



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

Valid for 16th to 29th September, 2016

Date of Issue: 16th September, 2016

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**Earth System Science Organisation
India Meteorological Department**

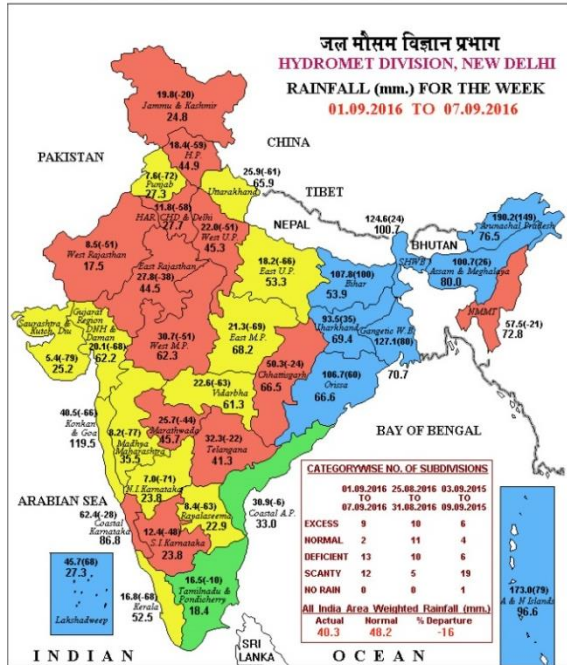
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**Indian Council of Agricultural Research (ICAR)
All India Coordinated Research Project on Agricultural Meteorology (AICRPAM),
Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad**

* National AAS Bulletin based on ERFS is available at <http://www.imdagrimet.gov.in/erfsview15>

Realized Rainfall (1st September to 14th September 2016)

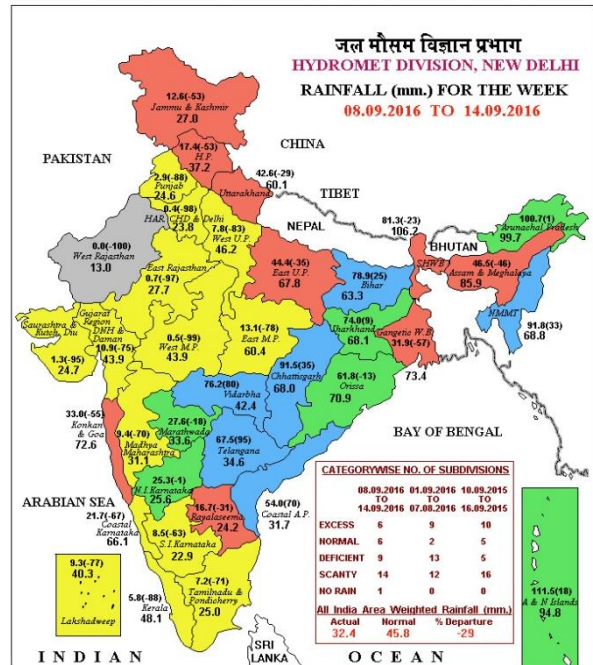
भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



LEGEND: ■ EXCESS (+20% OR MORE) ■ NORMAL (+19% TO -19%) ■ DEFICIENT (-20% TO -59%)
■ SCANTY (-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.

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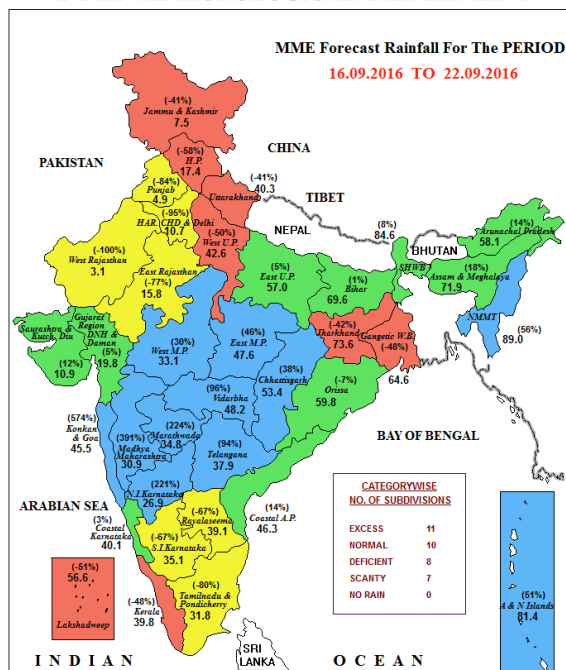
- Normal or above normal rainfall occurred during last two weeks in Bihar, Odisha, Jharkhand, Arunachal Pradesh and Coastal Andhra Pradesh.
- Normal or above normal rainfall occurred in either of the last two weeks in Nagaland, Manipur, Mizoram, Tripura, Gangetic West Bengal, Marathwada, Vidarbha, Chhattisgarh, North Interior Karnataka, Telangana, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and Tamil Nadu.
- Below normal rainfall occurred in the last two weeks in Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana & Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Gujarat State, Coastal Karnataka, South Interior Karnataka, Rayalaseema and Kerala.

Extended Range Forecast System

Subdivisionwise rainfall forecast for the next 2 weeks (IC= 14th September 2016)

Rainfall forecast (16-29 September, 2016)

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

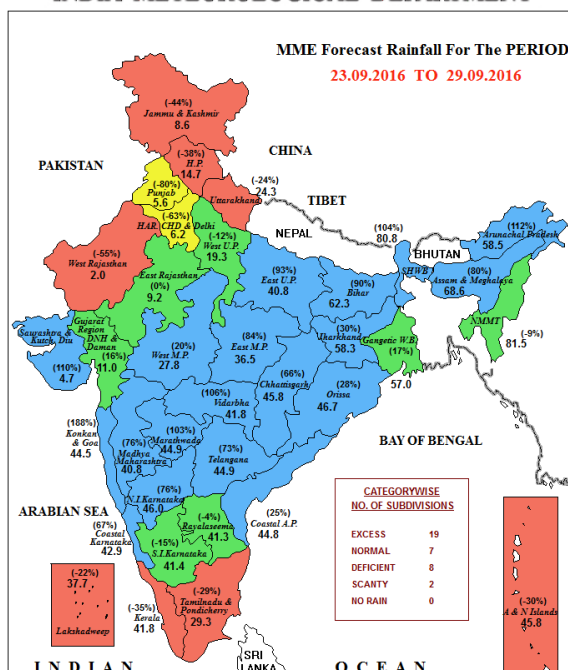


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NOTES:

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- (b) Bold figures indicate Forecast Normal rainfall (mm.)
- (c) Percentage Departures of Rainfall are shown in Brackets.

- Normal or above normal rainfall is likely to occur during next fortnight over Bihar, Sub Himalayan West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, East Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Gujarat State, Maharashtra, Coastal Andhra Pradesh, Telangana, Coastal Karnataka and North Interior Karnataka.
- Normal or above normal rainfall is likely to occur in either of the next two weeks over Gangetic West Bengal, Jharkhand, West Uttar Pradesh, East Rajasthan, Rayalaseema and South Interior Karnataka.
- Below normal rainfall is likely to occur during the next two weeks over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana & Delhi, West Rajasthan, Kerala and Tamil Nadu.

Strategic Agricultural Planning based on rainfall during next two weeks till 29th September

- During 1st week (16-22 Sept.), main rainfall activity is likely (normal to slightly above normal) over the western, central parts of India and adjoining south peninsular India. Whereas, below normal rainfall is expected over Northwest/North India and also the extreme south peninsula. Quantitatively Normal/Above normal rainfall is expected over the country as whole and homogeneous regions of India except the NW India.
- During 2nd week (23 -29 Sept.), rainfall is expected to increase with most parts of India expected to get normal/above normal rainfall.

Maharashtra

Madhya Maharashtra

Below normal rainfall occurred during last fortnight. Excess rainfall is likely to occur during next fortnight.

- Maintain water level of 5-7 cm in transplanted rice fields in Western Ghat Region.
- Keep the already harvested produce of green gram and black gram in safer place.
- Field preparation and sowing of *rabi* jowar with available soil moisture.
- Plant protection measures in cotton, red gram and vegetable crops.
- Provide drainage facility in standing crops like red gram, groundnut, jowar, cotton and soybean.
- Compartmental bunding in fallow land for retaining water in the soil.
- Undertake intercultural operations like hoeing in cotton and red gram to conserve soil moisture in clear weather.

Marathwada

Deficient rainfall occurred in first week and Normal rainfall occurred in second week of last fortnight. Excess rainfall is likely to occur during next fortnight.

- Keep the already harvested produce of green gram and black gram in safer place.
- Preparatory tillage for *rabi* crops in fallow lands.
- Plant protection measures in cotton, red gram, vegetables, orchards and sugarcane crops.
- Provide drainage facility in standing crops like red gram, groundnut, jowar, cotton and soybean.
- Undertake intercultural operations like hoeing in cotton and red gram for conservation of soil moisture in clear weather.
- Compartmental bunding in fallow land for retaining water in the soil.
- In citrus, for fruit drop, undertake a spray of NAA @ 1 gm + Carbendazim @ 100 gm + 1 kg urea in 100 liter of water in clear weather.
- After harvest of *kharif* green gram and black gram, prepare the field for *rabi* crops. Sowing of sorghum (Maldandi, Yashoda, Parbhani Moti) and safflower (Bhima, DCH-129, NAARI) can be done during this week.

Vidarbha

Below normal rainfall occurred in first week and excess rainfall occurred in second week of last

fortnight. Excess rainfall is likely to occur during next fortnight.

- Provide adequate drainage in standing crop fields in Chandrapur, Gadchiroli, Gondia and Bhandara districts.
- Maintain 5-7 cm water level in transplanted rice fields in Chandrapur, Gadchiroli, Gondia, Bhandara and Nagpur districts.
- Keep the already harvested produce of green gram in safer place.
- Rainfed crop of safflower (Bhima, AKS-207, PKV-Pink) can be sown from 4th week of September to 1st week of October. Follow seed treatment with bio-fungicide *Trichoderma* and biofertilizers *Azotobacter*/PSB.

Konkan

Below normal rainfall occurred during last fortnight. Excess rainfall is likely to occur during next fortnight.

- Provide adequate drainage in rice fields.
- Maintain water level upto 7-8 cm in rice field by bunding the fields.
- Intercultural operations and plant protection measures in rice, finger millets, vegetable fields and mango, cashew and sapota orchards in clear weather.
- There is a possibility for incidence of bacterial blight in paddy. Spray 25 gm of Copper Oxychloride and 5 g of Streptomycin Sulphate in 10 liters of water in clear weather.

Gujarat

Gujarat Region

Below normal rainfall occurred during last fortnight. Normal rainfall is likely to occur during next fortnight.

- Continuation of nursery bed preparation for seedling of *rabi* vegetable crops like chilli, tomato and brinjal in South Gujarat Zone.
- Maintenance of 5-7 cm water level in rice field in South Gujarat Heavy Rainfall Zone.
- Spray Nephathalic Acetic acid @7 ml /10 litres of water in cotton to reduce flower dropping and immature cotton bolls.
- Sowing of late *kharif* okra in South Gujarat Heavy Rainfall Zone.
- Hand weeding and intercultural operations in castor and vegetable crops in maize, urd bean, fennel and vegetable crops in North Gujarat Zone.
- Application of irrigation in groundnut (pod development), rice, vegetables and cotton crops in Middle Gujarat Zone as per requirement.
- Keep harvested produce of green gram at safer places.
- Soil cracks should be closed by intercultural operation to avoid the evaporation losses of soil moisture.
- In current hot and humid weather food should be provided to cattle before 10 am and after 5 pm.

Saurashtra & Kutch

Below normal rainfall occurred during last fortnight. Normal rainfall is likely to occur during first week and excess during second week of next fortnight.

- Application of irrigation in cotton, groundnut and vegetable crops in North Saurashtra Zone and in pulses, bajra, sesame in Kachchh district in first week, if required; soil mulching, crop residue mulching and plastic mulching to prevent soil evaporation losses from crop fields.
- Carry out hand weeding and intercultural operations in castor and vegetable crops in Kachchh district.

Kerala

Below normal rainfall occurred during last fortnight. Deficient rainfall is likely to occur during next fortnight.

- Continuation of planting of cardamom and coffee seedlings in Idukki and Wynad districts of High Altitude Zone.
- Continuation of harvesting of matured rice, vegetables, Nendran bananas in clear weather in Thiruvananthapuram district and harvesting of sugarcane in Pathanamthitta district and Viruppu rice in Kollam district.
- Continuation of land preparation for sowing of *puncharice* in Kottayam district.
- Maintenance of optimum water level in transplanted rice.
- Apply light irrigation to standing crops and carry out intercultural operations to conserve soil moisture.
- Field surveillance to monitor the incidence of thrips and brown plant hopper in rice.
- Continuation of planting of banana suckers in Pathanamthitta district.
- Tapping can be resumed in rubber plants. Start arrangements for rain guarding. Subsequent tapping must be done after proper drying of tapping panel. To control bud rot in rubber plants, apply 1% Bordeaux mixture. Spray Copper-oxy-Chloride 4g/litre on new sprouts in newly planted gardens and apply Indofil M 45 4g/litre water as a control measure against fungal diseases.
- Apply Trichoderma mixture around the base of the vine to control foot rot.
- Ginger: To control soft rot, drench the soil with 1% Bordeaux mixture/0.3% Mancozeb.

Karnataka

Coastal Karnataka

Below normal rainfall occurred during last fortnight. Normal rainfall is likely to occur during first week and excess rainfall is likely to occur during second week of next fortnight.

- Maintenance of 5-7 cm water level in transplanted rice.
- Spraying of Planofix @ 0.25 ml/litre of water to reduce the flower drop in cotton in Uttar Kannada district in clear weather.

South Interior Karnataka

Below normal rainfall occurred during last fortnight. Below normal rainfall is likely to occur during first week and normal during second week of next fortnight.

- Maintenance of 5-7 cm water level in transplanted rice.
- Continuation of sowing of sunflower in Central Dry Zone.
- Intercultural operations in red gram, maize to control the weeds and to increase the moisture availability to crops.

North Interior Karnataka

Below normal rainfall occurred in first week and normal rainfall occurred in second week of last fortnight. Excess rainfall is likely to occur during next fortnight.

- Maintenance of 5-7 cm water level in transplanted rice.
- Adoption of moisture conservation techniques for dry land such as compartmental bunding, ridges furrow and scooping in fields spared for *rabi* sowing in North Dry Zone. This will help to conserve moisture in the soil profile and beneficial for *rabi* crops.
- Completion of harvesting of green gram/black gram in clear weather.
- After harvesting of green gram in Dharwad, Belagavi and Haveri districts of North Transition Zone, incorporate the residue in the soil, which improves the soil fertility, infiltration rate and water holding capacity of the soil.
- Open conservation furrow after two rows in wider spaced crops and after every 8th row in narrow spaced crops to conserve soil moisture.
- To overcome the shortage of fodder to live stock, give preference to *rabi* sorghum during *rabi* season and/or take up sowing of fodder crops in some area and/or grow Gini grass on the bunds of the farm in Vijayapura, Bagalkote and Gadag districts of North Dry Zone.
- Weeding/intercultural operations to conserve soil moisture and earthing-up in pigeon pea in Bidar district of North East Transition Zone in clear weather.
- Continuation of sowing of dual purpose crop like Sunhemp which may be used as fodder or may be incorporated in soil as green manure may be taken up in the fields earmarked for *rabi* crops.
- Continuation of sowing of sunflower, desi cotton, castor, navane, savi, maize or horse gram may be taken up.
- Use available short and medium duration varieties, instead of long duration varieties of the above suggested crops.

Andhra Pradesh

Coastal Andhra Pradesh

Normal rainfall occurred in first week and excess rainfall occurred in second week of last fortnight. Normal rainfall is likely to occur during first week and excess rainfall is likely to occur during second week of next fortnight.

- Drain out excess water from rice, groundnut, sugarcane, maize, cotton and mesta fields in Srikakulam, Vishakapatnam and Vizianagaram districts of North Coastal Zone.
- Maintenance of 5-7 cm water level in transplanted rice fields
- There is possibility of discoloration of grains in rice; to overcome, spray Propiconazole @ 1 ml/litre of water in Nellore district.
- Strengthen the field bunds against the loss of water from the field through the eroded bunds due to recent rains.
- To overcome present excess moisture condition in cotton, top dress the Nitrogenous fertilizers and adopt intercultivation wherever possible immediately in Prakasam, West Godavari, Krishna districts of Krishna Godavari Zone.
- For preservation of moisture in cotton fields, adopt intercultivation with gorru and guntaka in

Prakasam, West Godavari, Krishna districts of Krishna Godavari Zone.

- To control weeds in direct seeded rice apply namini gold 80-100 ml per acre in 200 litres of water in Prakasam, Guntur, Krishna and West Godavari districts.
- Application Iron Sulphate and Citric Acid on standing crops to overcome iron deficiency in late sown black gram, green gram, red gram in Prakasam district.
- Carry out intercultural operation in green gram, black gram in Prakasam, Krishna and West Godavari districts in clear weather.

Rayalaseema

Below normal rainfall occurred during last fortnight. Below normal rainfall is likely to occur during first week and normal during second week of next fortnight.

- In Anantapur and Chittoor districts, monitor soil moisture condition in groundnut crop and apply irrigation.
- Sowing of the contingency crops like sorghum, bajra, green gram, cowpea, horsegram and field bean in red soils of the Ananthapuram district with receipt of sufficient rainfall.
- Sowing of the contingency crops like sorghum, green gram, sunflower, korra and field bean in black soils of the Ananthapuram district with receipt of sufficient rainfall.
- Sowing of red gram, castor, green gram, cowpea, sorghum, bajra and horse gram when there is enough moisture in the soil in Chittoor and Cuddepah districts of Southern Zone.
- Thinning in red gram (solo crop or intercrop in groundnut) by keeping 15-20 cm distance between plant to plant and remove excess plants in Chittoor district.
- Completion of harvesting of korra and bajra (June sown) in Anantapur and Kurnool districts.
- Sowing horse gram and fodder jowar (where harvesting of June sown korra and bajra has been completed) in Anantapur and Kurnool districts with receipt of sufficient rainfall.

Telangana

Deficient rainfall occurred during first week and excess rainfall occurred during last fortnight. Excess rainfall is likely to occur during next fortnight.

- Drain out excess water from crop fields of rainfed crops where heavy rainfall is received (Nalgonda and Medak districts).
- Maintenance of water level upto 3-5 cm in rice in Adilabad, Karimnagar, Khammam, Nizamabad districts of Northern Telangana Zone.
- Monitoring of pests and diseases in Northern Telangana Zone and adoption of plant protection measures.
- Application of 30-35 kg urea and 10 kg Muriate of Potash per acre at 60 and 80 days after sowing of cotton as top dressing in Southern Telangana Zone.
- Opening dead furrows to conserve soil moisture.
- Harvesting of rain water.
- By taking advantages of recent rains, go for application of 15 kg urea per acre at 30 and 60 days after sowing of castor as top dressing.

Tamil Nadu

Normal rainfall occurred during first week and below normal rainfall occurred during second

week of last fortnight. Below normal rainfall is likely to occur during next fortnight.

- Continuation of land preparation for transplanting of *Samba* rice (CR 1009 and ADT 50) in Ariyalur, Nagapattinam, Perambalur, Thanjavur, Thiruvarur and Trichy districts.
- Continuation of nursery sowing of Late samba/ Thaladi season rice (varieties ADT 38, ADT 46, ADT 49, improved white Ponni, TRY 3 and TKM 13) in Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone.
- Harvesting of matured *Kuruvai* rice in Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone.
- Continuation of nursery sowing *Samba* rice with medium duration rice variety in Coimbatore, Tiruppur, Erode districts of Western Zone. In the absence of wet nursery, direct dry seeding of medium duration rice can be undertaken with sufficient rain for samba season.
- Continuation of land preparation and sowing of cotton and maize in the Southern Zone (Kanniwadi); keep inputs ready for sowing.
- Continuation of cultivation of short duration crops like black gram (Co-6, Vamban-6, 8), green gram (Co-8), red gram (Co-7, VBN-3) in Salem, Dharmapuri, Nammakal and Krishnagiri districts utilizing the realized rainfall.
- Provide irrigation to vegetables to protect against high temperature in Kanyakumari district.

Arunachal Pradesh

Excess / normal rainfall occurred during last fortnight. Normal rainfall is likely to occur during first week and excess during second week of next fortnight.

- Undertake land preparation and sowing of black gram and green gram and nursery sowing of winter vegetables.
- Carry out hand weeding with care in groundnut field at pod formation stage.
- Apply basal dose of fertilizers in ginger and turmeric fields after weeding and earthing up operation.
- Cover bunches of banana with sacks or locally available materials to protect against sunscald, birds and insects.

Assam

Excess rainfall occurred in first week and deficient rainfall occurred in second week of last fortnight. Normal rainfall is likely to occur during first week and excess during second week of next fortnight.

Assam

- Carry out one weeding in already sown 20 days old sesame crop in Karbi Anglong district. The crop should also be thinned out simultaneously to maintain the spacing within the row.
- Carry out second earthing up operation in 60 days old ginger and turmeric crops.
- In Marigaon and Nagaon districts, continue land preparation for sowing of black gram and green gram, nursery sowing of brinjal, cole crops and early radish.
- In Barpeta, Bongaigaon, Dhubri and Goalpara districts, continue land preparation for sowing of brinjal, pumpkin and radish. Top dressing of urea may be done at 25-30 days of transplanting Sali rice.

Nagaland, Manipur, Mizoram and Tripura (NMMT):

Deficient rainfall occurred in first week whereas excess rainfall occurred in second week of last fortnight. Excess rainfall is likely to occur during first week and normal during second week of next fortnight.

Nagaland

- Soil around the ginger plants should be worked with the help of *khurpi* as it helps to break the fibrous roots and thereby supports new growth. Soil near the rhizomes becomes loose and friable and helps in proper development of rhizomes.
- To control gundhi bug in *Jhum* rice, undertake weed control and eradication of alternate hosts from *Jhum* rice fields and surrounding areas which can help prevent the multiplication of the bug. Mechanical control measures such as smoking the field, hand-picking of adults and nymphs have also been advocated.
- Carry out timely earthing up in soybean fields in Kohima district.

Manipur

- Undertake weeding in main *kharif* rice and apply 33 kg Urea/ha at panicle initiation stage after complete drainage of water. Irrigate field after 48 hours of top dressing. Maintain water level of 5-8cm.
- Keep the soybean and groundnut fields clean to avoid hairy caterpillar. Maintain proper drainage system to avoid water logging.
- Continue sowing of onion in the upland areas.
- Undertake nursery raising for cabbage/cauliflower/broccoli.

Mizoram

- Continue harvesting of *kharif* maize, *kharif* pulses, brinjal, banana and matured pods of cow pea and okra and nursery sowing of tomato.

Tripura

- Continue nursery raising of early winter vegetables such as cabbage, radish, brinjal etc.

West Bengal

Excess rainfall occurred during first week whereas deficient rainfall occurred during second week of last fortnight. Deficient rainfall is likely to occur during first week and normal during second week of next fortnight over Gangetic West Bengal. Normal rainfall is likely to occur during first week and excess during second week of next fortnight over Sub-Himalayan West Bengal.

- Undertake weeding in transplanted rice and maintain 2-3 cm of standing water in West Medinipur district.
- Carry out earthing up and weeding operations in ginger and turmeric fields in Jalpaiguri district.
- To avoid vine rotting in betel vine, apply Carbendazim 2g + Chlorothalonil 1g or Bordeaux mixture 1% at the base of plant. Avoid water stagnation at the base.
- In South Dinajpur and Malda districts in Sub-Himalayan, undertake nursery sowing of early

cabbage and cauliflower.

- Undertake sowing of black gram. Treat the seeds with fungicides and Rhizobium culture, 10-12 hours before sowing.

Bihar

Excess rainfall occurred during last fortnight. Normal rainfall is likely to occur during first week and excess during second week of next fortnight.

- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue planting of pointed gourd.
- Undertake intercultural operation in rice, top dressing of 1/3 urea (44 kg/ha) after 1st hand weeding at 25-30 days after transplanting and apply remaining 1/3 urea (44 kg/ha) after 2nd hand weeding at 40-45 days after transplanting.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake weeding in cauliflower, chilli, tomato, brinjal and onion crop in upland areas on a non-rainy day.

Jharkhand

Excess / normal rainfall occurred during last fortnight. Deficient rainfall is likely to occur during first week and excess rainfall is likely to occur during second week of next fortnight.

- Undertake sowing of toria in Ranchi district. Recommended varieties of toria are T-9, B.R.-23 and P.T.-303.
- Undertake sowing of green fodder like Maize (variety- African tall or J-1006), Lobia (variety-UPC-4200) and Berseem (variety-Vardan).
- Raise the seedlings of winter vegetables like cauliflower, cabbage, chilli tomato, brinjal etc. Seed should be treated with fungicide before sowing.
- Potato and pea: Farmers, who plan to cultivate early potato and green peas are advised to prepare their field and arrange seeds, fertilizers and manures etc. Recommended varieties of potato are Kufri Ashok and Kufri Kanchan. Improved varieties of green pea are Arkel, Kashi Nandini, PE-6, Birsa Matar etc.

Odisha

Excess / normal rainfall occurred during last fortnight. Normal rainfall is likely to occur during first week and excess during second week of next fortnight.

- Undertake sowing of niger, castor, sesame and pulses with high yielding varieties in Puri district.
- Undertake transplanting of brinjal.
- Medium duration rice is at panicle initiation stage. Apply 6- 8 kg Nitrogen per acre.
- Undertake nursery sowing of kharif vegetables like cabbage and cauliflower.
- Carry out weeding and cleaning of the base of coconut plants in Balasore district. Apply 1kg Urea, 2 kg SSP and 2kg MOP along with 5 kg Neem cake per plant by making a ring around the plant.
- Go for sowing of pre-rabi pulse crops like green gram, black gram, and horse gram in the up and up-medium lands.
- The current weather is favourable for infestation of fruit and shoot borer in brinjal. To control them, install Pheromone trap and spray 4 g Sevin WP or 2 ml Malathion in 1 litre

water alternatively.

- Complete papaya planting. Recommended varieties are Honeydew, Koorg honeydew, Coimbatore-1, Coimbatore-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf, Pusa Giant, Sholey and Ranchi etc.

Madhya Pradesh

East Madhya Pradesh

Below normal rainfall occurred during last fortnight. Excess rainfall is likely to occur during next fortnight.

- Prepare nursery of tomato, chilli, brinjal, papaya and early cauliflower in Chhindwara district of Satpura Plateau Zone.
- Continue nursery preparation for cauliflower in Jabalpur, Rewa, Satna, Panna districts.
- Timely sown *urd* and *moong* crops are at harvest stage therefore start the harvesting of the crop during end of week in Chhatarpur and Tikamgarh districts of Buldelkhand Zone. Carry out weeding in the paddy crop and apply the recommended nitrogen fertilizer and also ensure the moisture availability. Prepare the field for sowing of reddish, fenugreek, spinach, mustard, corianders and turnip.

West Madhya Pradesh

Below normal rainfall occurred during last fortnight. Excess rainfall is likely to occur during next fortnight.

- Prepare nursery of tomato, chili, brinjal, papaya and early cauliflower in Betul district of Satpura Plateau Zone.
- Continue nursery preparation for cauliflower and transplanting of onion in Mandsaur, Ratlam, Ujjain, Dewas, Indore, Shajapur, Rajgarh and Neemuch districts of Malwa Plateau Zone. Continue transplanting of brinjal, tomato, chilli, cauliflower and cabbage if seedlings are ready.
- Undertake harvesting of matured green gram in Khargone, Khandwa, Harda, Barwani districts of Nimar Valley Zone. In cotton crop (3 month old) apply 20 kg urea 35 kg DAP and 20 kg Potash near root zone 6 inch deep in to the soil.
- Continue land preparation for sowing of toria and carry out weeding in brinjal, tomato and onion crops in Gwalior, Bhind, Morena, Shivpuri, Guna, Ashoknagar, Sheopur districts of Grid Zone.
- Timely sown *urd* and *moong* crops are at harvest stage therefore start the harvesting of the crop during end of week in Datia district of Buldelkhand Zone. Carry out weeding in the paddy crop and apply the recommended nitrogen fertilizer and also ensure the moisture availability. Prepare the field for sowing of reddish, fenugreek, spinach, mustard, corianders and turnip.

Chhattisgarh

Deficient rainfall occurred during first week and excess rainfall occurred during second week of last fortnight. Excess rainfall is likely to occur during next fortnight.

- Continue sowing of crops like horsegram and niger in Central Chhattisgarh. Keep inputs

ready for sowing of *rabi* crops like chickpea, wheat, linseed, toria etc.

- Continue sowing of crops like niger, horse gram, black gram and green gram in South Chhattisgarh.
- Drain out excess water from standing crop fields (maize, ragi, arhar, groundnut, soyabean, urd, mung etc.) in Bastar, Dantewada, Dhamtari, Gariaband, Kanker and Sukma districts.
- In North Chhattisgarh, continue intercultural operations in *kharif* crops in a clear weather.

Jammu & Kashmir

Below normal rainfall occurred during last fortnight. Deficient rainfall is likely to occur during next fortnight.

- Undertake sowing of *toria* (RSPT – 1 and RSPT -2). Continue nursery sowing of cauliflower, cabbage and knolkhol in Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone. Continue sowing of carrot and radish on ridges. Apply irrigation to rice and maize if required. Undertake sowing of leafy vegetables like spinach, methi and coriander.
- Continue sowing of *toria* in Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone. Raise seedlings of Marigold on raised beds. Apply irrigation to rice in uplands and also apply irrigation to maize as per requirement. Prepare raised seed beds for raising of nursery of onion and cole crops like cabbage, cauliflower, broccoli, knolkhol, kale etc. Prepare field for sowing of raddish/turnip/carrot.

Uttarakhand

Below normal rainfall occurred during last fortnight. Deficient rainfall is likely to occur during next fortnight.

- Undertake transplanting of mid-season cauliflower and sowing of knol khol in Udham Singh Nagar district of Bhabar and Tarai Zone. Prepare field for sowing of garlic. Monitor soil moisture condition and apply irrigation to rice, soybean, jowar and bajra crop if required.
- Continue transplanting of rai, cabbage and cauliflower if the seedlings are ready in Nainital district of Bhabar and Tarai Zone. Continue sowing of early variety of pea, radish turnip and Frenchbean in the mid hills.
- Continue sowing of *toria* and pea in Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudrapur and Uttarkashi districts of Hill Zone. Undertake transplanting of cabbage and broccoli.
- Apply the irrigation and do the weeding operation in paddy as per requirement of crop in Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone,

Himachal Pradesh

Below normal rainfall occurred during last fortnight. Deficient rainfall is likely to occur during next fortnight.

- Continue sowing of pea in Bilaspur, Solan, Shimla and Sirmour districts of Mid Hills Sub-Humid Zone.
- In mid hill region continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli and lettuce in Una, Hamirpur, Kangra and Chamba districts of Sub-Montane and Low Hills Sub-Tropical Zone. Undertake sowing of ageti peas in mid hill and low hill regions. In low hill areas, transplant mid-season cauliflower. Undertake planting of onion

bulbs in 30X 10 cm spacing for harvesting green onion in October. Undertake sowing of turnip and radish in lower rainfed areas are advised.

- Maintain 3 -5 cm water level in rice in Una, Hamirpur, Kangra and Chamba districts of Sub-Montane and Low Hills Sub-Tropical Zone.
- Farmers are advised to remove lower 5-6 leaves in maize crop after completing tasselling and use as fodder to reduce transpiration losses.

Haryana & Delhi

Below normal rainfall occurred during last fortnight. Below normal rainfall is likely to occur during next fortnight.

Haryana

- In Western Zone, undertake harvesting and threshing of matured bajra crop. Apply irrigation and carry out weeding operation in paddy as per requirement.

Delhi

- Undertake field preparation for early mustard (Pusa Sarson-25, Pusa Sarson-26, Pusa Agrni, Pusa Taraka, Pusa Mahak) and for early pea (Pusa Pragati, Pant matar-3, Arkil etc.).
- Continue transplanting of brinjal, tomato, chilli cauliflower and cabbage, if seedlings are ready. Continue preparation of nurseries of cauliflower for mid-season.
- Continue sowing of carrot (Pusa Rudhira), sarson saag (Pusa Saag-1), radish (Versa Kee Rani, Summer Long, Long Chetaki), spinach (All green) and coriander (Pant Haritama) on raised bed.
- Continue transplanting of Chrysanthemum, marigold and sowing of gladiolus on raised bed.
- Drain out excess water from standing crop fields (maize, arhar, soybean, urd, mung etc.) in New Delhi, North West Delhi and North Delhi districts.

Punjab

Below normal rainfall occurred during last fortnight. Below normal rainfall is likely to occur during next fortnight.

- Continue sowing of peas, palak and planting of early varieties of potato. Continue sowing of Asiatic (*Desi*) varieties of radish, carrot and turnip in Moga, Bhatinda, Mansa, Muktsar, Sangrur and Barnala districts of Western Zone. Continue transplanting of fully developed seedlings (4-6 weeks old) of main season varieties of cauliflower. Sowing of late season varieties of cauliflower i.e. Pusa Snow Ball-1 and Pusa Snow Ball K-1 can be started.
- Continue planting of early varieties of potato and apply irrigation to rice and maize crop as per requirement in Fazilka, Ferozpur and Faridkot districts of Western Plain Zone. Apply frequent light irrigation in rice at flowering stage for higher yield and stop irrigation two weeks before harvesting. To avoid the shedding of flowers and bolls, maintain optimum moisture in cotton crop during flowering and fruiting stages.
- Raise nursery of Cauliflower in Rupnagar, Patiala and Nawanshahar districts of Sub-Montane undulating Zone.

Uttar Pradesh

Below normal rainfall occurred during last fortnight over Uttar Pradesh. Normal rainfall is likely to occur during first week and excess rainfall is likely to occur during second week of next

fortnight over East Uttar Pradesh. While Deficient rainfall is likely to occur during first week and normal rainfall is likely to occur during second week of next fortnight over West Uttar Pradesh.

- Continue nursery sowing of tomato (specially hybrid variety) Knolkhol and gobhi, sowing of radish and toria (T-9, Bhawani, PT-30 and PT-507) in Allahabad, Fatepur, Chitrakut districts of Central Plain Zone.
- Undertake harvesting of green gram in Jalaun, Jhansi, Lalitpur, Mahoba, Banda and Hamirpur districts of Bundelkhand Zone. Apply irrigation to rice and groundnut. Undertake land preparation for sowing of radish, cabbage, carrot, coriander. Undertake nursery sowing of mid-season brinjal, chilli, tomato, cabbage, cauliflower
- Undertake nursery sowing tomato, cabbage and cauliflower in Faizabad, Gorakhpur, Sultanpur districts of Eastern Plain Zone. Undertake sowing of toria.

Rajasthan

East Rajasthan

Below normal rainfall occurred during last fortnight. Below normal rainfall is likely to occur during first week and normal rainfall is likely to occur during second week of next fortnight.

- Undertake field preparation for sowing of early pea (Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 are improved varieties of early pea) in Jaipur, Ajmer. Tonk and Dausa districts of Semi Arid Eastern Plain Zone.
- Undertake weeding and hoeing operation in maize, moong, urad crops to conserve soil moisture.
- Continue nursery sowing of cauliflower and radish in Alwar, Bharatpur, Dhaulpur, Karauli, Sawai Madhopur districts of Flood Prone Eastern Plain Zone.

West Rajasthan

Below normal rainfall occurred during last fortnight. Below normal rainfall is likely to occur during next fortnight.

- Undertake harvesting of matured green gram, moth and guar in Barmer, Churu, Jalore, Jodhpur and Pali districts of Arid Western Plain Zone.
- Apply protective irrigation to *kharif* crops like groundnut, *guar* and pulses showing wilting symptoms in Bikaner and Jaisalmer districts of Arid Western Plain Zone. Undertake hoeing and weeding operation in rainfed crops to create dust mulch for checking evaporation losses and also for control of weeds.
- Apply irrigation to groundnut crop as and when required. To protect flower drop in cucurbits (Bottle gourd, Ridge gourd etc.) spray Planofix @ 0.25 ml/litre of water. Prepare fields for sowing of early varieties of radish (Pusa Rashmi).