



**National Agromet Advisory Service Bulletin**  
**Based on**  
**Extended Range Weather Forecast (ERFS)**

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**&**  
**Earth System Science Organization**  
**India Meteorological Department**

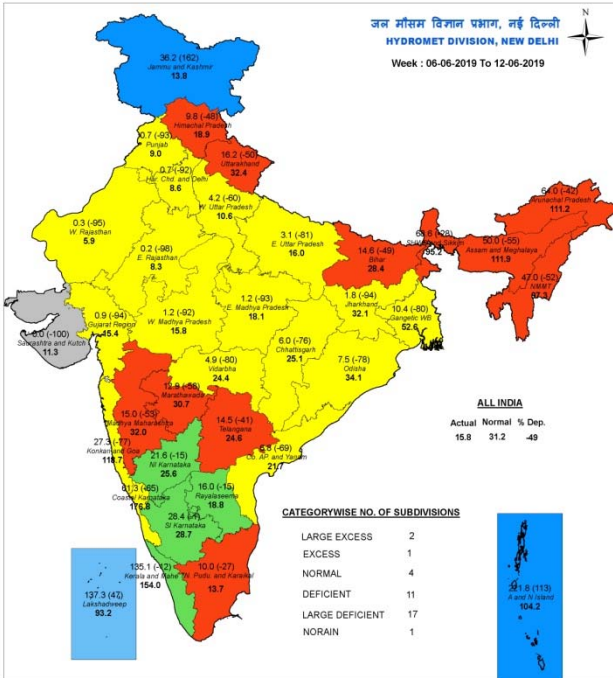
# Realized Rainfall and Extended Range Forecast (Rainfall and Temperatures)

## Realized Rainfall (6<sup>th</sup> to 19<sup>th</sup> June, 2019)



भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT

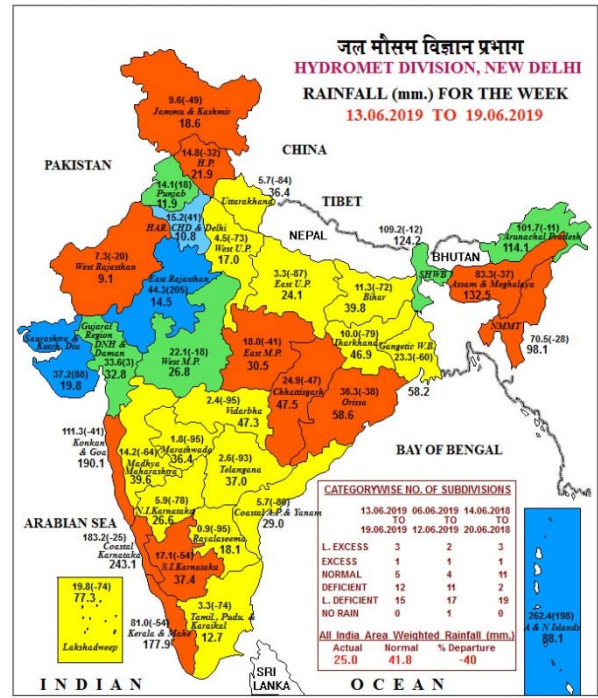
### SUBDIVISION RAINFALL MAP



**Legend**  
■ Large Excess [+60% or more] ■ Excess [+20% to 59%] ■ Normal [+1% to 19%] ■ Deficient [-5% to -20%] ■ Large Deficient [-59% to -80%] ■ No Rain [-100%] ■ NO DATA

**NOTES:**  
 a) Rainfall figures are based on operation data.  
 b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).  
 c) Percentage Departures of rainfall are shown in brackets.

### भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



**LEGEND:** ■ L. EXCESS [+60% OR MORE] ■ EXCESS [+20% TO +59%] ■ NORMAL [+1% TO -19%] ■ DEFICIENT [-20% TO -59%] ■ L. DEFICIENT [-60% TO -99%] ■ NO RAIN [-100%] ■ NO DATA

**NOTES:**  
 (a) Rainfall figures are based on operational data.  
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm).  
 Percentage Departures of Rainfall are shown in Brackets.

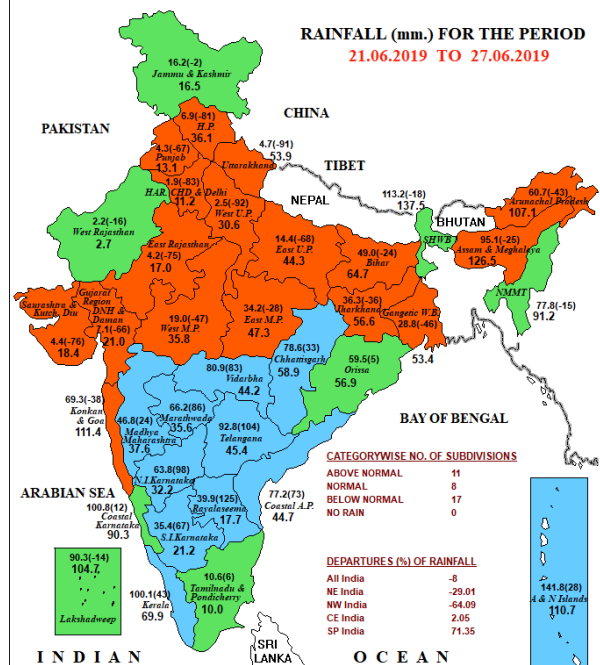
- Normal or above normal rainfall occurred in both the weeks in Andaman & Nicobar Islands.
- Normal or above normal rainfall occurred in either of the two weeks in Jammu & Kashmir, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Gujarat Region, Saurashtra & Kutch, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, North Interior Karnataka, South Interior Karnataka, Rayalaseema, Kerala and Lakshadweep.
- Below normal rainfall / no rain occurred over rest of the country.

## Extended Range Forecast System

### Rainfall forecast maps for the next 2 weeks (IC – 19 June) (21<sup>st</sup> June to 4<sup>th</sup> July 2019)

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**Rainfall Forecast Map - Normal RF Based Categories**

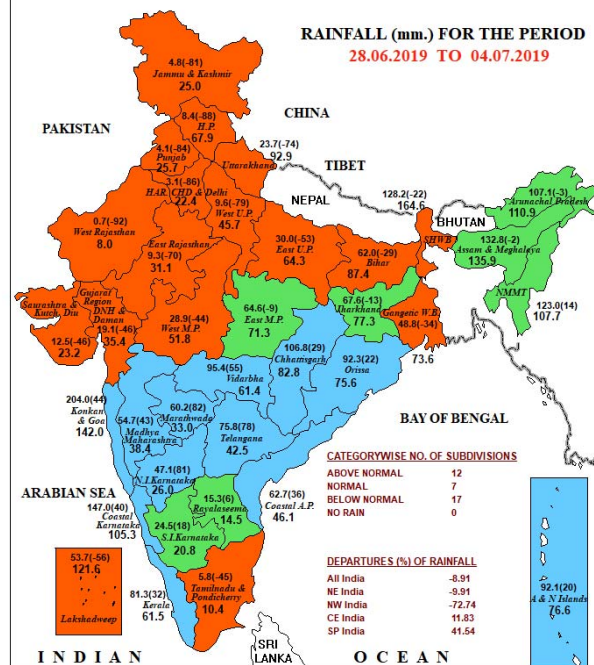


LEGEND: ■ ABOVE NORMAL (+20% OR MORE) ■ NORMAL (+19% TO -19%)  
■ BELOW NORMAL (-20% TO -99%) ■ NO RAIN (-100%)  NO DATA

NOTES:  
 (a) Rainfall figures are based on MME Forecast data.  
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)  
 Percentage Departures of Rainfall are shown in Brackets.

#### भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

**Rainfall Forecast Map - Normal RF Based Categories**



LEGEND: ■ ABOVE NORMAL (+20% OR MORE) ■ NORMAL (+19% TO -19%)  
■ BELOW NORMAL (-20% TO -99%) ■ NO RAIN (-100%)  NO DATA

NOTES:  
 (a) Rainfall figures are based on MME Forecast data.  
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)  
 Percentage Departures of Rainfall are shown in Brackets.

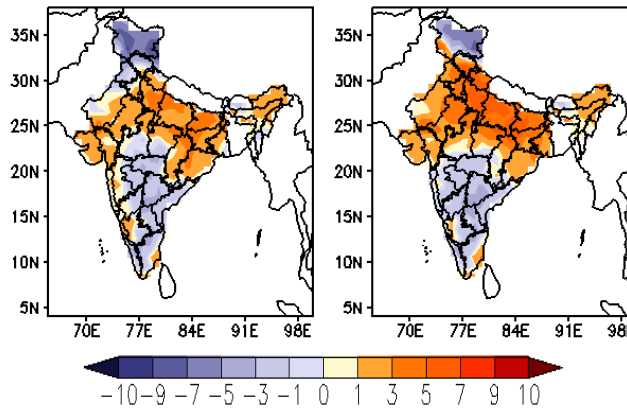
- **Week 1 (21.06.2019 to 27.06.2019):** Associated with strengthening of monsoon circulation over southern peninsula monsoon rainfall will increase over the region of south Peninsula and adjoining central India during week 1. In the absence of monsoon rainfall over NorthWest India, the deficiency of rainfall over NorthWest India will be large during the week. NorthEast India will also be below normal during the week.
- **Week 2 (28.06.2019 to 04.07.2019):** Week 2 rainfall is also almost similar to that of week 1 pattern with normal to above normal rainfall over south Peninsula and central India and below normal over NorthWest India. Monsoon rainfall will increase over South Peninsula and Central India during the week. Rainfall will also increase over NorthEast India.
- As indicated, earlier monsoon will progress slowly to the central and NorthWest India and the cumulative rainfall for the country as a whole is expected to be weaker than normal till 3rd week of June, 2019 and there will be gradual improvement of the same in subsequent weeks.

**Maximum and Minimum temperature anomaly ( $^{\circ}\text{C}$ ) forecast  
for next 2 weeks (IC – 12 June)  
(14<sup>th</sup> to 27<sup>th</sup> June 2019)**

**MME forecast Tmax anomaly (Deg C)**

(Week1: 21Jun–27Jun)

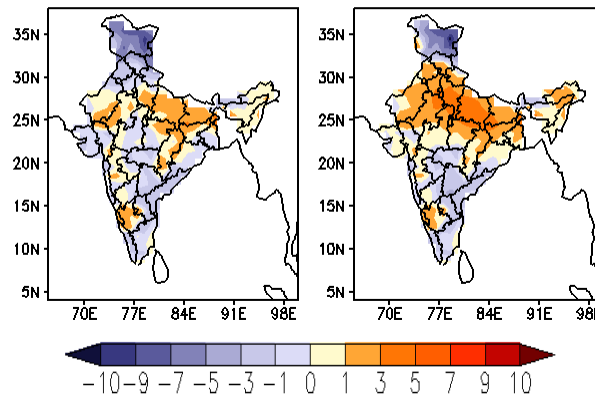
(Week2: 28Jun–04Jul)



**MME forecast Tmin anomaly (Deg C)**

(Week1: 21Jun–27Jun)

(Week2: 28Jun–04Jul)



**Maximum Temperature (Tmax)**

- **Week 1 (21.06.2019 to 27.06.2019) and Week 2 (28.06.2019 to 04.07.2019):** Tmax will be mostly above normal over eastern states of India (Odisha, Gangetic West Bengal, Chhattisgarh, Jharkhand, Bihar); northern parts of the country and adjoining central parts of India during week 1 and week 2. Thus, heat wave condition will prevail over these regions during next 10 days. (Higher anomaly during week 2).

**Minimum Temperature (Tmin)**

**Week 1 (21.06.2019 to 27.06.2019) and Week 2 (28.06.2019 to 04.07.2019):** Minimum temperature anomalies also show similar patterns like that of maximum temperature in week 1 and week 2 with week 2 will have higher anomaly of about 5 deg C over Indo-Gangetic plains.

## Strategic Agricultural Planning based on rainfall during next two weeks till 4<sup>th</sup> July 2019

### Agromet Advisories

#### Kerala

Amount of rainfall received during the period from 01 to 19 June 2019 over Kerala is 236.2 mm (41% deficit). The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is above normal for both week-1 and week-2.

- Paddy:-(*Virippu Season*)-As South west monsoon reached on 8<sup>th</sup> June 2019, farmers are advised to go for land preparation. Soak seeds for 30 minutes in a solution of *Pseudomonas* culture @ 10g/litre per kg of seeds. The above seed treatment can also be used to control sheath blight, sheath rot, leaf spot disease etc. Transplant seedlings at 4-5 leaf stage.
- Coconut:(Bud rot disease)-Since humid condition is prevailing in the state there is a chance of bud rot in Coconut Plantations. Hence keep three numbers of perforated Mancozeb sachets (5g) per palm around spindle leaves as a prophylactic measure against bud rot.
- Banana: (Sigatoka disease) -Propping can be followed to reduce the damage due to high wind speed. There is a chance of sigatoka disease in banana. As a precaution, spray 20 g *Pseudomonas* per litre of water.
- Pepper(Foot rot disease), Nutmeg (Fruit rot disease and leaf fall) - Apply Trichoderma mixture (add 2 kg Trichoderma to a mixture of 90 kg FYM and 10 kg Neem cake and keep for two weeks with sufficient moisture) as a prophylactic measure against the foot rot in pepper and fungal diseases in nutmeg. Basal application of 2.5 kg of this mixture followed by foliar spray with *Pseudomonas* (20g/l) or 1% Bordeaux mixture.
- Cardamom : (Azhukal disease/capsule rot)- Farmers are advised to go for planting. As a prophylactic measure to Azhukal/capsule rot diseases in Cardamom, spray Bordeaux mixture (1%) and drench the plant basins with copper oxychloride (0.2%). When disease occurs in field, drenching and spraying with potassium phosphonate (0.3%) is recommended.
- Arecanut: (Mahali disease) -Since there is a chance for prolonged rainfall, Mahali disease may occur in Arecanut. The conidia of the fungus carried by wind and rainwater is favourable for disease spread. Prophylactic spraying of Bordeaux mixture(1%) or copper oxychloride 50WP (2g/l) with sticker is recommended.
- Vegetables : Take necessary control measures against plant hoppers and white flies in cucurbits. Attack of fruit fly will be severe in bitter gourd and snake gourd. Setting of fruit traps will help to reduce the attack. Irrigate the crops once in 3-4 days. Farmers should be vigilant about diseases like powdery mildew and leaf spot.

#### Karnataka

Amount of rainfall received over North Interior Karnataka is 47.2 mm (30% deficit), South Interior Karnataka is 71.4 mm (17% deficit) and Coastal Karnataka is 250.2 mm (48 % deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) over North Interior Karnataka and South Interior Karnataka is above normal, Coastal Karnataka is normal for week-1 and over North Interior Karnataka and Coastal Karnataka is above normal and over South Interior Karnataka is normal for week-2.



## **South Interior Karnataka**

Under mono cropping the following varieties of long duration crops are suggested for sowing:

- Redgram : TTB-7, BRG-1,2,4&5.
- Castor: DCS-9 (Jyothi), DCH-177&32
- Maize: Ganga-11, Deccan -103, Vijaya composite, Composite NAC- 6004,6002, Hybrid-Nityashree ( NAH-2049).

Under double cropping the following varieties of short duration crops are suggested for sowing:

- Indaf-8, MR-1 and 6 are recommended varieties of Ragi.
- Navile-1, T-7 are recommended varieties of Sesame.
- TMV-2, JL-24, KCG-6 7 are recommended varieties of Groundnut.
- TVX-944, KBC-1, Green gram: PS-16, PDM-84,178 7 are recommended varieties of Cowpea.
- Karagao-3, T-9, Rashmi (LBG-625) 7 are recommended varieties of Black gram.
- Mango: Taken up deep plough to expose the soil to kill the different stages of insect.
- Recommended for pruning in June-July month to facilitate the sunlight to bear the more fruits in next seasons.
- Dairy: Proper ventilation should be maintained for free circulation of air in the shed.

## **Tamil Nadu**

Amount of rainfall received during the period of 01 to 19 June 2019 over Tamil Nadu is 24.4 mm (34 % deficit). The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is normal for week-1 and below normal for week-2.

- Irrigation may be given to the cotton, sorghum and chilli crops based on the soil moisture availability.
- In the prevailing weather condition, Shoot fly occurrence is noticed. ETL: 1 egg/plant in 10% of plants in the first two weeks of sowing or 10% dead hearts. Spray Dimethoate 30 EC @ 500 ml/ha (or) Neem Seed Kernel extract 5%.
- Prevailing weather condition is favorable for Citrus canker / scab disease incidence. To control, spray Copper Oxy Chloride 0.2% at fortnight intervals. If micro nutrients like Iron (or) Copper deficiency symptom is noticed, spray FeSO<sub>4</sub>@ 0.5% (or) CuSO<sub>4</sub> 0.5% at fortnight interval to correct the deficiency.
- Coconut: In the prevailing weather condition Rhinoceros beetle and Red palm weevil occurrence is noticed.
- To control Rhinoceros beetle, remove and burn all dead coconut trees in the garden (which are likely to serve as breeding ground) to maintain good sanitation. Collect and destroy the various bio-stages of the beetle from the manure pits (breeding ground of the pest) whenever manure is lifted from the

pits. Soak castor cake at 1 kg in 5 litre of water in small mud pots and keep them in the coconut gardens to attract and kill the adults. Apply mixture of either neem seed powder + sand (1:2) @150 g per palm or neem seed kernel powder + sand (1:2) @150 g per palm in the base of the 3 inner most leaves in the crown.

- Red palm weevil Symptoms: Remove and burn all wilting or damaged palms in coconut gardens to prevent further perpetuation of the pest. Avoid the cutting of green leaves. If needed, they should be cut about 120 cm away from the stem in order to prevent successful inward movement of the grubs through the cut end.
- Banana: For protecting banana from high wind speed, mount the soil around the base of the tree and give support by using Casuarina poles.
- Chilli: Prevailing weather condition is favourable for Die back / Anthracnose disease incidence. Good control of the disease has been reported by three sprayings with Captan 0.2% or miltox 0.2%. Chemicals like Wettable sulphur 0.2%, copper oxychloride 0.25% and Zineb 0.15% not only reduced the disease incidence but also increase the yield of fruits.
- Animal Husbandry: Preventive medicine for Anthrax and FM disease may be given to the goat and sheep by utilizing the facility from nearby veterinary hospital.

### **Maharashtra**

Amount of rainfall received over Madhya Maharashtra is 30.3 mm (65% deficit), over Marathwada is 20.1 mm (75% deficit), Vidarbha is 8.9 mm (89% deficit) and Konkan region 138.6 mm (60% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) over Vidarbha, Madhya Maharashtra and Marathwada is above normal and over Konkan it is below normal for week -1 and over all the sub divisions of Maharashtra it is above normal for week-2.

### **Marathwada**

- To increase yield as well as to maintain soil health, intercropping of Pigeon pea + Pearl millet (1:2 or 2:4), Pigeon pea + Sorghum (3:3 or 2:4), Pigeon pea + Cotton (1:6 or 1:8) and Pigeon pea + Soybean/Green gram/Black gram (1:2 or 2:4) is recommended.
- Intercultural operation should be done in grape orchard.

### **Madhya Maharashtra**

- If normal rainfall occurs during this week, sowing of all dry land kharif crops viz., Tur, Black gram, Green gram, Bajra, Sunflower should be carried out. For intercropping Bajra + Tur (2:1) and Sunflower + Tur (2:1) should be carried out.
- For controlling mealy bugs and other sucking pests in fruit crops, spray either dimethoate @ 20 ml or imidacloprid @ 5 ml in 10 litre of water with 5 ml sticker.
- To control white grub attack after pre-monsoon rains, collect white grub adults from neem, babul trees and put them in kerosene mixed water.

### **Vidarbha**

- For cotton sowing, recommended desi varieties include AKA-5, AKA-7 and AKA-8 with seed rate of 12 to 15kg/ha and spacing of 60cm x 15cm. American improved varieties include AKH-081 (60cmx15cm with seed rate 15 to 20 kg/ha), PKV Rajat and AKH 8828 (60x30cm with seed rate 10 to 12 kg/ha). Cotton desi hybrid PKVDH-1 is recommended with seed rate @ 3.0 to 3.5 kg/ha and spaced at 60cmx45cm. Recommended Bt cotton varieties may also be preferred. In cotton at the time of sowing, grow trap crops like maize, marigold, cow pea and sorghum. Grow non BT cotton seed around the BT cotton field as a trap crop for bollworm complex.
- Pigeon pea varieties to be chosen as per the soil type are - early duration varieties for medium soil type (TAT-10, ICPL 87, AKT-8811), medium duration varieties for medium to heavy soil type (BSMR-736, PKV Tara, BSMR-853) and long duration varieties for heavy soil type (ICPL-87119, C-11).
- Recommended green gram varieties are PKV- green gold, PKV mug -8802, TARM-18 and for black gram PKV-15, TAU-1, TAU-2 and TPU-4.
- Crop specific seed treatment is advisable at the time of sowing with Rhizobium @ 25g/kg, PSB @ 25g/kg and bio-fungicide Trichoderma @ 4g /kg of seed.
- Recommended soybean varieties are JS-335, JS 93-05, JS 9560, JS 97-52, MAUS-71, MAUS-81.
- Prepare rice seed beds at 1.2m x 4.0m size for rice nursery on uplands field. Store sufficient quantity of improved varieties of seeds and required fertilizer during *kharif* season in Eastern Vidarbha Zone.

### **Jharkhand**

Amount of rainfall received over Jharkhand during 01 to 19 June 2019 is 26.7 mm (71 % deficit). The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for week-1 and normal for week-2.

- Farmers are advised to adopt ridge and furrow method for cultivation of different crops except rice. This methods has several advantages like better yield, conservation of rain water in furrows, lesser soil erosion and rotting of the plant in the event of excess rain.
- Upland - Keeping in mind of irregularities of rainfall, farmers may prefer cultivation of these crops like Arhar (Pigeon pea), Urd (Black gram), Marua (Finger millet), Jowar, Bajra etc. having least water requirement. The field having serious infestation of termites, Neem or karanj cake may be mixed in the soil at the time of final land preparation. Seed treatment with the insecticide chlorpyrifos 20 E.C. @ 8-10 ml. per kg of seed is essential for sowing in termite infested field. Seeds of pulse crop may also be treated with Rhizobium culture to boost up the yield.
- Raising of Rice seedlings - Farmers having assured irrigation facility, may proceed for raising rice seedlings. Seedlings must be raised phase wise (3 - 4 phases) at the interval of 5 days, so that suitable seedlings may be available at the time of transplanting. 16 to 18 kg seeds and 10 disml area of nursery bed are required for transplanting in 1 acre of land. Nursery bed should be slightly above to the ground level and seeds should be treated with Bavistin + Thiram (1g + 1g) per kg of seed before sowing.

### **Bihar**



Amount of rainfall received over Bihar during 01 to 19 June 2019 is 39.2 mm (52 % deficit). The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for both the weeks.

- In view of dry weather forecast in next 2-3 days, farmers are advised to complete the harvesting and threshing of *rabi* maize and moong bean/urid bean.
- Nursery sowing is advised for medium duration of rice varieties such as *Seeta*, *Santosh*, *Saroj*, *Rajshri*, *Prabhat*, *Rajendra suvasni*, *Rajendra kasturi* and *Rajendra bhagwati* in North Bihar. Before sowing, seeds should be treated with Carbendazim@1.5g/kg of seed. In 10-12 days old paddy nursery weeding is advised.
- Nursery sowing is advised for *kharif* onion. For healthy and strong seedlings, application of FYM/compost is advised during nursery preparation. *Agrifound Dark Red (ADR)*, *N-53*, *Bhima super*, *Arka kalyan* are recommended varieties for sowing in North Bihar region. Nursery should be covered by net at the height of 6-7 feet from against sunlight.
- Sowing of *Rajendra Sonia* and *Rajendra Sonali* varieties of turmeric is advised. The size of the seed should be around 30-35g which contains 4-5 buds. Seed treatment with 2.5g Diethane M-45 plus 0.1% bavistin/Kg of seed is advised. Sowing should be done after half an hour of seed treatment.
- Sowing of *kharif* maize is advised. *Devki*, *Suwan*, *Shaktimaan-1*, *Shaktimaan-2*, *Rajendra shanker makka-3* and *Ganga 11* varieties are recommended for North Bihar. Application of 100 quintal of FYM, 30 kg Nitrogen, 60 kg Phosphorus and 50 kg potash per hectare is advised before sowing. Seed rate@20 kg per hectare is advised. Check the proper soil moisture before sowing.
- Land preparation is advised for sowing of pigeon pea (*Arhar*), sesamum(*Til*) and sunflower. Application of well decomposed FYM/Compost is suggested during land preparation. It increases the efficiency of water usage and nutrient quantity in the soil.
- Land preparation is advised for *kharif* vegetables. For healthy crop production, application of FYM/compost is advised during land preparation. Intercultural operation is advised in summer vegetables such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd etc. To protect the summer vegetables from leaf feeder/fruit borer insect-pest, spraying of Di-methoate 30 EC @1-1.5ml/L of water is advised.
- In view of increasing temperature, provide clean water to the milch animals and keep them in the shade place in day hours. Vaccination of cattle is advised against Anthrax, Black Quarter and H.S. diseases.

### **Uttar Pradesh**

Amount of rainfall received over East Uttar Pradesh is 7.4 mm (84% deficit) and West Uttar Pradesh is 8.7 mm (73% deficit) during 01 to 19 June 2019. The extended range weather forecast over East and West Uttar Pradesh for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for both the weeks.

- Frequent irrigations in standing crops should be done at shorter interval.
- Nursery raising of late maturity paddy varieties such as Sabha Mahsuri, swarna, swarna sub-1, Jallahri and Jal Priya etc. as earliest. Farmers are advised for nursery raising of paddy by using the seeds@ 30 kg, 35 kg, 40 kg and 15-20 kg seeds/ha. for medium, coarse and hybrid varieties respectively.

- Ensure the availability of Hybrid varieties of paddy such as Arize 6444, Arize 6201, PHB 71, Narendra hybrid dhan-2, KRH-2, PRH-10, Pant hybrid dhan-1, Ganga, HRI 157, DRRH-3 and US-312 and also advised for its nursery raising.
- Direct seeding of paddy under stagnation water 30 cm to 1m depth with improved varieties such as Jalpriya, Jallahri. Under Flash flood area, farmers are advised for nursery raising of paddy with improved varieties such as Chakia-59 and Swarna sub-1. Before nursery raising, they are advised for seed treatment with Thiram.
- Sowing of Pigeon pea with improved varieties such as Paras, UPAS-120 should be initiated under optimum soil moisture condition.
- Light rain/thundershower very likely to occur at many places and weather likely dry on rest day, farmers are advised to medium duration rice such as Narendra dhan -359, Malviya dhan-36, Narendra dhan -2064, Narendra dhan -2026, or Hybrid varieties as Arize -6444, 6201, PHB-71, KRH-2, PRH-10 and JKRH-401 etc. Seed should be treated with Streptocycline 4.0 g with 45 lt. water for 30-35 kg seed/ ha for the control of Bacterial blight.
- Sowing of *Kharif* maize varieties such as Hybrid Dakan-107, Malveya-2, JH-3459, Prakash, PSM-5, Pro-303, KH-510, MMH-113 and Composite varieties Novjoti, Pusa-2, Prabhat and Azad uttam should be sown 18-20 kg/ha treated seed.
- Sowing of sorghum composite varieties like Varsa, SPV-1388, and Vijeta and hybrid varieties as CSH-18,13 and CSH-23 by 10-12 kg/ha composite and 7-8 kg/ha hybrid treated seed in sloppy field.
- Animal Husbandry: Balanced ration should be given to animals to maintain regularity of milk production. Balanced ration should be prepared with 40% grain (Maize/wheat/sorghum etc.), 30% wheat bran, 27% mustard cake, 1% common salt, 1% chalk (khadia) and 1% mineral mixture.
- Follow a regular vaccination programme in cattle, buffalo, goat, sheep and poultry to prevent the infectious diseases.

### **Chhattisgarh**

Amount of rainfall received over Chhattisgarh during 01 to 19 June 2019 is 10.4 mm (68 % deficit). The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is above normal for both the weeks.

- Need based irrigation and intercultural operation should be done in tomato, brinjal, chilli, okra and other vegetable crops.
- Pruning should be done in the fruit orchards like guava mango, citrus and pomegranate. Application of Bordo paste should be done on the pruned branches after this operation.
- In banana, papaya and other crops, increase the amount of water in the drip as per evapo-transpiration rate.
- Before nursery sowing or direct seeding of rice crop, rice seeds should be treated with 17 % salt solution. Certified or foundation seeds should be treated with fungicide provided with packet.
- Vaccination should be done for the calves in the age group of 4-8 months against Brucellosis and vaccination should be done against PPR disease for goats crossing the age of 4 months.
- For protecting the poultry and livestock against the high humidity conditions, dairy/ poultry farmers should use ventilating fans.
- Vaccinate the animals to prevent from Haemorrhagic septicaemia and black quarter disease.
- Vaccinate the poultry bird to prevent from Ranikhet disease. (first F-1 in age of 7 days & second R2B in age of 8 week )

## **Rajasthan**

Amount of rainfall received over East Rajasthan is 44.9 mm (67% excess) and West Rajasthan is 7.8 mm (56% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) over East Rajasthan is below normal and West Rajasthan is normal for week-1 and over East and West Rajasthan is below normal for week-2.

- Ploughing and incorporation of FYM should be done.
- Procure improved seeds and fertilizers for ensuing *kharif* season. Improve varieties of bajra are RHB-121, HHB-67, HHB-60, Raj-171, GHB-538, Pusa-605, RHB-177 in western and eastern Rajasthan and improve varieties of maize are HQPM-1, HQPM-5, PEHM-1, PEHM-2, Pratap Hybrid-1, Bio-9681, Bio-9637, Navjot, Mahi Kanchan, Pratap Makka-5 suitable for maize growing region in the state.

## **Assam**

Rainfall received over Assam is 173.1 mm (44% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for week-1 and normal for week-2.

- **Sali Rice:** Continue the sowing of well germinated seeds of Sali rice in the nursery bed. The seeds should be treated with any one of the fungicides like Thiram, Captaf or Indofil M-45 @ 2.5g/kg of seeds before sowing. Attack of pests like green leaf hopper, thrips and diseases like brown spot, blast in nursery bed of rice may occur. For control, farmers are advised to apply any systemic insecticide like Chloropyrifos, Quinalphos etc. in fair weather.
- **Sugarcane:** Farmers are advised to go for second earthing up in sugarcane field which leads to develop furrows in between the ridge and further helps in draining out of excess water during the time of high rainfall. Spread of stem borer can be checked by burying/burning of infested canes. In order to check chemically, spray of Phosphomidon @60-70 ml per 120 lt of water for 1 bigha is advised. spraying of Phosphomidon @60-70 ml per 120 lt of water for 1 bigha.
- **Banana:** During this monsoon period, farmers may observe small spindle shaped spots on foliage with greyish centre and yellowish halo running parallel to veins. To control this disease, spray Carbendazim at first appearance followed by 4 sprays at 30 days interval.
- **Fishery:** As water has already started to accumulate in the ponds, stocking with fingerlings or carried over seeds of 15 cm size @ 5000 per hectare of water surface area may be advocated. For composite fish farming stocking density for different species per hectare area are : Rahu 750 nos, Silver carp 1000 nos, Catla 750, Grass carp 500 nos, Mrigal 1000 nos, and Common carp 1000 nos.
- **Cattle:** Farmers were advised to take preventive measure against Foot & Mouth disease, BQ, SH and other bacterial diseases in cattle and Buffaloes, since predicted weather conditions is congenial for occurrence of these diseases.

## **West Bengal**

Rainfall received over Gangetic West Bengal is 51.6 mm (62% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for both the weeks.

- Aman Rice- Cloudy days are expected from tomorrow. Light rainfall may occur in next five days. Thus, complete the nursery-bed preparation, as per the suggestions provided last week. Sow 7 to 8 Kg seeds in the seedbed for transplanting of one bigha of land. Use suitable and improved varieties like IET-4786, Khitish, Swarna, IR-36, etc. Farmers, who are interested in early transplanting, may start the preparation of main land for transplanting. In pumpkin, ridge-gourd, pointed gourd and cucumber, there is a chance of attack of Red-Pumpkin Beetle in the weather condition. To control the pest, apply Dimecron or Rogor (1ml per litre of water).
- Jute: Complete the intercultural operations. Under prevalent weather situation, there is a chance of the attack of weevil. To control it apply 2ml Endosulphan per lit of water. At present attack of jute semilooper, bihar hairy caterpillar and stem weevil is becoming severe. Apply Diclorovos @3 ml per 4 litre of water or Endosulphan 2 ml per litre of water.
- Vegetables: In pumpkin, ridge-gourd, pointed gourd and cucumber, there is a chance of attack of Red-Pumpkin Beetle in the weather condition. To control the pest apply Dimecron or rogor (1ml per lit. of water). In brinjal fruit and shoot borer is very severe in many places. Apply Triazophos 40 EC @ 1.5 ml, Spinosad 45 EC @0.2 ml or Cartap Hydrochloride @0.75 g per litre of water alternatively.
- Mango: In the prevailing weather situation, there is a chance of attack of fruit borer. To control these insects, spray Dichlorovos @ 1.5 - 2.0 ml per litre of water.

### **Haryana**

Rainfall received over Haryana is 16.1 mm rainfall (28% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for both the weeks.

- Paddy: Farmers are advised to apply light irrigation with short interval at morning or evening hours in existing nursery.
- Bajra/Guar: Farmers are advised for field preparation and procure the certified seeds for sowing of guar, bajra, maize, cluster bean after pre monsoon rain.
- Vegetables/Fruit plants: Possibility of variable weather, advised to apply light irrigation in planted vegetable crops and fruit plants as per requirement at morning and evening.
- Live stock: Possibilities of gusty winds, farmers are advised to keep the animals under sheds. Provide them clean water to drink to avoid heat stress. Provide 50 grams iodized salt and 50 to 100 grams mineral mixture daily to the cattle/animal and feed green fodder to keep them healthy.

### **Punjab**

Rainfall received over Punjab is 16.0 mm rainfall (32% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for both the weeks.

- Cotton: Remove the weeds like kanghi buti, peeli buti, puth kanda etc growing on cotton field bunds, waste lands, road side and irrigation channels/canals to avoid further spread of whitefly to cotton field.
- Sugarcane: For the management of early shoot borer in sugarcane, use Tricho-cards having 20,000 eggs of *Corcyra cephalonica* parasitized (seven days old) by *Trichogramma chilonis* per acre at 10 days interval.
- Vegetables: Chilli fruits may drop due to the high temperature during May and June. Two foliar sprays of naphthalene acetic acid (NAA) at 10 day interval @4 ppm after 45 and 55 days of transplanting can be done to increase the green and red ripe fruit yield of chilli.
- Fruit borer attack in tomato crop can be checked by spraying 30 ml of Fame 480 SL or Coragen 18.5 SC in 100 litres of water per acre. Observe waiting period of 3 days after the spray of Fame and one day after Coragen.
- To protect the tomato crop from early blight spray the crop with Indofil M-45 @ 600 g/acre in 200 litres of water.
- Fruit and shoot borer of brinjal should be controlled by spraying 80 ml Coragen 18.5 SC or 80 g Proclaim 5 SG in 100-125 litres of water per acre.
- For the control of powdery mildew in cucurbit, spray the crop with Karathane 50-80 ml/acre at the appearance of powdery patches on the leaves. Avoid sprays of sulphur or copper based fungicide on cucurbits.
- Fruit Plants: To avoid the adverse effect of hot weather on fruit trees, apply white-wash on the trunks of the trees if it is not done earlier. During summer, splitting of fruits is quite common in litchi, pomegranate and lemons. Water spray may prove useful in keeping the ambient atmosphere of the fruit humid as moisture has a good local effect on the fruit against splitting. The light irrigations at a regular interval are quite effective against the hot weather and sun injury. The young litchi plants may need irrigation twice a week.
- To improve the fruit quality in Kinnow, second spray of 1 % potassium nitrate (10 g per liter of water) should be done in potassium deficit soil.

### **Andhra Pradesh**

Rainfall received over Andhra Pradesh is 19.1 mm rainfall (70% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is above normal for both the weeks.

- Farmers are advised to wait until accumulation of minimum of 50 mm rainfall in light soils and 75 mm rainfall in black soils after onset of monsoon to take up sowing of rainfed crops.
- Utilizing the forecasted rainfall during this week, famers are advised to take up sowing of green manure crops like Sunn hemp or Daincha in paddy fields in Vishakhapatnam, East Godavari, Guntur districts.
- Farmers can take up sowing of Sesame in Vishakhapatnam and East Godavari districts with the available soil moisture. They can select high yielding varieties like Hima, Sarada (YLM 66) for sowing. Sowing of Rice nurseries in Srikakulam, Vizianagaram, East and West Godavari, Krishna and Guntur districts under assured irrigation conditions.
- Groundnut sowings can be taken up under assured irrigation in Chittoor, Nellore, Kadapa, Kurnool and Ananthapuramu districts and from 1<sup>st</sup> July onwards under rainfed conditions in Kurnool and Ananthapuramu districts.



## Himachal Pradesh

Rainfall received over Himachal Pradesh is 30.8 mm rainfall (37% deficit) during 01 to 19 June 2019. The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is below normal for both the weeks.

- To control the Hopper insects in mango spray mascran or nuacran @ 40 ml or 200 ml per 200 liters of water.
- To control fruit borer in litchi spray cypermethrin 10 EC @ 1 ml per litre of water at 15 days interval.
- Do deep ploughing of fields after harvesting of *rabi* crops. It helps in destroying the eggs and pupating stages of insects and weed seeds.
- For weed control in maize spray recommended dose of atrazine 50 wp 1.75- 2.25 litres per hectare in 800 litres of water within 48 hours of sowing.
- Continue to apply light irrigation daily in rice nursery.
- Animal Husbandry: To protect animals from high temperature stress, splash the water on their body 2-3 times a day. For milch animals follow schedule of 1 kg feed+50g mineral mixture per 2 litres of milk.

## Jammu

Rainfall received during 01 to 19 June 2019 over Jammu is 66.7 mm which is (60% excess). The extended range weather forecast for next two weeks (21 to 27 June and 28 June to 04 July) is normal for week-1 and below normal for week-2.

- Paddy: Initiate land preparation of the fields where rice seedlings are to be transplanted and also apply the recommended quantity of well rotten FYM/Compost @ 15 tonnes/ha with the first ploughing for its better mixing. Hoeing and weeding by mechanical methods or use Butachlor granules 5G @ 30 kg/ha in already sown nursery of early transplanted rice crop.
- Maize: Start sowing the recommended varieties of maize (Vivek-25, Vivek QOM-9 HM-5 and HQPM-1) with seed rate of 20-30 kg/ha as sufficient moisture available in the field.
- Floriculture: Transplanting of rainy seasonal annuals (gaillardia, balsam, cosmos, portulaca, kochia, sunflower, morning glory, gomphrena, celosia etc.) due to the availability of sufficient moisture.
- Green Manuring: To enhance the biomass apply urea 2kg /kanal to dhaincha crop. Incorporation of dhaincha may be taken up before flowering stage in the transplanted rice field.

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