of India



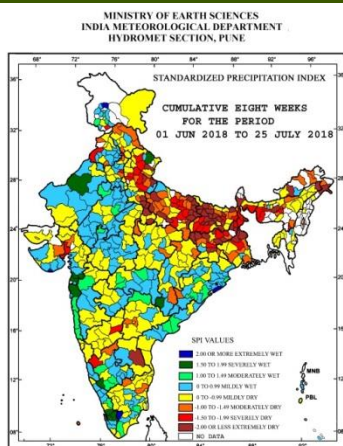
Difference in NOAA/VIIRS/BLENDED NDVI between 15th July and 22nd July 2018



- Agriculture vigour is moderate over few pockets of North eastern states, Northern part of Gangetic West Bengal and adjoining Bihar & Jharkhand, Uttarakhand & adjoining Uttar Pradesh, Jammu & Kashmir, Himachal Pradesh, Tamilnadu. Due to persistent cloud cover in remaining parts of Indian region the NDVI over crop cover could not be derived.

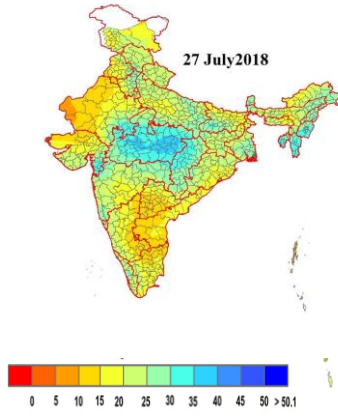
- Due to persistent cloud cover in many parts of Indian region the NDVI over crop cover could not be derived. However agricultural vigour was good in many parts of Punjab, isolated pockets in Marathwada and adjoining Telangana, East Rajasthan, Uttar Pradesh, Himachal Pradesh and Northeastern states.

**Standardised Precipitation Index
Cumulative 8 weeks for the period 1st June to 25th July 2018**

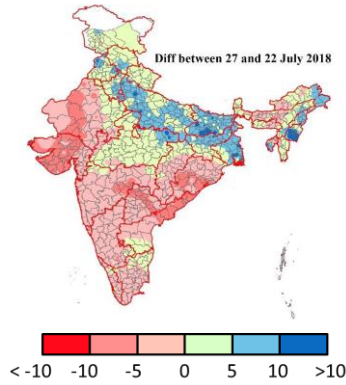
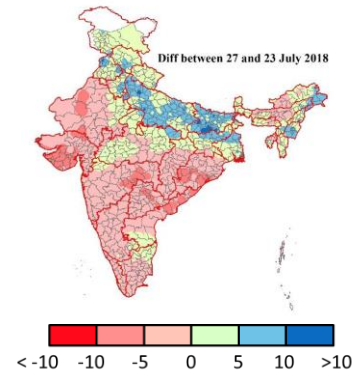
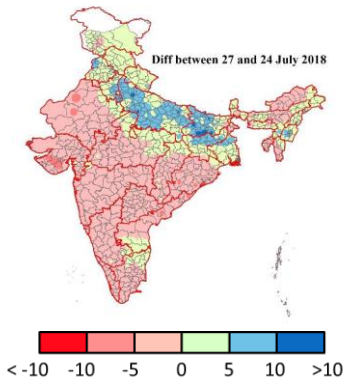
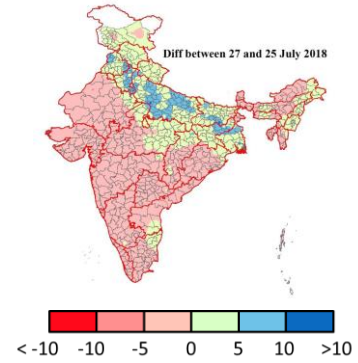
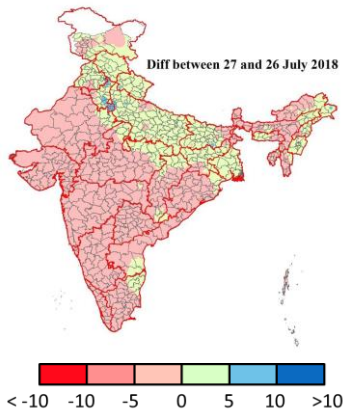


- Extremely/severely wet conditions experienced in Puri district of Odisha; Bandipore district of Jammu & Kashmir; Chamoli district of Uttarakhand; Bikaner district of Rajasthan; Valsad, Dangs, Navsari districts of Gujarat Region; Diu district of Saurashtra, Kutch & Diu; Thane district of Konkan & Goa; Bijapur district of Chhattisgarh; Theni district of Tamil Nadu & Puducherry; Kodagu district of Karnataka; Ernakulam, Kottayam, Idukki districts of Kerala.
- Extremely/Severely dry conditions experienced in many districts of Jharkhand; Bihar; few districts of Arunachal Pradesh; Assam; West Bengal; Uttar Pradesh; Uttarakhand; West Garo Hills district of Meghalaya; Panipat, Panchkula districts of Haryana; Ferozepur district of Punjab; Udhampur district of Jammu & Kashmir; Ahmedabad district of Gujarat Region; Cuddapah district of Andhra Pradesh; Yadgir, Shimoga districts of Karnataka.
- Moderately dry conditions experienced in many districts of Arunachal Pradesh; few districts of West Bengal; Uttar Pradesh; Delhi; Himachal Pradesh; Cachar, Shonitpur, Bongaigaon, Morigaon districts of Assam; Ri-Bhoi district of Meghalaya; Nawarangpur district of Odisha; Jamtara, Latehar, Seraikela-Khar, Ramgarh districts of Jharkhand; Buxar, Darbhanga, Kishanganj, Madhepura, Purnea, Sitamarhi, Sheohar districts of Bihar; Ambala, Sonapat districts of Haryana; Udhampur district of Uttarakhand; Amritsar, Mansa districts of Punjab; Dindori, Rewa districts of Madhya Pradesh; Mehsana district of Gujarat Region; Surendranagar district of Saurashtra, Kutch & Diu; Bastar, Jashpur, Koriya districts of Chhattisgarh; Rangareddy district of Telangana; Viluppuram, Krishnagiri districts of Tamil Nadu & Puducherry; Bellary district of Karnataka; Lakshadweep district of Lakshadweep.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

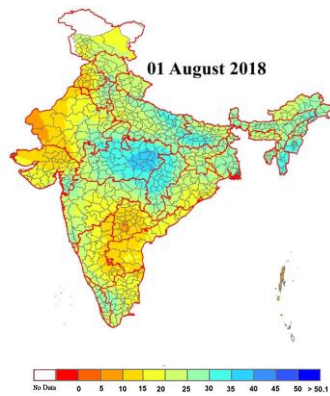
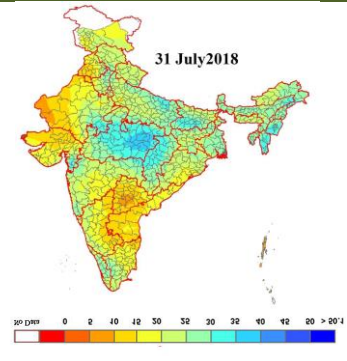
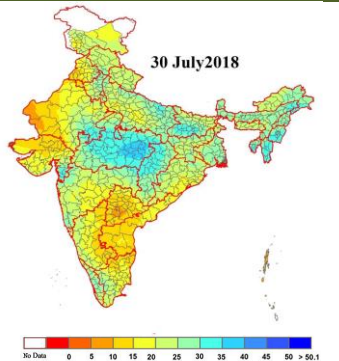
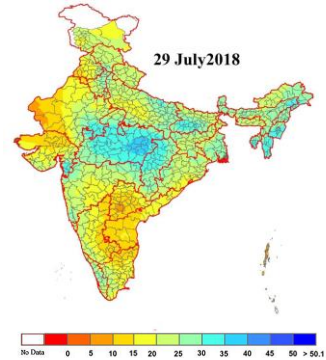
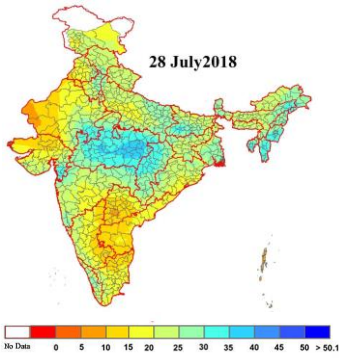
Daily Soil Moisture (mm) for 27th July 2018 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 28th July to 1st August 2018 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 1st August 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- No significant change in maximum and minimum temperatures over most parts of the country during next 2 days.

5 Day Rainfall Forecast (Mid day) 27th July 2018

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

% 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

- **27 July (Day 1):** Heavy to very heavy rain with extremely heavy falls at isolated places very likely over Gangetic West Bengal; heavy to very heavy rain at isolated places over Nagaland, Manipur, Mizoram & Tripura, Jharkhand, West Uttar Pradesh, Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi and heavy rain at isolated places over Sub-Himalayan West Bengal, Arunachal Pradesh, Assam & Meghalaya, Bihar, East Rajasthan, East Uttar Pradesh, Jammu & Kashmir, West Madhya Pradesh and Coastal Karnataka.
- **28 July (Day 2):** Heavy to very heavy rain with extremely heavy falls at isolated places very likely over Assam &

Meghalaya; heavy to very heavy rain at isolated places over Jharkhand and heavy rain at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Bihar, West Uttar Pradesh, Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi and West Madhya Pradesh.

- **29 July (Day 3):** Heavy to very heavy rain at isolated places very likely over Assam & Meghalaya and heavy rain at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Jharkhand, Bihar, Sub-Himalayan West Bengal & Sikkim, West Uttar Pradesh, Uttarakhand and West Madhya Pradesh.
- **30 July (Day 4):** Heavy to very heavy rain at isolated places likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Uttarakhand and heavy rain at isolated places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Uttar Pradesh, Madhya Pradesh, Kerala and Coastal & South Interior Karnataka.
- **31 July (Day 5):** Heavy to very heavy rain at isolated places likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura and heavy rain at isolated places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Kerala, Coastal & South Interior Karnataka and Tamilnadu.

Weather Outlook for subsequent 2 days from 1st to 3rd August 2018

- Widespread rainfall likely along west coast and over Northeast, East & adjoining northern plains and Islands.
- Isolated to scattered rainfall likely over the rest of the country.

Salient Advisories

- In view of the heavy to very heavy rainfall in **Haryana**, drain out excess water from vegetable and cotton fields. Continue sowing of guar and bajra and complete transplanting of rice after current spells of heavy rain.
- In **Kerala**, heavy rain during the week caused floods in Kottayam, Idukki, Ernakulam, Alappuzha and Pathanamthitta districts. Drain out excess water from *virippu* rice fields, banana, coconut and arecanut and other plantation crops in these districts. For controlling quick wilt in pepper, apply Bordeaux mixture 1% in the vines and in and around the root area.
- In **Gangetic West Bengal**, in Coastal Saline Zone, if submerged conditions are found where transplanting of rice is already completed, arrange for drainage facilities to remove excess water and keep ready the extra seedlings for re-transplanting. Wait for receding of excess water then restart transplanting.
- In **South Gujarat** and **Saurashtra**, in Dangs, Valsad, Navsari, Junagarh, Gir Somnath and Amreli districts, drain out excess water from already sown crop fields. Drain out excess water from the maize, sugarcane, green gram, black gram, ginger, turmeric and vegetable crop fields in South Gujarat.
- Utilising the realized and expected rainfall, in **West Rajasthan**, complete sowing of pearl millet, cluster bean, moong and moth bean crops. Continue sowing of maize, soybean and groundnut in **East Madhya Pradesh**, complete transplanting of rice and sowing of soybean, til, red gram, maize, groundnut in **Chhattisgarh**. Continue sowing of sesame, soybean, urad bean and cowpea in uplands and continue transplanting of rice in **Jharkhand**. Continue transplanting of rice in **Assam**, **Himachal Pradesh** and **Uttarakhand** after current spells of heavy rain.
- Undertake/continue sowing/transplanting of following *kharif* crops:
 - Continue transplanting of 21-25 days old kharif rice in **Manipur**.
 - In **Coastal Karnataka**, complete transplanting of rice.
 - In **South Interior Karnataka**, undertake transplanting of rice. Complete sowing of groundnut, red gram, foxtail millet, little millet, Khodo millet, ragi (direct sowing), castor, cotton, cowpea, green gram, black gram, horse gram, field bean, sesamum, jowar crops.
 - In **North Interior Karnataka**, complete 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).

- In **Coastal Andhra Pradesh**, continue transplanting of rice. Take up intercropping of red gram+ jowar/ maize/ bajra in 1:2 ratio or red gram+black gram/ green gram in 1:7 (for blacksoil), 1:3 or 1:5 (red soils).
- Farmers in Kadapa, Kurnool, Ananthapuramu districts in **Royalaseema** are advised to take up sowing of rainfed groundnut only after receipt of sufficient rainfall.
- In **Telangana**, continue sowing of soybean, jowar, maize, redgram, greengram, cotton.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala, all districts of Coastal Karnataka, Belagavi district of North Interior Karnataka, Chikamangaluru, Kodagu and Shivamogga districts of South Interior Karnataka, Srikakulam, Vishakapatnam and Vizianagaram districts of Coastal Andhra Pradesh, B. Kothagudem, J. Bhupalpally, Jagtial, Kamareddy, Karimnagar, Kumaram Bheem, Mancherial, Nizamabad, Peddapalle, Ranjanna Sircilla, Siddipet, Suryapet, Warangal(Rural) and Warangal(Urban) districts of Telangana, Coimbatore and Nilgiris districts of Tamil Nadu and Puducherry during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Coastal Karnataka during the period, at most/many places over Kerala during the period, at many places over South Interior Karnataka on 27th, 30th and 31st, along with heavy rain at isolated places over Coastal Karnataka on 27th, 30th and 31st, over Kerala and South Interior Karnataka on 30th and 31st and over Tamilnadu on 31st July, 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.
 - **Kerala:**
 - In Kerala, heavy rain during the week caused floods in Kottayam, Idukki, Ernakulam, Alappuzha and Pathanamthitta districts. Drain out excess water from *virippu* rice fields, banana, ginger, coconut and arecanut and other plantation crops in these districts. For controlling quick wilt in pepper, apply Bordeaux mixture 1% in the vines and in and around the root area.
 - If severe attack of sheath blight in paddy at tillering stage is noticed, Bavistin (200g/acre) or Carbendazim 50 WP 500 g/ ha or Vitavax (200g/acre). Spot spray Takumi @ 3 g per 10 litres of water if leaf folder attack in paddy is severe. Weather conditions may favour the attack of rice bug in the field. If the bugs are seen in large numbers apply fish amino acid 20ml/litre of water either before 9am or after 3pm in an encircling manner from outer to inner side. Watch for the attack of pseudostem weevil in banana. Spray Clorpyrifos 2ml /litre of water against pseudostem weevil in four months old banana plants. Do not use any insecticide after bunching. Undertake plant protection methods after the current spells of rain.
 - In Coffee plantation, leaf rust disease may become severe due to increase in relative humidity. Apply 0.5% Bordeaux mixture. Bud rot disease is seen in coconut palms due to continuous rainfall. Small perforated sachets containing 2 g of Mancozeb may be tied to the top of leaf axil as a preventive measure. There is a chance of downy mildew attack in vegetables at flowering/fruitlet stage due to continuous rain. Application of 20g Trichoderma or 0.2% Curzate M-8 or 0.1% Equacion pro per one litre of water under the leaves in 15 days interval is effective. Destroy rotten plants of turmeric and drench with Bordeaux mixture.
 - **Andhra Pradesh:**
 - In Coastal Andhra Pradesh, carry out earthing up and provide propping to sugarcane. Undertake planting of rain-fed sugarcane. Take up inter cropping of red gram+ jowar/maize/ bajra in 1:2 ratio or red gram+black gram/ green gram in 1:7 (for blacksoil), 1:3 or 1:5 (red soils) is for higher returns. Continue transplanting of rice. Maintain shallow water depth of 2 cm at the time of transplanting.
 - In Royalaseema, continue sowing of recommended/high yielding varieties of red gram, castor, korra and bajra after necessary seed treatment. Choose high yielding varieties/ Bt hybrids of cotton and take up sowing only after receiving cumulative rainfall of more than 50mm. Go for early maturing varieties/Bt hybrids, so that the cotton bolls mature before the heavy population build-up of pink bollworm. Farmers are advised to take up sowing of rainfed groundnut only after receipt of sufficient rainfall. They are advised to treat the seed with Imidacloprid @ 2ml/kg and Tebuconazole @ 1g/kg of seed before sowing.
 - Present weather conditions are favourable for leaf mite incidence in paddy at tillering to panicle initiation stage. To control, spray Prophenophos @ 2 ml per litre of water. Spray monocrotophos @ 1.6 ml or Dimethoate @ 2.0 ml per litre of water against sucking pest in maize at vegetative stage. If stem fly incidence

was noticed in green gram/black gram crops, spray Acephate 200 g or Monocrotophos 320 ml or Dimethoate 400 ml per acre at weekly intervals from 10 days after sowing. Present weather conditions are favourable for sucking pest incidence in groundnut. To control, spray Monocrotophos @ 1.6 ml or Imidachloprid @ 0.3 ml per litre of water.

▪ **Telangana:**

- Continue sowing of maize, jowar, castor, red gram and sunflower, sowing of paddy nurseries of Telangana Sona (RNR 15048) and other short duration rice varieties. Take up sowing of Maize using short duration cultivars in ridge and furrow method. Take-up nursery sowing of tomato, brinjal and chillies. Take up direct sowing of gourds, beans and bhendi wherever irrigation facility is available.
- The prevailing weather conditions are congenial for incidence of sucking pests in vegetables. To control, spray Fipronil @ 2ml or Thiomethoxim @ 0.3g per litre of water after current spells of rain. Prevailing weather conditions are favorable for development of leaf spot disease in bhendi, tomato and brinjal. To Control, spray Propineb @ 2g per liter of water after current spells of rain. The prevailing weather conditions may cause leaf blight in cotton crop. Spray Carbendazim + Mancozeb @ 2.5 g/litre of water after current spells of rain.

▪ **Tamil Nadu:**

- Take up ploughing of paddy fields for Samba planting with long duration varieties using the released water. Dry seeding with seed drill can also be taken up. Provide support to banana plants and sugarcane. Best season for sowing gourds vegetable is by the end of July, hence dig pits by utilizing the anticipated rainfall. Continue sowing of irrigated maize utilizing the received and anticipated rainfall. Considering the favorable soil moisture, land preparation may be initiated for irrigated winter Cambodia cotton to be sown on August 15.
- Occurrence of stem borer and rice hispa is being noticed in the kuruvai paddy. To control this pest, spray Chlorophyriphos @ 500 ml/200 litre of water for one acre. To control the incidence of sucking pest in the vegetable crops, spray neem seed kernal extract 5%. Incidence of Onion Fly may be seen in onion. As a prevention method, proper crop rotation can be practiced. To control, spray Malathion @ 1 litre/ha.

▪ **Karnataka:**

- In Coastal Karnataka, drain out excess water from standing crop fields. Complete transplanting of rice. Undertake intercultural operations in 25-35 days old maize and cotton crops. Complete sowing of turmeric, ginger and planting of arecanut seedlings.
- In South Interior Karnataka, undertake field preparation for transplanting of rice and ragi; undertake transplanting where seedlings are ready. Complete sowing of groundnut, red gram, foxtail millet, Little millet, Khodo millet, ragi (direct sowing), castor, cotton, cowpea, green gram, black gram, horse gram, field bean, sesamum, jowar crops. Undertake thinning operation for better availability of scarce soil moisture to the reduced population of crop plants. Continue intercultural operations in green gram, groundnut, sesame, maize and red gram after current spells of rain. Intercropping of groundnut + red gram and groundnut + castor in 8:2 proportion is suggested for good income.
- In North Interior Karnataka, undertake nipping/trimming operation in pigeon pea (40-45 days old crop). Continue intercultural operations in pigeon pea, soybean crops to conserve soil moisture. Under drill sown paddy condition if the rain fall is scares, apply irrigation through channel water or any other source if hair cracks are observed. To make efficient use of available soil and water resources and to get higher returns, in light and medium black soils, intercropping of bajra + groundnut (bunch) in 2:4 row proportion; bajra + red gram in 2:1 row proportion; groundnut (bunch) + red gram in 3:1 or 4:2 row proportion, red gram + sesamum in 1:2 or 2:4 row proportion is advised. Prepare ridges and furrows and compartment bunds in the lands reserved for *rabi* sowing so as to conserve moisture in the soil which will be helpful for the *rabi* crops.
- In South Interior Karnataka, there is a possibility of occurrence of purple blotch and bulb rot in onion; spray Chlorothonil @ 2 g/litre and drench with Arbendazim @2 g/litre of water after current spells of rain.

• **Animal Husbandry**

- In Kerala, there are chances of contagious disease during monsoon season. Take vaccination from near by veterinary clinics.
- In Tamil Nadu, greens and straw should be given half (quantity) in the morning and half in the evening after milking. Do not change the fodder and its quantity suddenly and it may be changed gradually. Long and hard stem fodders should be cut into small pieces and feed to Cow. Better to feed the cow with mixture of young foliage and dry grass with hay. Silage should be given after the end of milking, Concentrate feeding should be given in the morning and evening with equal distribution. Protect cattle against Hemorrhagic Septicaemia disease in the rainy season. Protect chicks from Ranikhet disease.
- In South Interior Karnataka, maintain optimum room temperature in silkworm and poultry rearing houses.

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

Realised Rainfall: Rainfall occurred in Changlang, Kurung Kumey, Lower Dibang Valley, Papumpare, Tawang, Tirap, Upper Subanseri, West Kameng and West Siang districts of Arunachal Pradesh, all districts of Assam except

Baksa, Darrang, Dhemaji, Kamrup (Rural), Kamrup (Urban), Morigaon, N C Hills, Nalbari and Tinsukia, in East Garo, East Khasi, Ribhoi, South Garo, West Garo and West Khasi districts of Meghalaya, Champhai, Kolasib, Lunglei and Serchhip districts of Mizoram, Imphal East, Imphal West, Senapati and Thoubal districts of Manipur, Dimapur, Kohima, Mon, Paren and Wokha districts of Nagaland, all districts of Tripura except Dhalai during the week. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at most places over Nagaland, Manipur, Mizoram & Tripura during the period, at most/many places over Assam & Meghalaya and Arunachal Pradesh during the period, along with heavy to very heavy rain with extremely heavy falls at isolated places over Assam & Meghalaya on 28th, heavy to very heavy rain at isolated places over Nagaland, Manipur, Mizoram & Tripura, on 27th, 30th and 31st, over Assam & Meghalaya from 29th to 31st, at isolated places over Assam & Meghalaya on 27th, over Arunachal Pradesh during the period, over Nagaland, Manipur, Mizoram & Tripura on 28th and 29th July, 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.
- **Arunachal Pradesh:**
 - Make structures in Jhum rice fields to avoid run-off. Avoid stagnation of water in maize, green gram and black gram fields. Carry out stagewise harvesting of green and black gram. Carry out weeding in okra crop.
 - Install pheromone traps to trap yellow stem borer adults in Jhum rice at active tillering / panicle initiation stage. In banana crops infested with Sigatoka leaf spots, spray 0.1% Propiconazol (e.g. Tilt) by adding a wetting agent. Use fruit fly specific pheromone traps in cucurbit crops. Use of bait traps prepared from protein hydrolyzate @ 450 gm, Malathion or Dipterex water dispersible powder (25 %) @ 450 gm and water @ 1 gallon is most effective of controlling of this pest.
- **Assam:**
 - Continue transplanting of Sali rice seedlings in the main field after current spells of heavy rain. In case of short duration, high yielding varieties the age of seedlings during the time of transplanting should be 21 days and for of long duration varieties the age of seedling should be 30-40 days. Prior to transplanting, it is advised to wash the uprooted seedlings and dip the root portion in 0.02% solution of Chlorpyrifos 20 EC (1 ml/lit of water) along with 1% urea (10g/lit of water) for 3 hours as protective measure against stem borer, gall midge and hoppers. Continue sowing of kharif sesame varieties like ST 1683, Punjab Til No. 1, Gauri, Madhabi, Koliabor Local, Nagaon Local etc. upto the first fortnight of August preferably in fair weather. Continue sowing of recommended high yielding sesamum varieties such as SP 1181 (Madhavi), Gauri, Vinayak, ST-1683, Punjab Til No. 1 etc. Undertake sowing of cucurbits as the current weather is favourable for the sowing of popular hybrids of Bottle Gourd- Pusa Naveen, Pusa Samridh; Bitter Gourd- Pusa Visesh, Pusa-2 Mosumi; Pumpkin-Pusa Visvash, Pusa Vikash, etc. with proper arrangement for water drainage. Continue planting the suckers, slips and crowns of pineapple in the main field at recommended spacing. Provide mechanical support to sugarcane to prevent lodging. Carry out earthing up in turmeric plantation. Provide mechanical support to sugarcane crop.
 - If there is the total damage of seedlings or crops in the main field, farmers are advised to go for sowing seeds for replanting with medium to short duration varieties like - Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc in nursery bed within 1st week of August. In partially affected fields, drain excess water and apply 1/3rd N₂ + 50% K₂O as top dressing during the tillering stage.
 - Insert around 7 numbers of bamboo 'T' perches per bigha in paddy crop field, which will act as a roosting place for predatory birds that will devour insect larvae and egg masses.
 - Spray Carbendazim @ 1gm per litre of water to control blast disease in Sali paddy seedlings. Powdery mildew attack may be seen in bitter gourd, ash gourd and bottle gourd crops. Spray Bavistin @ 0.1% to control the disease. Undertake plant protection measures after 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 Shansarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri, etc. Continue field preparation for upland kharif rice. Before sowing seeds should be treated with Bavistin 50WP @ 2g/l with water for 2hr to protect the crop from blast, Sheath blight, brown spot, sheath rot, etc. Carry out earthing up and provide drainage in ginger, turmeric, chilli, brinjal and maize crops.
 - For soft rot in ginger and turmeric crops, drench the plot with Dithane M-45 (2.5g/litre of water) or Trichoderma based formulation and Pseudomonas 4g/litre of water after current spells of rain.
- **Manipur:**
 - Continue transplanting of 21-25 days old *kharif* rice seedlings to the main field. Transplant 3-4 weeks old healthy seedlings of early cauliflower crop after rains at a spacing of 45cm x 45cm. Plant banana in newly constructed ring bands or banks of rivers/ ponds at a spacing of 2.7m x 3m for tall varieties and 1.8m x 2.4m for dwarf varieties Carry out weeding in maize, soybean, groundnut, black gram and rice bean crops.

- For grown up turmeric plants, spray Dithan M45 @ 2 to 2.5 ml/litre of water as prophylactic measures after current spells of rain.
- **Mizoram:**
- Undertake raising seedlings of Khasi mandarin, acid lime, star fruit, plum and peach. Transplant seedlings in secondary bed or polythene bags at 4-6 leaves stage. Harvest mature cobs of Jhum maize. Maintain proper drainage in passion fruit, coffee, rubber and oil palm plantations and in maize, pulses and paddy fields. Undertake planting of ginger and turmeric crops after treating rhizomes with Thiram @ 4 g per kg seeds. Undertake planting of rubber at newly established place. Transplant 2-3 seedlings of *kharif* rice in one place for avoiding gap filling.
- In chilli and 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/pumpkin beetle after current spells of rain.
- **Tripura:**
- Complete the sowing of maize in a raised bed to avoid water stagnation. Transplant 15 to 20 days old Aman rice seedlings to the main field. Plant the seedlings in raised bed at 25X25 cm spacing. Apply Urea 20 kg, SSP 40 kg and MoP 10 kg per kani one day before transplanting. Maintain 5 cm water in the field. Comparatively older aged (20-25 days old) seedlings may be selected for flood prone land and plant 2/3 seedlings per hill. Before transplanting the roots of the uprooted seedlings should be washed thoroughly and then dipped into 0.02% solution of Chloropyrophos with 1% urea as protection measure against stem borer, gall midge and hoppers.
- Cloudy and humid weather is conducive for the attack of Leaf Curl disease in Summer Brinjal, Chilly etc. To manage the attack, apply Imidachloprid @ 2ml per liter of water. At this stage there may be attack of Gundhi Bug in Aus and Jhum rice. Remove the weeds in the vicinity of paddy and collect bugs by hand netting. If infestation is more than THL, i.e. 16 bugs per 100 ear heads, apply Fipronil 1 ml per liter of water.
- **Nagaland:**
- Undertake nursery preparation for sowing of TRC/WRC paddy. Undertake sowing of soybean using disease free seeds. Maintain proper drainage in ginger/turmeric field. Cucurbit vines are very delicate. Take care not to damage vines, which reduce the quality of fruit.
- Remove infested okra and brinjal fruits and shoots regularly and destroy them. Bees are essential for pollination in cucurbit crops, so be mindful when using insecticides to kill pests. If you must use, apply only in late afternoon or early evening when the blossoms are closed for the day.
- **Animal Husbandry**
- Keep the poultry houses clean and provide balanced feed and provide vitamin B complex @ 7ml/litre in drinking water to birds. Vaccinate poultry birds against Coccidiosis, Ranikhet and Gamboro diseases. De-worming chickens/ducks against Helminth parasites using Piperazine liquid @ 30-40ml for 100 birds in drinking water. Again give half of the dose on second day. Select improved variety like Kamrupa, Vanraja, Rainbow rooster etc. for backyard poultry rearing. These improved species can lay more number of eggs within a short period of time.
- De-worm pigs/piglets using Piperazine @ 3-6 ml/ 10 kg body weight orally once only. Deworm goat and sheep against Fascioliasis using Oxyclonazide @ 15 mg/ kg body weight. Vaccinate pigs against FMD & swine fever and cattle/sheep/goat against FMD, Hemorrhagic Septicaemia, Black Quarter, etc.
- Carry out periodic cleaning of cowsheds along with the feeding pans during the rainy season to prevent fungal and bacterial infections. Give Dairy animals a balanced feed so that their milk production capacity is enhanced.
- **Fishery**
- Care should be taken that fish are fed with feed that are free from fungus. Fish needs to be monitored regularly to observe any sign of diseases and if disease is observed, consult expert immediately and water sample needs to be analyzed. Immediate measure of application of lime and potassium permanganate @50kg/ha and 1.5mg/l respectively in the pond helps in avoiding fish mortality.

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

- **Realised Rainfall:** Rainfall occurred in North and Middle Andaman districts of Andaman and Nicobar Islands, Araria, Arwal, Jahanabad, Aurangabad, Bhabua, Bhagalpur, Bhojpur, Buxar, Gaya, Gopalganj, Jamui, Kathihar, Kishanganj, Madhubani, Nawada, Purnea, Rohtas, Saran, Siwan, Supaul and West Champaran districts of Bihar, all districts of Jharkhand except Dhanbad and Giridih, all districts of Odisha, all districts of Sub-Himalayan West Bengal & Sikkim and all districts of Gangetic West Bengal during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Andaman & Nicobar islands, West Bengal &

Sikkim, Jharkhand and Bihar during the period, along with heavy to very heavy rain with extremely heavy falls at isolated places over Gangetic West Bengal on 27th and heavy rain at isolated places on 28th, heavy rain at isolated places over Sub-Himalayan West Bengal & Sikkim from 29th to 31st and over Bihar from 27th to 29th July, 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.

▪ **Odisha:**

- Continue transplanting of rice. Apply pre-emergence weedicide Bensulfuron methyl+Pretilachlor@10kg/ha or Pyrazosulfuron ethyl @20g a.i./ha at 3 to 4 days after transplanting.
- In North Central Plateau Zone, go for bushening of direct sown paddy in medium and low land if past 21 days stage. Apply 35 kg Urea per acre at bushening followed by weeding and gap filling. Drain out the excess water at the time of fertilizer application and pond it again after one day. Continue sowing of arhar, green gram, black gram and cowpea
- Weed infestation is noticed in direct seeded rice at tillering stage. To control all categories of weeds at two to three leaf stage, spray Bispyribac sodium 10%SC or Penoxsulam21.7%SC @20g a.i. ha-1 in 500 litres of water on a non rainy day.
- Wrapping and propping should be done in 4-5 months old in medium and late duration varieties of sugarcane. To control early shoot borer, spray Chloropyriphos or Quinalphos @ 400 ml/ac in 200 litres of water on a non rainy day.

▪ **Bihar:**

- Undertake transplanting of rice with seedling of 25-28 days old. Before transplanting, apply 1.5-2 kg Urea, 5-6 kg SSP and 1Kg MOP per kattha to field for proper growth and development of the crop. Strengthen the bunds around the rice fields. As in many area, there is a chance of broad and narrow leaf weed infestation, therefore farmers are advised to apply Butachlor 50 EC or Pretilachlor 50 EC @ 1.5 kg a.i. / ha within 2-3 days after transplanting. Maintain 2-3 cm of water in the field before spraying.
- Farmers are advised hand weeding in early sown kharif maize on non rainy days and also apply Topramizon@ 40 g ai/ha or Atrazine @ 1.5 kg ai/ha as early control of weeds.
- Continue nursery sowing of early cauliflower, tomato, chilli and brinjal on raised bed of the field. Seed should be treated with Captan @ 2 g/kg of seed. Farmers are advised to apply 10-15 tonnes of cow dung and also apply 60 kg N, 50 kg Phosphorus and 40 kg potassium per hectare before final preparation of beds.
- In present weather condition, there is a chance for the attack of Bihar hairy caterpillar / Semilooper in Jute crops, farmers are advised to spray Dichlorvos 76% or Acephate 75wp @ 500 ml/ ha for control after current spells of rain.

▪ **Jharkhand:**

- Utilizing the expected rainfall, complete transplanting of medium and low land rice. Timely sown dhainch or sunnhemp green manure crop is presently at 30-35 days old hence, right time for insitu incorporation. Incorporate the chopped green manure crop in the soil for rotting and by doing this fertilizer will be made available through out the growing season.
- Continue sowing of soybean, sesame, urad bean and cowpea in uplands. Undertake cultivation of sweet potato with improved varieties with ridge and furrow method.
- Present weather is conducive for the occurrence of Leaf folder and Hairy caterpillar in groundnut. Hence, farmers are advised for spraying Chlorpyriphos @ 1 ml per lt of water by mixing Teepol @ 0.5 ml for leaf folder and in case of early stage of Hairy caterpillar, spray Dichlorvos @ 0.5 ml per lt of water and in later stage Quinolphos @ 2 ml per liter of water or provide wooden perch for predatory birds to control it. Undertake plant protection methods after current spells of rain.

▪ **West Bengal:**

- In the Sub-Himalayan West Bengal, prepare the rice main field by using rain water. If dhaincha was sown the cut and mix them soil. Use 2 ton compost per acre and mix them well while preparing the land. Apply 11kg Urea, 62.5kg SSP and 16.5 kg MOP per acre at the time of land preparation. Transplant 3-4 healthy seedlings per hill at 20 x10 cm spacing. Provide proper drainage facility in soybean, round chilli, ginger and turmeric fields. Carry out weeding in large cardamom field. Harvest Jute if 120 days age has reached. After harvesting, make bundles and keep them in standing position in the field for leaf shedding. Insert 2-3 dhaincha plant in each bundle to accelerate the process of retting. Keep the basal plant portion submerged in water.
- In Gangetic West Bengal, in Coastal Saline Zone, if submerged conditions are found where transplanting of rice is already completed, arrange for drainage facilities to remove excess water and keep ready the extra seedlings for re-transplanting. Wait for receding of excess water then restart transplanting. Start sowing of tomato seeds for transplanting at the end of August on comparatively upland area with proper drainage channel. Select some hybrid variety like Avinash-2, 448 etc. for sowing of tomato. Start sowing of rainy season Cucurbits like Bottle Gourd , Bitter Gourd , Pumpkin , Ridge Gourd, Pointed gourd, Cucumber etc on ridge. The creepers should be lifted above the ground on a trellis made of bamboo. Proper drainage should be done in the fields. Monitor cucurbits regularly for insect-pest and disease. Carry out land preparation for kharif

bhindi. Undertake transplanting of chilli, brinjal and early cauliflower in raised beds. Proper drainage should be maintained in the field.

- In Sub-Himalayan West Bengal, for the management of cucurbitaceous fruit fly population, use pheromone traps along. For management of brinjal fruit & shoot borer, spray Coragen 18.5% E.C @ 0.5 ml/litre of water after clipping off all the infested twigs, flowers, buds, fruits etc. after current spells of rain. To control of chilli leaf curl, spray Imidachloropid @ 0.2ml/liter of water at evening hours. To reduce early infestation in the rice main field, spray Neem oil 0.03% @ 5ml/liter of water in the evening hours in the nursery.
- In Gangetic West Bengal, collect and destroy the affected bhindi fruits. Spray Neem oil @ 30ml/litre of water at clear weather condition.
- **Andaman & Nicobar Islands:**
- Close the bunds in rice field to store water. Treat the paddy seedlings with 6 packets of Azospirillum and transplant the seedlings in main field at depth of 3cm. Prepare the upland area for transplanting brinjal seedlings by giving 4-5 ploughing manually and apply organic manure before final preparation.
- **Animal Husbandry**
- In West Bengal, protect animals from diseases caused due to excessive rainy conditions and de-worm them at this time. If the cattle already attacked by BQ, FMD or worm infection, promptly give penicillin and Tetracyclin and inoculate these medicine at the side of wound. Wash the wound of foot and mouth disease with potassium permanganate solution. Keep the shade clean and dry. Vaccinate goat and sheep against Enterotoxemia. Vaccinate poultry birds against Ranikhet disease.
- 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. Clean around the arecanut and coconut and also the crown to reduce pest infestation. To cure anaemia in piglet provide Ferrous Sulphate @ 0.5 kg dissolved in 10 lit of hot water.
- In Bihar, animals must be vaccinated for FMD, HS and BQ namely Trivac vaccine administered dose @ 2.5-3ml S/C per animal is recommended.
- In Odisha, vaccinate the calves above 6 months against Bajabajia and Sahana diseases.
- **Fisheries**
- In West Bengal, fish should be stocked @ 1,000-1,500 numbers of fish fingerlings in one bigha pond for grow out fish culture. Apply Mustard oil cake and Rice bran (1:1) as fish feed @ 3-2% body weight of total stock of fish in the pond.
- In Odisha, purchase fish seeds from a reliable fish seed producer and stock 3000 nos. of advance fingerlings of more than 8cm size per one acre of water area. In case of three species combination, the stocking numbers should be for Catla-900, Rohu-1200 and Mrigal-900. In case of six species combination, the stocking numbers should be for Catla-800, Rohu-1200, Mrigal-500, Common carp-300, Grass carp-100 and Silver carp-100. In any situation, the average water depth of the pond should not be less than 5ft level.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, all districts of Madhya Maharashtra except Ahmadnagar, Sangli and Solapur, in Bhandara, Buldhana, Gadchiroli, Gondia, Nagpur and Washim districts of Vidarbha, all districts of Gujarat Region except Patan, in Amreli, Diu, Gir Somnath, Jamnagar, Junagarh and Rajkot districts of Saurashtra & Kutch during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Konkan & Goa during the period, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - **Maharashtra:**
 - In South Konkan, apply second dose of fertilizers i.e. 870 g of Urea per Are area in 30 days old transplanted rice seedling. Before application of fertilizers, complete weeding operation and remove water. After application of fertilizers store water in the field. Continue transplanting of nagli. Transplanting should be done by dibbling method at a distance of 20 cm x 15 cm. Apply first one third dose of urea @ 720 to 870 g per Are area to vegetable fields. In North Konkan, continue transplanting of 30 days old nagli seedling. Transplant seedlings at spacing of 20x15 cm. by 'Thomba' method. Prepare Thomba across the slope. Apply Nitrogen @ 40 kg and P₂O₅ @ 40 kg per ha at the time of transplanting and apply fertilizers in 'Thomba'. Apply one third dose of urea @ 720 g to 870 gm per Are area to vegetable crops.
 - In Madhya Maharashtra, continue transplanting of 21 -25 days old seedling. Undertake intercultural operation like weeding in pearl millet, pigeonpea and soybean. Western part of Kolhapur district and Satara district (Mahabaleshwar, Medha (Javali) and Patan tahsils) received heavy rainfall, drain out excess water from standing crops and sugarcane field. Maintain water level of 2-3 cm in transplanted rice fields. Undertake gap filling in kharif crops like soybean, cotton, tur and maize.
 - In Marathwada, undertake intercultural operations like weeding in soybean, pearl millet, sugarcane fields and

sapota orchard. Undertake top dressing in pearl millet @ 30 kg Nitrogen/ha through Urea one month after sowing.

- In West Vidarbha, continue intercultural operations (weeding/hoeing) in early sown cotton crop for timely control of weeds. Apply top dressing of nitrogen fertilizer to earlier sown one month old cotton crop @ 40 kg N/ha for irrigated Bt cotton, @ 35 kg N/ha for irrigated hybrid cotton, @ 30 kg N/ha for deshi hybrid cotton, @ 20 kg N/ha for deshi improved variety. Continue drenching with Copper oxy Chloride @ 25 g /10 litre of water to avoid incidence of wilt and root rot in pigeon pea. Also undertake intercultural operations (weeding/hoeing) for timely control of weeds. In East Vidarbha, after intercultural operation like hoeing and weeding, undertake top dressing of fertilizer in 30 days old cotton crop.
- In Marahwad, to control sucking pests in sugarcane, spray Chlorpyrifos 20 % @ 30 ml per 10 liter of water.
- **Gujarat:**
 - In South Gujarat Heavy Rainfall Zone, use 20-27 days old seedling for transplanting at 20 x 15 cm distance with 2-3 seedling per hill. Drain out excess water from already sown crop fields. Complete sowing of Pigeon pea, Green gram and Black gram at the earliest at optimum soil moisture conditions.
 - In South Gujarat, maintain 2-3 cm water level in transplanted rice field. Drain out excess water from the maize, sugarcane, green gram, black gram, ginger, turmeric and vegetable crop fields. Undertake intercultural operations in pigeon pea, green gram, black gram, cowpea and castor crops. Provide support to the fruit crops like papaya and banana to reduce the probable damage due to high wind speed.
 - In North Gujarat, drain out excess water from cotton, groundnut, pulses, pearl millet and sesame crop fields. Continue transplanting of tomato, brinjal, chilli and early cauliflower crops and planting of saplings of new orchards. Carry out gap filling in groundnut, pearl millet, pulses, sesame crops. In established orchards, carry out intercultural operations and continue sowing of short duration pulses crops as intercrop.
 - In Middle Gujarat, maintain 5 cm water level in transplanted rice field. Drain out excess water from groundnut, black gram and green gram crop fields. Carry out transplanting of tomato, brinjal and chilli crops. Carry out hand weeding and resume intercultural operations in black gram, green gram and cotton. Undertake gap filling in pearl millet and groundnut.
 - In Saurashtra & Kutch, drain out excess water from already sown crop fields. Undertake thinning/gap filling in cotton, sesame, pulses crops. Continue transplanting of brinjal, chilli and early cauliflower, sowing of ladyfinger, cluster bean, kidney bean, cowpea, tur, amaranthus crops and planting of saplings of new orchards and adopt intercropping of pulses in orchards. Carry out intercultural operations in groundnut, sesame, pearl millet crops.
- **Animal Husbandry**
 - In Gujarat, spray phenyl in the animal shed to avoid flies, mosquitoes and protect livestock during rain. Provide 30-35 gm mineral mixture in daily diet.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh, all districts of West Madhya Pradesh, except Burhanpur, Harda, Khandwa and Khargone, all districts of Chhattisgarh during the week.
- **Advisories:**
 - As rain/thundershowers likely at many places over East Madhya Pradesh during the period, over Chhattisgarh from 27th to 30th, along with heavy rain at isolated places over West Madhya Pradesh from 27th to 29th, over Madhya Pradesh on 30th and 31st July, 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.
 - **Madhya Pradesh:**
 - In West Madhya Pradesh, complete sowing of red gram, maize, green gram, black gram, pearl millet and soybean. Continue transplanting of brinjal, chilli, tomato, early cauliflower and *kharif* onion. Continue transplanting of rice. Undertake intercultural operations in soybean and maize in clear weather.
 - In Malwa Plateau Zone, continue transplanting of new saplings of fruit plants. If germination of soybean and maize is poor gap filling should be done.
 - In East Madhya Pradesh, continue sowing of *kharif* crops like sorghum, sesame, maize, soybean and groundnut. Continue sowing of okra and cucurbits. Continue transplanting of brinjal, chilli and tomato. Continue transplanting of rice. Continue seed bed preparation for onion. Continue sowing of Kodo, Kutki and ramtil. In Kymore Plateau and Satpura Hill Zone, continue direct sowing of rice. Undertake sowing of green gram and black gram. Provide adequate drainage in standing crop fields.
 - In West Madhya Pradesh, to control stem rot disease in ginger and turmeric, spray Blitox 50 @ 2.5gm/litre solution on a non rainy day.
 - **Chhattisgarh:**
 - Complete sowing of *kharif* crops like soybean, til, red gram, maize, groundnut. Undertake inter-cultural

operations in different *kharif* crops like rice, maize, arhar, groundnut, soyabean, urad, moong, vegetables etc. After weeding, broadcast urea as per their requirement. Complete line sowing and transplanting of rice.

- Continue planting of banana, papaya, mango, guava etc. Continue nursery sowing of brinjal, early tomato, chilli and onion in upland areas. Provide proper drainage facility in pulses and oilseed fields.
- **Animal Husbandry**
- In Madhya Pradesh, cattle should be kept in shade and provide clean and fresh water two times a day. Vaccinate the cattle for control of FMD and HS disease.
- In Chhattisgarh, carry out vaccination of animals against Black Quarter, Anthrax and other disease. Create smoke in cattle house to prevent them from mosquitoes.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Himachal Pradesh except Kinnaur, Lahaul & Spiti and Una, in Faridkot, Fatehgarh Sahib, Gurdaspur, Hoshiarpur, Jalandhar, Moga, Nawasahar, Patiala, Ropar, Sangrur and Sasnagar (Mohali) districts of Punjab, all districts of Haryana except Faridabad, Fatehabad, Hissar, Katihai, Palwal, Panipat, Rohtak and Sirsa, in all districts of Delhi except Central Delhi, North West Delhi and South Delhi, in Badgam, Bandipore, Doda, Jammu, Kathua, Rajouri, Ramban, Reasi, Sambha, Srinagar and Udhampur districts of Jammu & Kashmir, all districts of East Uttar Pradesh except Ambedkar Nagar, Balrampur, Basti, Deoria, Fatehpur, Gazipur, Gorakhpur, Jaunpur, Kaushambi, Kheri, Lucknow and Unnao, all districts of West Uttar Pradesh except Bareilly, Etawah, Firozabad, Ghaziabad, Mainpuri, Pilibhit, Rampur and Shahjahanpur, all districts of Uttarakhand except Garhwal Tehri, all districts of East Rajasthan, all districts of West Rajasthan except Barmer, Hanumangarh and Jaisalmer during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Uttarakhand and Uttar Pradesh during the period, over Haryana, Chandigarh & Delhi from 27th to 29th, over Himachal Pradesh on 27th, 28th and 31st, over Jammu & Kashmir on 27th and 28th, at many places over Punjab on 27th and 28th, along with heavy to very heavy rain at isolated places over Uttarakhand on 27th and 30th, over West Uttar Pradesh, Himachal Pradesh, Haryana, Chandigarh & Delhi on 27th, heavy rain at isolated places over East Rajasthan, East Uttar Pradesh, Jammu & Kashmir on 27th, over Uttarakhand on 28th, 29th and 31st, over West Uttar Pradesh and Himachal Pradesh, Haryana, Chandigarh & Delhi on 28th, over Uttar Pradesh from 29th to 31st July, 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.
 - **Jammu & Kashmir:**
 - Continue transplanting of rice seedlings which have attained 4-6 leaves (varieties: China-1039, IET-1410, Ratna, PC-19, SJR-5 & Jaya). Bund the paddy fields for in situ storage of rain water. Drain out excess water from transplanted fields. Do not allow water to stagnate in maize and mash field. Drain out excess water from already sown vegetable and fodder crop field. Undertake sowing of rainy season okra. Undertake seed sowing of marigold. Ensure proper drainage in existing saffron fields. Due to rain in past days and moist condition of the soil, avoid direct contact of cucurbits fruits with soil. Rainy season plantation of new orchards and gap filling can be undertaken. Undertake intercultural operations and application of fertilizers/pesticides in clear weather.
 - Weather is congenial for attack of stem borer on paddy. If observed apply Carbofuron 3G @ 20 kg/ha in standing water and do not drain or irrigate the field for 72 hrs after application after current spells of rain.
 - Weather is congenial for the attack of alternaria blight and phytophthora in different vegetable crops, if symptoms observed, spray of Mancozeb or Mancozeb + Metalaxil @ 2 gm/liter of water after current spells of rain.
 - **Uttarakhand:**
 - Complete transplanting of ready paddy seedlings having 4-5 leaves after current spells of heavy rain. In hilly regions, continue sowing of radish, mustard, coriander, turnip and spinach (Pusa Harit). Provide proper drainage in *kharif* maize and vegetable fields. Provide staking to plants like chilly, capsicum, tomato and brinjal. Continue sowing of urad (*varieties*: Pant urd 19, Pant urd 35 & Pant urd 31, moong (*varieties*: Pant moong 4 & Pant moong 5) and okra (*varieties*: Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti). Continue transplanting of seedlings of cabbage, broccoli and transplanting of chilli. Continue sowing of finger millet, amaranth, black gram, soybean etc. after current spells of heavy rain. Evergreen fruit plants like mango, guava, lemon, papaya, litchi etc. should be planted during the month. Postpone intercultural operations and application of fertilizers and pesticides till weather gets clear.
 - **Himachal Pradesh:**
 - Continue transplanting of 20-25 days old paddy seedling in prepared fields after current spells of heavy rain. Make bunds for conserving rain water in the field. Bund should be higher and wider so that more rain water can be conserved in the field.

- Continue sowing of *kharif* pulses moong, mash and Kulthi. Continue sowing of peas, turnip, carrot, spinach etc in high hilly regions after current spells of heavy rain. Direct sowing & transplanting of tomato brinjal, chilli and capsicum may be completed at the earliest. If these crops are of 20-25 days age then apply dose of urea with intercultural operation after current spells of rain.
- Weather is congenial for attack of blast and brown spot on paddy. To control spray Carbendazim @ 2 g per litre of water after current spells of rain.
- Weather is conducive for stalk rot and stem borer in maize, to control stalk rot drench maize fields with bleaching powder @ 16 kg/ha a week before tasseling and to control stem borer put pinch of Thimete granules in affected plants after current spells of rain.
- There may be attack of red pumpkin beetle and fruit fly in cucurbitaceous crops, take proper plant protection measures after current spells of rain if symptoms observed.
 - **Punjab, Haryana & Delhi:**
 - In Punjab, in transplanted rice, apply second and third dose urea @ 37 kg per acre. Continue sowing of rainy season vegetables like okra, cucurbits and cowpea. Continue transplanting of early cauliflower. Undertake sowing of *kharif* moong and mash. Undertake weeding and hoeing in orchard crops. Undertake sowing of radish in Western Plain Zone.
 - In Haryana, complete transplanting of rice after current spells of heavy rain. Drain out excess water from vegetable and cotton fields. Continue sowing of guar and bajra after current spells of heavy rain. Continue transplanting of vegetables. Undertake intercultural operations in sugarcane in clear weather.
 - In Delhi, apply nitrogen @ 40 kg/ha in 20-25 days old transplanted rice. Continue transplanting of chilli, brinjal and cauliflower. Continue sowing of cucurbits. Continue sowing of guar, bajra, cluster bean, spinach, radish, coriander, amaranths and lady finger. Undertake sowing of baby corn and sweet corn.
 - In Punjab, to control leaf spots or blight disease in cotton, spray Blitox 500 g + Agrimycin 20 g or Streptocycline 3 g/acre after current spells of rain and repeat at an interval of 15 to 20 days.
 - **Uttar Pradesh:**
 - In East Uttar Pradesh, undertake transplanting of onion, cauliflower, brinjal, chilli and tomato. Complete transplanting of rice. Continue sowing of cucurbits. Undertake intercultural operations in moong, urad and soybean crops. In Central Plain Zone, intercropping systems can be adopted in light soils for efficient use of soil and water resources. Pearl millet + Black gram in 2:4 row proportion; Pearl millet + Pigeonpea in 2:1 row proportion or Pigeon pea + Sesame in 1:2 or 2:4 row proportions on up land well drained fields.
 - In West Uttar Pradesh, provide proper arrangement for drainage in vegetables, pulses and maize crop fields. Continue transplanting of rice in Western Plain Zone. Continue sowing of bajra, jowar, green gram and black gram. Continue transplanting of vegetables and sowing of cucurbits and okra.
 - **Rajasthan:**
 - In East Rajasthan, complete sowing of crops like red gram, green gram, cowpea, moth, pearl millet, sesame, sorghum, maize & cluster bean. Continue sowing of rainy season cucurbits like khira, bottle gourd, ridge gourd, bitter gourd & cucumber and nursery preparation of early cauliflower, chilli and brinjal.
 - In West Rajasthan, complete sowing of sesame, guar, pearl millet, cluster bean, moong bean, moth crops. Undertake intercultural operations in cotton and groundnut.
 - In Arid Western Plain Zone, to control infection of root/collar rot in standing crop of groundnut, apply Carbendazim @ 2.0 kg/ha.
- **Animal Husbandry**
 - In Jammu & Kashmir, mineral mixture should be supplemented in diet. Give vaccination against FMD. Provide adequate amount of fresh cool and clean drinking water. Increase protein content in animal ration by 2%.
 - In Himachal Pradesh get the cattles vaccinate against the Foot and Mouth Disease (FMD) & Black Quarter and keep the animals shed dry, neat and clean. Got the cow dung test for the treatment of stomach bugs if any. Spray 5 ml Sypermethrin or Amitrar mixture (2 ml /1 litre of water) on the floor and walls of the cattle sheds.
 - In Uttarakhand possibility of occurrence of Langra fever in cattle, vaccinated them with consultation of veterinarian.
- **Apiculture:**
 - In Jammu & Kashmir, protect bee colonies from rains. Give need based sugar feeding. Inspect colonies on a clear sunny day for infestation of wax moth or other disease. Protect bee hive from ants. Raise new frames by providing comb foundation sheets to healthy colonies. Raise new queen if needed.
 - In Himachal Pradesh examine colonies for barroa mites. Dust sulphur on sealed brood in the colony and not on larvae to control mites attack on honeybees. For protection of ants put the legs of apiary into water so that ants could not attack apiary.