



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

Valid for 8th to 21st July, 2016

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**Earth System Science Organisation
India Meteorological Department**

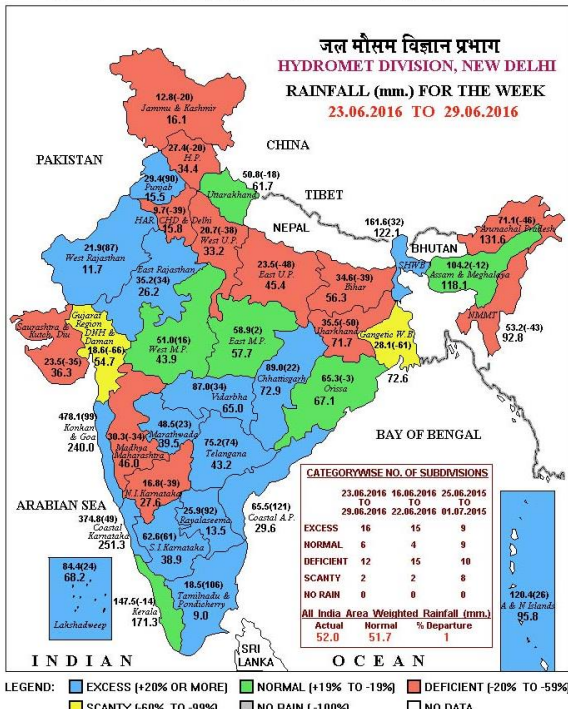
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**Indian Council of Agricultural Research (ICAR)
All India Coordinated Research Project on Agricultural Meteorology (AICRPAM),
Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad**

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

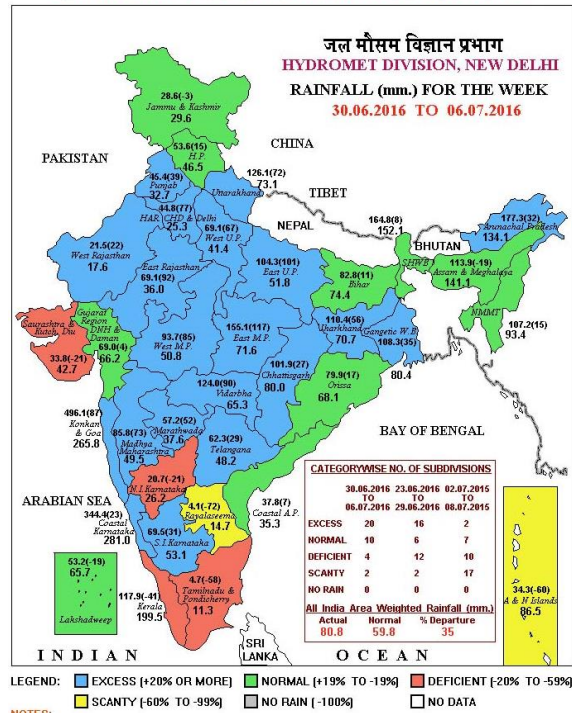
Realized Rainfall (23rd June to 6th July 2016)

भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



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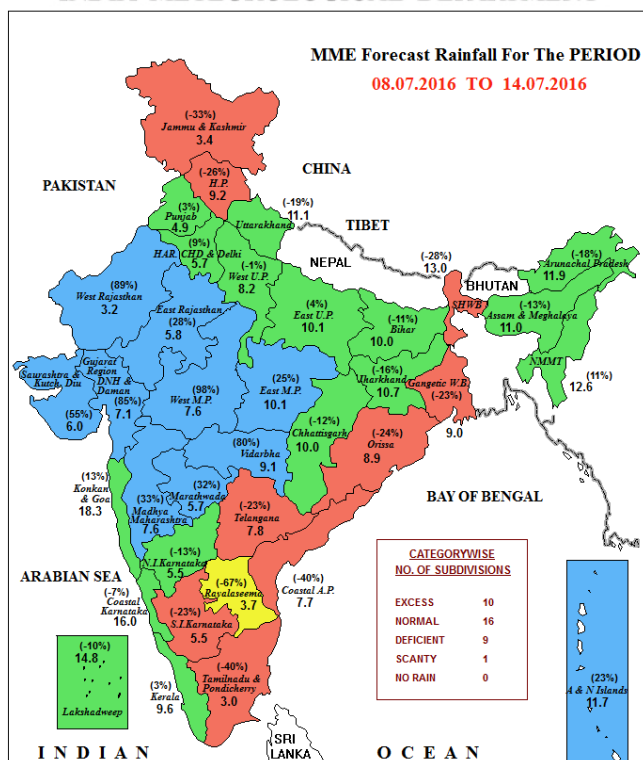
- Normal or above normal rainfall occurred during last two weeks in Punjab, Rajasthan, Madhya Pradesh, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya, Konkan & Goa, Marathwada, Vidarbha, Telangana, South Interior Karnataka, Coastal Andhra Pradesh and Coastal Karnataka.
-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

Extended Range Forecast System

Subdivision wise rainfall forecast map for the next 2 weeks (IC = 06 July)

Rainfall forecast (mm/day) (08 July – 21 July, 2016)

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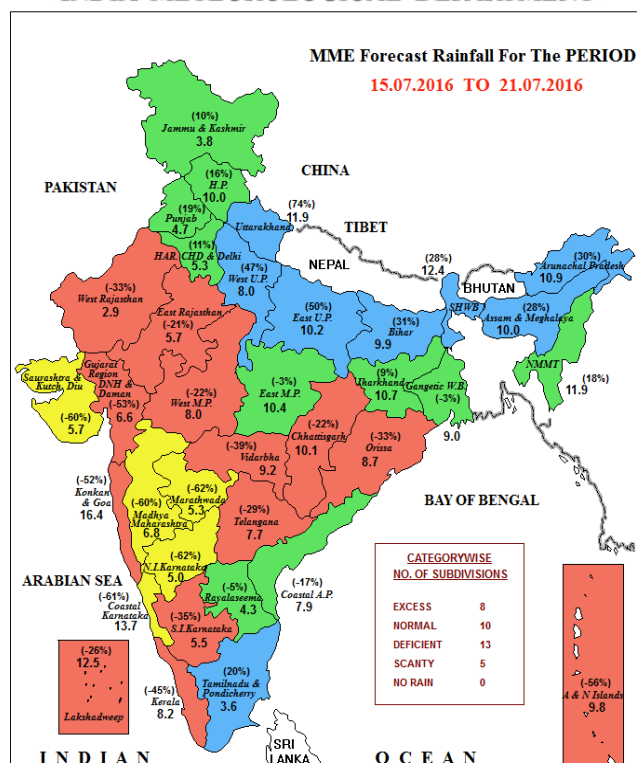


LEGEND: ■ EXCESS (+20% OR MORE) ■ NORMAL (+19% TO -19%) ■ DEFICIENT (-20% TO -59%)
■ SCANTY (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

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- (a) Rainfall figures are based on MME forecast
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- Normal or above normal rainfall is likely to occur during next fortnight over Uttarakhand, Punjab, Haryana & Delhi, Uttar Pradesh, East Madhya Pradesh, Bihar, Jharkhand, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, and Tripura.
- Normal or above normal rainfall is likely to occur in either of the next two weeks over Jammu & Kashmir, Himachal Pradesh, Rajasthan, Gujarat State, Maharashtra & Goa, West Madhya Pradesh, Chhattisgarh, West Bengal & Sikkim, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.
- Below normal rainfall is likely to occur during the next two weeks over Odisha and Telangana.

Strategic Agricultural Planning based on rainfall during next two weeks till 21st July

- Normal/slightly above normal rainfall over the country as a whole is expected during the period 8-14 July with mostly positive departure over the Central India and Northwest India, whereas weak or below normal phase of monsoon is expected during 15-21 July with Central India getting the subdued rainfall. Parts of Northern India, Indo-Gangetic plains and Northeast India expected to get slightly above normal. After one week, monsoon is gradually leading towards weak phase.
- Southwest monsoon covered most parts of India. Conditions are becoming favourable for further advance of southwest monsoon into remaining parts of Kutch and West Rajasthan during next 4-5 days.

In view of the above, following advisories are issued. Statewise crop varieties are given in Annexure I.

Major advisories for *kharif* crops

Kerala

Kerala received normal rainfall during 23-29 June and deficient rainfall during first week of July, whereas normal rainfall activity is expected during second week of July and deficient during third week of July.

- Completion of transplanting of *Virippu* rice in Thiruvananthapuram, Kannur, Malappuram and Kozhikode districts.
- Continuation of direct sowing of rice in Alappuzha and Kottayam districts.
- Provide adequate drainage in rice nurseries.
- Maintenance of water level of 2 -5 cm in rice fields.
- Due to high relative humidity, there is a chance of sheath blight, sheath rot, leaf spot diseases in paddy. These diseases can be controlled to an extent by dipping the roots of seedling in pseudomonas solution by mixing 20 g pseudomonas culture in one litre of water for 30 minutes while transplanting.

Karnataka

Coastal Karnataka and South Interior Karnataka received excess rainfall and North Interior Karnataka received deficient rainfall during 23 June-6 July, whereas normal rainfall is expected over Coastal Karnataka and North Interior Karnataka during 08-14 July and scanty during 15-21 July, deficient rainfall is expected over South Interior Karnataka during 08-21 July.

Coastal Karnataka

- Continuation of transplanting of rice in Dakshina Kannada and Udupi district of Coastal Zone of Karnataka.
- Transplanting of rice in Uttar Kannada district of Hill Zone.
- Maintenance of optimum water level in rice fields.
- Arrange for drainage facility in maize in Uttar Kannada district.
- Make use of farm pond water and this may be used for protective irrigation during the prevailing dry spell.

South Interior Karnataka

- Continuation of nursery sowing of rice and sowing of red gram in Chickamagaluru, Hassan and Shivamogga districts of Southern Transition Zone utilizing realised rainfall.
- Continuation of nursery sowing of rice and land preparation for transplanting of rice, completion of sowing of cowpea, green gram, black gram, sesame, jowar and vegetable crops (chilli, brinjal, radish, ladies finger, beans, carrot, onion etc.) in Kodagu, Mandya, Mysuru and Chamrajnagar districts of Southern Dry Zone utilizing realised rainfall.
- Completion of sowing of red gram in Chickballapur, Kolar and Ramnagara districts, continuation of sowing of groundnut, maize, ragi, cowpea and castor with realised rainfall in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chickaballapura and Kolar districts of Eastern Dry Zone.
- Continuation of sowing of cotton in Chitradurga and Tumakuru districts, minor millet in Chitradurga district, jowar, red gram, sunflower, groundnut in Chitradurga, Davengere and Tumakuru districts of Central Dry Zone with realised rainfall.
- Pigeon pea: suitable varieties of TTB-7, BRG-1 and Hyd-3c @ 15kg/ha and treat the seeds with *rhizobium* culture @ 500gm/ha before sowing. Sow the seeds with spacing of 60 cm x 23 cm.
- Groundnut: Bunch type of varieties- JL-24 and TMV-2 (Use 125 kg seeds/ha (i.e 50 kg seeds per acre).
- Intercultural operations and mulching in already sown crops to conserve soil moisture.
- Protective irrigation in already sown crops.

North Interior Karnataka

- Continuation of sowing of soybean, maize and cotton in Dharwad, Belagavi and Haveri districts, sowing of sorghum in Dharwad and Haveri districts, sowing of groundnut in Dharwad and Belagavi districts and planting of sugarcane in Belagavi district of North Transition Zone with expected rainfall.
- Continuation of nursery sowing of rice and sowing of soybean, green gram, black gram, sorghum, pigeon pea after seed treatment in Bidar district of North East Transition Zone with expected rainfall.
- Puddling in the main field and transplanting of rice seedlings; continue sowing of red gram, black gram, green gram, maize and cotton with expected rainfall in Ballari, Kalaburgi, Koppal, Raichur and Yadgir district of North East Dry Zone.
- Completion of sowing of groundnut (spreading type), red gram, onion, castor, bajra, navane, cowpea and horse gram as solo crop in shallow black and red soils and also in medium black and deep black soils; intercropping of bajra + red gram in 2:1 row proportion or bajra + castor in 2:1 row proportion may be taken up to make efficient use of available soil and water resources and to get higher returns in Vijayapura and Bagalkote districts. Take up sowing of bajra, groundnut, red gram, castor, navane/savi, maize as solo crop and chilli + desi cotton, bajra + red gram (2:1 row proportion), navane/savi + red gram (2:1 row proportion) in shallow black and sand mixed black soil; sowing of groundnut (spreading type) as solo crop and chilli + onion as mixed crop in medium/deep black soils and sand mixed loamy soils in Gadag district of North Dry Zone with expected rainfall.

- 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 row proportion, red gram + sesamum in 1:2 or 2:4 row proportion in light and medium black soils is suggested in North Dry Zone to make efficient use of available soil and water resources and to get higher returns.
- Intercultural activities and weeding in standing crops.
- Mulching in already sown crops.
- In North Dry Zone, in order to withstand the crops during dry spells, adopt special cultivation practices before sowing as suggested below:
- Bajra: Soak the seeds in water for 10 hours and dry under shade. Take up sowing in wider row spacing up to 135 cm.
- Pigeon pea: Soak the seeds in CaCl₂ solution (2%) for 1 hour and dry under shade for 7 hours and then go for recommended seed treatment.
- Spare some land exclusively for fodder crops or give preference for grain cum fodder crops.
- Prepare ridges and furrows and compartment bunds in the fields reserved for *rabi* sowing.

Andhra Pradesh

Coastal Andhra Pradesh received excess/normal rainfall during 23 June - 06 July, Rayalaseema received excess rain during 23-29 June and scanty during 30 June - 06 July, whereas deficient to normal rainfall is expected during 08-21 July over Coastal Andhra Pradesh and scanty during 08-14 July and normal during 15-21 July over Rayalaseema.

Coastal Andhra Pradesh

- Continuation of nursery sowing of rice, sowing of maize, millets, red gram, black gram, green gram and cotton in Krishna, Prakasam, Guntur and West Godavari districts of Krishna Godavari Zone with realised and expected rainfall during 15-21 July.
- Continuation of nursery sowing of rice and ragi in East Godavari district of High Altitude Tribal Zone with realised and expected rainfall during 15-21 July.
- Continuation of sowing groundnut, maize, red gram, green gram and black gram in Srikakulam, Vizianagaram and Vishakhapatnam districts of North Coastal Zone with realised and expected rainfall during 15-21 July.
- Continuation of sowing of groundnut in Nellore district with realised and expected rainfall during 15-21 July.
- Removal of excess water from sesamum and mesta crop fields in Srikakulam, Vizianagaram and Vishakapatnam districts, as these crops are sensitive to excess moisture.

Rayalaseema

- As there is a forecast of less than normal rainfall during next week, following advisories are suggested:
- mulching to reduce the moisture loss in standing crops.
- protective irrigation to early sown groundnut crop which is at flowering to peg initiation stage in Chittoor, Cuddephah, Nellore districts and maize, cotton crops with the harvested rain water in farm ponds.
- continuation of intercultural operations for weed control and conserving soil moisture in

June first week sown groundnut, red gram, bajra and castor crop in Anantpur district.

- thinning in June first week sown red gram crop in Ananthapuram and Kurnool districts (if sufficient moisture is available in the soil).
- Rainwater harvesting whenever rain is received and storing it in reservoirs for future use.
- Continuation of transplanting of rice, sowing of *kharif* groundnut, red gram, maize, jowar, bajra in Chittoor and Cuddepah districts of Southern Zone with available soil moisture and expected rainfall during 15-21 July.
- Continuation of nursery sowing of rice in black soils in Kurnool district with available soil moisture.
- Continuation of sowing of *kharif* crops like red gram, bajra, korra and castor in Anantpur district, sowing of groundnut (in red soil), sunflower (in light soil, up to 15th July), red gram, bajra, kora, black gram and castor in Kurnool districts of Scarce Rainfall Zone with available soil moisture and expected rainfall during 15-21 July.
- Spraying of pre-emergence herbicide Pednimethalin 30% EC @ 1.3-1.6 litre/acre or Butachlor @ 1.25-1.5 litre/acre within the 48 hours after sowing of groundnut for effective weed control and in turn for soil moisture conservation.

Telangana

Telangana received excess rainfall during 23 June-06 July, whereas deficient rain is expected during 08-21 July.

- Continuation of nursery sowing of short to medium duration rice varieties (Telangana Sona (RNR 15048) in Adilabad, Nizamabad, Karimnagar and Khammam districts of North Telangana Zone and in Mahbubnagar, Nalgonda, Medak, Rangareddy and Warangal districts of Southern Telangana Zone with realised rainfall.
- Continuation of sowing of black gram (upto second week of July), maize, soybean, red gram (as intercrop or main crop) and cotton in Adilabad, Nizamabad, Karimnagar and Khammam districts of Northern Telangana Zone with realised rainfall. Sowing of cotton in red and black soils.
- Continuation of sowing of jowar (upto second week of July), soybean, maize, red gram and Bt. cotton in Mahbubnagar, Nalgonda, Medak, Khammam, Rangareddy and Warangal districts of Southern Telangana Zone with realised rainfall.
- Intercultural operation and mulching in already sown crops for conservation of soil moisture.
- Supplementary irrigation by using micro-irrigation (sprinklers).

Tamil Nadu

Tamil Nadu received excess rainfall during 23-29 June and deficient during 30 June-06 July, whereas deficient rainfall is expected during 08-14 July and excess during 15-21 July.

- Continuation of transplanting of *kuruvai* rice and SRI cultivation in Thanjavur, Nagapattinam, Karur, Thiruvarur, Perambur, Trichy and Ariyalur districts of Cauvery Delta Zone.
- Completion of transplanting of *kuruvai* rice before 10th July to avoid coincidence of maturity and Northeast monsoon in Coimbatore, Thiruppur and Erode districts of Western Zone.

- Maintenance of 2-5 cm water level in rice field.
- Intercultural operation and mulching in already sown crops for conservation of soil moisture.

Maharashtra

Konkan & Goa, Marathwada and Vidarbha received excess rainfall, Madhya Maharashtra received deficient rainfall during 23-29 June and excess rain during 30 June-06 July, whereas, excess rainfall is expected over Maharashtra & Goa during 8-14 July and deficient/scanty during 15-21 July.

Konkan

- Completion of transplanting of 22-25 days old rice seedlings in Raigad, Ratnagiri, Thane and Sindhudurg districts.
- Drain out excess water from rice fields.

Madhya Maharashtra

- Continuation of sowing of soybean, red gram, green gram and groundnut in Kolhapur, Sangli, Satara and Solapur districts with realised rainfall.
- Continuation of sowing of maize, groundnut and soybean in Ahmednagar and Pune districts.
- Adoption of mat nursery method wherever rice nursery could not be undertaken in Dhule, Nandurbar, Jalgaon and Nasik districts with realised and expected rainfall; it reduces the cultivation cost.
- Continuation of sowing of cotton, maize, soybean, red gram, green gram and onion in Nasik, Dhule, Nandurbar and Jalgaon districts with realised and expected rainfall during 08-14 July.
- Sunflower + pigeon pea (2:1) is recommended. Pigeon pea varieties: BSMR- 736, 853, BDN- 708, Phulerajeshwari and Vipula; Sunflower varieties: Modern, Phuleraviraj and Bhanu.

Marathwada

- Continuation of sowing of soybean, cotton, red gram, green gram, black gram and sunflower in Nanded, Aurangabad, Latur, Osmanabad, Parbhani, Beed, Hingoli and Jalna districts with realised and expected rainfall during 08-14 July.

Vidarbha

- Continuation of nursery sowing of *kharif* rice in Bhandara district of Eastern Vidarbha Zone utilising realised rainfall. Adoption of mat nursery method wherever rice nursery could not be undertaken for reduction in cost of cultivation and to maintain crop productivity.
- Continuation of soybean, cotton, red gram, black gram and green gram in Akola, Washim, Amravati, Nagpur, Yavatmal, Buldhana and Wardha districts.
- Undertaking rain water harvesting.
- For cotton, in areas with delayed sowing condition (at the most up to 10 July), prefer early varieties of American (AKH-8828, PKV Rajat, AKH-081) and Desi (AKA-5, AKA-7, AKA-8) cotton, use 20 % more seed rate than recommended and reduce intra-row spacing.

Gujarat

Rainfall over Gujarat Region was scanty during 23-29 June, normal during 30 June-06 July, Deficient over Saurashtra & Kutch during 23 June – 06 July, whereas, excess rainfall is expected during 08-14 July and scanty / deficient during 15-21 July.

Gujarat Region

- Continuation of direct sowing of rice, ragi, sowing of red gram, green gram and black gram, in Navasari, Valsad and Dangs districts of South Gujarat Heavy Rainfall Zone utilising realised rainfall.
- Continuation of sowing of cotton, pigeon pea and castor in Bharuch, Surat Narmada and Tapi district of South Gujarat Zone with realised and expected rainfall; removal of excess water from rice and vegetable nurseries.
- Continuation of nursery sowing of rice; sowing of pearl millet, ground nut, cotton, green gram, black gram, cowpea and pigeon pea with realised rainfall in Dahod, Kheda and Panchmahals districts of Middle Gujarat Zone and with receipt of sufficient rainfall in Anand and Vadodara districts.
- Sowing of cotton, groundnut, pearl millet, sesame, maize, cluster bean, green gram and cowpea in Sabarkantha and Gandhinagar districts with realised rainfall and in Banaskantha, Mehsana and Patan districts of North Gujarat Zone with receipt of sufficient rainfall. Intercropping of green gram, pigeon pea, guar in pearl millet is advised for getting more income. Carry out intercultural operations in earlier sown cotton, groundnut and vegetable crops to conserve moisture.
- Provide drainage facility in South Gujarat Heavy Rainfall Zone.
- Arrange for rain water harvesting.
- Recommended cultivars are :

For South and Middle Gujarat region:

- Paddy: GR-8,9 and Gurjari can be taken.
- Fodder sorghum: S-1049, C-10-2
- Sunflower: Modern, EC 68414
- Cotton: Guj. Hy. Cotton-6, 8, 10, 12 and Desi cotton
- Early maturing Bt. Hybrid cotton and Intercropping: pearl millet + pigeon pea (2:1) are advised.

For North Gujarat region:

- Sunflower: Modern, EC 68414
- Black gram: T-9, Guj. Udid-1
- Green gram: GM-4, K-851, Meha

Saurashtra & Kutch

- Starting of sowing of cotton, groundnut, pearl millet, sesame, maize, cluster bean, green gram and cowpea in Kachchh district of North West Zone with receipt of sufficient rainfall. Also intercropping of green gram, pigeon pea, guar in pearl millet.
- Continuation of sowing of cotton, groundnut, soybean, sesame, pigeon pea and castor in Junagadh and Porbandar districts of South Saurashtra Zone with realised and expected rainfall.

- Continuation of nursery preparation for rice, sowing of cotton, pearl millet, groundnut and green gram with receipt of expected rainfall in Ahmedabad and Bhavnagar districts of Bhal and Coastal Zone. Take green gram, pigeon pea and guar as intercrop for getting more income.
- Selection of short duration crops and varieties for sowing. Select bunch type groundnut varieties instead of spreading and semi spreading varieties. Continuation of sowing of castor, pigeon pea, groundnut, cotton, pearl millet, sesame green gram, black gram and cowpea with realised rainfall in Amreli, Jamnagar, Surendranagar and Rajkot districts of North Saurashtra Zone.

Arunachal Pradesh

Deficient to excess rainfall activity was observed during last fortnight and normal rainfall is likely to occur during first half and excess in later part of next fortnight.

- Continue transplanting wetland rice.
- Continue sowing of groundnut and soybean.
- Undertake manual weeding in green gram / black gram.

Assam

Normal rainfall activity was observed during last fortnight in Assam & Meghalaya. Normal rainfall is likely to occur during first half and excess in later part of next fortnight.

- transplanting of *sali* rice in Karbi Anglong, Barpeta, and Kamrup districts of Assam,.
- land preparation and transplanting of *sali* rice in Hailakandi district.
- main field preparation for transplanting *sali* rice in Marigaon district.
- sowing of Arhar in Assam.
- hand weeding in ginger field as there was plenty of rainfall during last couple of days in Darrang district and weeds grow vigorously in these weather conditions.
- Continuation of sowing of *baor* rice in Nagaon and Marigaon districts of Central Brahmaputra Valley Zone of Assam.

Meghalaya

- *Jhum* rice is in tillering stage. Keep the field weed free.
- Nursery raising and main field preparation of *sali* rice in all the districts of Meghalaya.
- Continuation of sowing of groundnut and soybean in all the districts of Meghalaya.

Deficient to normal rainfall occurred in last fortnight over Nagaland, Manipur, Mizoram and Tripura. Normal rainfall is likely to occur during next fortnight.

Manipur

- Transplanting of *kharif* rice in all the districts of Manipur.
- Sowing of black gram and soybean in all the districts of Manipur.
- Hand weeding, 30-35 days after sowing soybean.
- Weeding and thinning of groundnut plants by keeping space of 30cm x 15cm.

Mizoram

- Transplanting of *kharif* rice, two to three seedlings per hill.
- Sowing of *kharif* green gram, black gram and rajma.

Tripura

- Completion of nursery sowing. Undertake main field preparation for transplanting of *aman* rice in all the districts of Tripura.
- Groundnut field must be kept weed free. Undertake two 'hand weeding' along with earthing up at 20 and 40 days after sowing for better pod formation.
- Maintain optimum water level in *jhum* rice in late tillering stage.
- Complete sowing of maize in all the districts of Tripura.
- Undertake weeding in maize field.

Nagaland

- Continue nursery sowing of rice in low land.
- Cultivation of oilseed crops like soybean where paddy cultivation is not at all possible. Sowing should be done with a spacing of 45cm row to row and 10cm plant to plant.

West Bengal

Normal rainfall occurred in Sub Himalayan West Bengal and excess in Gangetic West Bengal in later part of last fortnight. Normal rainfall is likely to occur in first half and subdued in later part of next fortnight.

- Sowing of wet seeded long and medium duration *aman* rice in South 24 Parganas and East Midnapore districts in Coastal Saline Zone.
- Main field preparation for transplanting of rice in Bankura district.
- Continuation of transplanting of *aman* rice in Dakshin Dinajpur and Malda districts.

Andaman & Nicobar

- Continuation of transplanting 25 days old rice seedlings with the spacing of 20x20 cm.

Odisha

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

- Continuation of nursery sowing and undertake main field preparation for transplanting of medium duration rice varieties in medium land and medium late duration varieties in low land in Naupara and Kalahandi districts, sowing of cotton and complete sowing of maize and arhar utilizing the realized rainfall.
- Completion of direct sowing of rice in up, medium, low and deep low land in Gajapati, Kandhamal and Rayagada districts.
- Completion of sowing of direct seeded rice in low lands and undertake nursery sowing of *kharif* rice in Balasore, Bhadrak and Jajpur districts.
- Undertake sowing of groundnut, ragi, arhar, maize, green gram, black gram and sesame etc. in upland areas of Mayurbhanj and Keonjhar districts even with low rainfall.

Bihar

Deficient rainfall occurred in first half and normal in second half of last fortnight. Normal rainfall is likely to occur in first half and excess in later part of next fortnight.

- In Bhagalpur, Banka, Lakhisarai, Patna, Nalanda, Gaya and Bhojpur districts of South

Bihar Alluvial Zone, undertake weeding in 10-12 days old rice nursery. Undertake sowing of arhar in upland areas.

- In Saharsa, Purnia, Supaul and Araria districts in North East Alluvial Zone, continue nursery raising for upland rice varieties up to 10th July and main land preparation for transplanting of low land rice and also continue sowing of kharif maize.
- In Begusarai, Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran of North West Alluvial Plain Zone, complete nursery sowing of *kharif* rice upto 10th July. Undertake weeding in 10-12 days old rice nursery.

Jharkhand

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

- In Deogarh, Dhanabad and Dumka districts, continue sowing of upland rice, groundnut, arhar and maize.
- In Saraikela, East & West Singhbhum districts in South Eastern Plateau, continue timely sowing of direct seeded upland rice, maize and pigeon pea. Complete transplanting of finger millet. As sufficient moisture is available in the field, continue sowing of groundnut.
- In Bokaro, Khunti, Ramgarh and Ranchi districts continue nursery sowing of rice in raised beds. Also continue sowing of groundnut, arhar, black gram, maize.

Madhya Pradesh

East Madhya Pradesh

Normal/excess rainfall occurred in last fortnight and excess/ normal rainfall is likely to continue in next fortnight.

- Continuation of sowing of green gram and black gram in Chhindwara district.
- Undertake transplanting of rice seedlings in Narsingpur district. Undertake sowing of arhar and green gram.
- Continue sowing of til, maize, moong, urd, sesame, and groundnut in Chhatarpur and Tikamgarh districts.
- Undertake transplanting of rice and continue sowing of red gram, soybean and maize in Sagar and Damoh districts. Undertake sowing of green gram, black gram and planting of sugarcane.
- Undertake transplanting of rice in Rewa, Satna, Panna, Jabalpur, Seoni, Siddhi, Katni, Shahdol, Umaria, Mandla, Dindori, Balaghat, Anuppur, Singrauli district of Kymore Plateau Zone. Continue sowing of arhar.

West Madhya Pradesh

Normal / excess rainfall occurred in previous fortnight and normal rainfall is likely to occur in second week of next fortnight.

- Continuation of sowing of green gram and black gram in Betul district.
- Undertake transplanting of rice in Gwalior, Bhind, Morena, Shivpuri, Guna, Ashoknagar and Sheopur districts. Continue sowing of arhar, pearl millet, green gram and black gram in Gwalior, Bhind, Morena, Shivpuri, Guna, Ashoknagar and Sheopur districts.
- Undertake sowing of maize in Khargosan, Khandwa and Barwani districts.
- Continue sowing of til, maize, moong, urd, sesame, and groundnut in Datia districts.

- Undertake transplanting of rice seedlings in Hoshangabad district utilising the realised and expected rainfall. Undertake sowing of arhar and green gram.
- Undertake transplanting of rice and continue sowing of red gram and maize in Bhopal, Vidisha, Raisen, and Sehore, districts. Undertake sowing of green gram, black gram and planting of sugarcane.
- Undertake transplanting of rice in Jhabua, Alirajpur and Dhar districts. Continue sowing of black gram and maize in Jhabua, Alirajpur and Dhar districts.

Chhattisgarh:

Excess rainfall occurred in last fortnight and normal likely to continue in next fortnight.

- Continuation of line sowing of rice in North Chhattisgarh,.
- Continuation of line sowing of rice and nursery sowing of rice in Central Chhattisgarh. Continue sowing of red gram, soybean, maize and sesame.
- Transplanting of rice and continuation of line sowing of rice and sowing of tuber crops in South Chhattisgarh. Continuation of land preparation for *kharif* crops like soybean, groundnut and til.

Jammu & Kashmir

Normal rainfall occurred in second week of last fortnight. Normal rainfall is likely to occur in second week of next fortnight.

- Continuation of transplanting of early sown rice seedlings in Jammu, Kathua and Reasi districts of Sub Tropical Zone in Sub Tropical Zone. In the areas where farmers could not sow the nursery of rice, direct seed sowing of rice can be undertaken. Apply full dose of P and K and 1/3 dose of Nitrogen fertilizer. Continue sowing of maize.
- Continuation of transplanting of rice seedlings in Rajouri, Ramban Poonch and Udhampur districts of Intermediate Zone. Plant 2-3 seedlings per hill at 3 to 5 cm deep in the soil. Complete sowing of maize. For effective management of weeds apply Butachlor granules 5G @ 30 Kg/ha 2-5 days after transplanting in standing water.

Uttarakhand

Excess / Normal rainfall occurred in last fortnight and is likely to continue in next fortnight.

- Continuation of transplanting of rice and sowing of black gram and green gram in Nainital district of Bhabar and Tarai Zone.
- Continuation of transplanting of rice in Udham Singh Nagar district of Bhabar and Tarai Zone.
- Continuation of transplanting of long duration varieties of rice in Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone.
- Continuation of transplanting of rice in Tehri Garhwal, Chamoli, Uttarkashi, Almora districts of Hill Zone.

Himachal Pradesh

Normal rainfall occurred in second week of last fortnight. Normal rainfall is likely to occur in second week of next fortnight.

- Transplanting of 20-25 days old paddy seedlings in main field in Bilaspur, Simla, Sirmaur and Solan districts of Mid Hills Sub Humid Zone and in Una, Hamirpur, Kangra and Chamba districts of Sub-Montane and Low Hills Sub-Tropical Zone. Complete sowing of maize. Undertake sowing of moong, mash and kulthi.

Haryana & Delhi

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

Haryana

- Continuation of transplanting of rice seedlings in Western and Eastern Zone. Undertake sowing of guar and bajra in Western Zone.

Delhi

- Continuation of transplanting of 20-25 days old paddy seedling in prepared fields in Western Semi Arid Zone.
- Continuation of sowing of maize, pigeon pea and soybean.
- Sowing of guar, bajra, cluster bean and beans.

Punjab

Excess rainfall occurred in last fortnight and normal rainfall is likely to occur in next fortnight.

- Continuation of direct sowing of basmati variety Pusa Basmati 1121 in Amritsar, Kapurthala, Jalandhar, Ludhiana, Fatehgarh Sahib, Taran Taran and Patiala districts of Central Plain Zone. Undertake transplanting of rice seedlings. Continue sowing of maize.
- Completion of transplanting of rice varieties like Punjab Basmati 3, Pusa Basmati 1121 and Punjab Basmati 2 and continue transplanting of rice varieties like Pusa Basmati 1509, Basmati 370 and Basmati 386 in Moga, Bhatinda, Mansa, Muktsar, Sangrur and Barnala districts of Western Zone and in Ferozepur, Faridkot, Fazilika districts of Western Plain Zone.
- Completion of sowing of mash and continue sowing of moong in Ferozepur, Faridkot, Fazilika districts of Western Plain Zone.

Uttar Pradesh

East Uttar Pradesh

Normal/excess rainfall occurred in last fortnight and likely to continue in next fortnight.

- Transplanting of rice in Allahabad, Fatepur, Chitrakut districts of Central Plain Zone. Undertake sowing of soybean.
- Transplanting of rice and continue sowing of arhar in Faizabad, Gorakhpur, Sultanpur districts of Eastern Plain Zone. Continue sowing of black gram and green gram.
- Transplanting of rice in Kanpur, Sitapur, Unnao, Lucknow districts of Central Plain Zone and in Varanasi, Azamgarh, Mirzapur, Mau districts of Central Plain Zone.
- Transplanting of paddy and continue sowing of kharif maize, pigeonpea, sesame, groundnut, jowar, cowpea in Bahraich, Shravastinagar, Balarnpur, Gonda, Kushinagar, Sidharthnagar and Maharajganj districts of North Eastern Plain Zone.

West Uttar Pradesh

Normal/excess rainfall occurred in last fortnight and excess rainfall is likely to continue in first week of next fortnight.

- Continuation of sowing of groundnut, soybean, jowar, maize, black gram and green gram in Jhansi, Jalaun, Lalitpur, Mahoba and Hamirpur district of Bundelkhand Zone. Undertake sowing of bajra and til. Undertake transplanting of rice.
- Transplanting of rice in Meerut, Saharanpur, Gazipur, Muzaffarnagar, Aligarh districts of Western Plain Zone of Uttar Pradesh.

Rajasthan

East Rajasthan

Excess rainfall occurred in last fortnight and likely to continue in first week of next fortnight.

- Continuation of sowing of pearl millet in Bharatpur, Alwar, Karauli districts of Flood Prone Eastern Plain Zone. Continuation of sowing sorghum.
- Continuation of sowing of groundnut and maize in Bilwara, Chittorgarh, Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone.
- Sowing of pearl millet, sorghum, maize, green gram, cowpea, moth bean and cluster bean in Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone.

West Rajasthan

Excess rainfall occurred in last fortnight and likely to continue in first week of next fortnight.

- Continuation of sowing of groundnut, bajra, cluster bean and moth bean in Bikaner, Jaisalmer districts of Arid Western Plain Zone.
- Continuation of sowing of cluster bean and undertake sowing of bajra, sesame, mung, moth, arhar in Sriganagar and Hanumangarh districts of Irrigated North Western Plain Zone as rainfall is expected in next fortnight.
- Sowing of bajra, green gram and til in Churu, Barmer, Jalore, Jodhpur and Pali districts of Arid Western Plain Zone.

Advisories for other crops

Kerala

- Completion of transplanting of vegetable crops like bhindi, brinjal and chilli in Kottayam district of Problem Area Zone, continuation of planting cucurbits like pumpkin, cucumber, bottle gourd in Pathanamthitta district. Planting of coconut seedlings in uplands with adequate drainage in Alappuzha, Kottayam districts.
- Provide adequate drainage facility for coconut, nutmeg, pepper, banana, vegetables and orchards to avoid water stagnation.
- Continuation of planting of coconut, arecanut, pepper and cardamom in Wayanad and Idukki districts of High Altitude Zone.
- Coconut: Eriophyid mite is seen in the coconut. Spray neem oil – garlic emulsion (20 ml neem oil+ 20 g garlic paste in 1 litre of water) as prophylactic measure. While spraying avoid the young inflorescence.
- Coffee: Leaf rust disease may become severe due to increase in relative humidity. Apply 0.5% Bordeaux mixture or plant wax 20 EC @ 1-2 ml per litre to control the disease.

Karnataka

Coastal Karnataka

- Hand weeding in 25-35 days old maize and cotton crops in Uttar Kannada district.
- Planting of pineapple, black pepper, arecanut, turmeric and ginger; provide drainage in turmeric and ginger in Uttar Kannada district.
- Wind speed is high; provide protection for tomato and other vegetables through staking are important.
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South Interior Karnataka

- Completion of planting of ginger and turmeric in Kodagu, Mandya, Mysuru and Chamrajnagar districts of Southern Dry Zone utilizing realised rainfall.

North Interior Karnataka

- Sowing of sorghum, maize (African tall), cowpea and short duration bajra for fodder purpose in Ballari, Kalaburgi, Koppal, Raichur and Yadgir district of North East Dry Zone.
- Continuation of fresh plantation of fruit trees, teak, neem, tamarind, acacia or other trees on the bunds, uncultivated and marginal land in North East Transition Zone and North East Dry Zone.
- Application of irrigation in sugarcane in alternate rows or by drip irrigation in Dharwad, Belagavi and Haveri districts.
- Sowing of crops in rows across the slope to facilitate better conservation of moisture in the soil.

Andhra Pradesh

- Continuation of planting of rainfed sugarcane in Srikakulam, Vizianagaram and Vishakapatnam districts.
- Earthing up in 120 days old sugarcane crop.
- Continuation of sowing of green manure crops.
- If continuous dry spell conditions prevail, farmers should watch for sucking pest incidence like leaf miner, thrips in groundnut, thrips in green gram, black gram and sucking pests in cotton.
- In some parts of Ananthapuramu district (Kalyandurg, Kothacheruvu, OD Cheruvu, Bukkapatnam in early sown groundnut incidence of aphids is noticed. Spraying of Dimethoate @ 2ml/l or Acephate @ 1.5g/l of water is recommended for control.
- Incidence of *Helicoverpa* is also noticed in early sown groundnut crop. Spraying of Quinolphos @ 2ml/l is recommended for control.

Telangana

- Providing adequate drainage in vegetable nurseries to prevent incidence of damping off in Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts of South Telangana Zone.

Tamil Nadu

- Continuation of planting of pineapple, banana, rubber and cinnamon in Kanyakumari district.
- Continuation of cultivation of disease resistant potato variety Kufri Girdhari in Nilgiris district.
- Planting of rubber, basin preparation for pepper, clove, nutmeg and cinnamon for better rain water harvest, grafting and cutting of horticultural crops, fertilizer application may be done for rubber, clove, nutmeg and banana in Kanyakumari district of High Rainfall Zone.
- Leaf mite incidence is noticed in the *kuruvai* rice in Cauveri Delta Zone; to manage this, spray Profonophos 400 ml/acre or 50 % wettable Sulphur @ 400 gm/acre or Dicofol @ 600 ml/acre with 200 litres of water for control.
- Application of 375 g each of Borax, Ferrous Sulphate, Zinc Sulphate and Urea in 250 litres of water/ha twice at 25 days interval to overcome micro nutrient deficiency, in Coimbatore, Tiruppur, Erode districts.
- Application of micronutrient mixture @ 2 kg/acre to correct widespread deficiency of Zinc, Boron and Iron in most of the cultivable lands in Salem, Namakkal, Dharmapuri and Krishnagiri districts. Before application enrich with farm yard manure @ 20 kg/acre kept for 1 month under shade.

Maharashtra

Konkan

- Transplanting of chilli and brinjal.
- Maintenance of proper drainage in rice and vegetable crops (Bhindi and cluster bean).
- Continuation of new planting of mango, cashew, sapota.
- Providing mechanical support to newly planted grafts/plants.
- Continuation of sowing of biennial forage crops like Paragrass, Napier, Gajraj etc.

Madhya Maharashtra

- Completion of nursery sowing of kharif vegetable crops like tomato and chilli. Nursery sowing of *kharif* onion & tomato crops in Nashik district. Start sowing of Niger after sufficient moisture in soil.
- Plantation of saplings of forest species like Jamun, Suru, Acacia in Western Ghat Zone.
- Continuation of fresh planting of orchards mango, banana, papaya and pomegranate.
- Planting of ginger and turmeric.
- Cultivation of sorghum, bajra, maize, cowpea and hybrid napier as green fodder for livestock.

Marathwada

- Transplanting of vegetable crops like brinjal, chilli and tomato seed on raised bed.
- Rain water harvesting for future use.
- Pre-emergence application of weedicide like Pendimethalin/Atrazin to control weeds in pigeon pea, green gram, black gram, groundnut, maize etc.
- Continuation of sowing of fodder crops like maize, jowar and bajra.

Vidarbha

- Completion of sowing of vegetables like bitter gourd, tinda, ridge gourd, smooth gourd, bottle gourd, cowpea, cluster bean, coriander etc. in Central Vidarbha Zone.
- Rain water harvesting for future use.

Gujarat

Gujarat Region

- Continuation of nursery sowing of chilli and brinjal, sowing of cucurbits like bottle gourd, ridge gourd, sponge gourd and bitter gourd, earthing up in sugarcane in Navasari, Valsad and Dangs districts of South Gujarat Heavy Rainfall Zone.
- Intercultural operations, weeding in earlier sown cotton crop to conserve moisture and to maintain plant population in Anand, Dahod, Kheda, Panchmahals and Vadodara districts of Middle Gujarat Zone.
- Intercropping of green gram, pigeon pea, guar in pearl millet for getting more income, harvesting of matured fruits of mango, jamun, lemon etc. and budding in aola and ber in Banaskantha, Sabarkantha, Mehsana, Patan and Gandhinagar districts of North Gujarat Zone.
- Arrangements for rain water harvesting.

Saurashtra & Kutch

- Continuation of nursery sowing of *kharif* vegetable crops like tomato, brinjal and chilli in Ahmedabad and Bhavnagar districts of Bhal and Coastal Zone.
- Sowing of vegetable crops like bhindi, beans and cucurbits in Bharuch, Surat, Narmada and Tapi districts of South Gujarat Zone with realised rainfall.
- Thinning and intercultural operations in pre-sown groundnut and cotton in Junagadh and Porbandar districts in Saurashtra.
- Continuation of gap filling in pre-sown groundnut and cotton; intercropping of green gram, pigeon pea, guar in pearl millet for getting more income, harvesting of matured fruits of mango, jamun, lemon etc. and budding in aola and ber in Kachchh district of North West Zone.
- Continuation of nursery sowing of tomato, chilli, brinjal and early cauliflower, transplanting of brinjal, chilli and early cauliflower where seedlings are ready, sowing of cucurbits (bottle gourd,

bitter gourd, ridge gourd and pumpkin), lady's finger, cluster bean, kidney bean, cowpea, tur and amaranthus; removal of excess water from fields in Amreli, Rajkot, Jamnagar and Surendranagar districts of North Saurashtra Zone.

- Rain water harvesting for future use.

Arunachal Pradesh

- Prepare half moon terraces in fruit crops (orange/banana/apple/peach) grown in steep slopes to prevent nutrient loss during heavy downpour.
- Follow proper drainage and earthing up practices in low land/plain areas to avoid water stagnation in fruit orchards.
- New nursery for summer vegetables should be raised inside well covered structure with a raised bed to protect against continuous rain.

Assam

- Tapioca is in vegetative stage in Karbi Anglong district. Undertake weeding followed by light hoeing to loosen the soil.
- Undertake periodical cleaning of the banana garden to protect the garden from disease and pest attack in Hailakandi district. This is the good time for planting of banana sucker. Always select the healthy and disease free sucker for planting.
- Due to rainy season, there may be water logging in the banana orchards in Hailakandi, Cachar and Karimganj districts of Assam. Hence ensure good drainage system in the garden.

Meghalaya

- Undertake weeding operations in ginger and turmeric field.
- Continue sowing of soybean.

Manipur

- Transplanting of papaya, tree bean and mango.

Mizoram

- Transplanting of brinjal and chilli in the main fields.
- Sowing of maize, okra, French bean, cowpea, Colocasia, planting of ginger and turmeric and also new planting of orchard crops like passion fruit, Khasi mandarin and acid lime.
- Sowing of *Khasi* Mandarin and acid lime in all the districts of Mizoram.
- Transplanting of passion fruit in all the districts of Mizoram.

Tripura

- Planting of banana.
- Undertake sowing of *kharif* vegetables like ladies finger and cucurbits.

Nagaland

- Avoid water stagnation in the fields of ginger and keep the field weed free.

West Bengal

- Keep turmeric and ginger fields weed free and avoid water stagnation in Cooch Bihar district.
- Undertake land preparation for planting banana suckers in Bardhaman district.

Andaman & Nicobar

- Raise the seedling of vegetable crops like cucurbit and solanaceous crops in the poly bag or portray to avoid damage due to heavy rain in North & Middle Andaman and South Andaman districts.
- Carry out propping of fruit bearing banana tree and newly planted coconut and arecanut as more than 40 kmph wind speed is expected.

Odisha

- Planting of ginger, turmeric and mango in Mayurbhanj and Keonjhar districts.
- Sowing of sesame and ragi in Cuttack and Puri districts.

Bihar

- Continue sowing of sunflower in Saharsa district.
- Weeding in 20-25 days old onion nursery In Begusarai, Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran of North West Alluvial Plain Zone.
- Continue sowing of ginger, turmeric and kharif maize.

Jharkhand

- Sowing of groundnut in East Singhbhum district.
- Continue sowing of Marua seed in nursery bed to raise the seedlings in Ranchi district.

Madhya Pradesh

East MP

- Continue nursery sowing of kharif onion in Chhatarpur and Tikamgarh districts. Continue planting of ginger and turmeric. Continue sowing of vegetables like- ladyfinger, bottle guard, cucurbits, sponge guard, bitter guard and beans.
- Prepare nursery of tomato, chili, brinjal, papaya and early cauliflower in Chhindwara district.

West MP

- Continue nursery sowing of onion and chilli in Khargosan, Khandwa and Barwani districts utilising the realised and expected rainfall.
- Continue nursery sowing of kharif onion in Datia districts. Continue planting of ginger and turmeric. Continue sowing of vegetables like- ladyfinger, bottle guard, cucurbits, sponge guard, bitter guard and beans.
- Continue nursery preparation for kharif vegetables, onion and cauliflower and prepare field for transplanting of vegetables in Jhabua, Alirajpur and Dhar districts. Prepared proper drainage channels in turmeric and ginger field.

Chhattisgarh

- Planting of papaya, mango, guava etc. in North Chhattisgarh.
- Prepare nursery for papaya and custard apple in South Chhattisgarh

Jammu & Kashmir

- Provide staking with plastic string in tomato, bottle gourd, bitter gourd, sponge gourd and cucumber to prevent the fruit from rotting in Rajouri, Ramban Poonch and Udhampur districts of in Intermediate Zone.
- Continuation of transplanting of rainy seasonal annuals (gaillardia, balsam, cosmos, portulaca, kochia, sunflower, morning glory, gomphrena, celosia etc) in Jammu, Kathua and Reasi districts of Sub tropical Zone.
- In rice crop, apply first top dose of nitrogen (3.25 kg urea per kanal after 15-18 days of transplanting). Undertake hand weeding after 18-20 days of transplanting in Srinagar, Badgam, Kupwara and Baramulla districts of Valley Temperate Zone.

Uttarakhand

- Continuation of nursery sowing of short duration varieties of cabbage, cauliflower, Knol-Khol and broccoli in Nainital district of Bhabar and Tarai Zone. Continue sowing of radish, rai, coriander, carrot, spinach (Pusa Harit) and Frasbean.
- Sowing of rainy season okra and prepare the nursery for rainy season crop of chilli in Udhm Singh Nagar district of Bhabar and Tarai Zone.

Himachal Pradesh

- Continuation of sowing of bhindi and French bean in Una, Hamirpur, Kangra and Chamba districts of Sub-Montane and Low Hills Sub-Tropical Zone and in Bilaspur, Simla, Sirmaur and Solan

districts of Mid Hills Sub Humid Zone. Complete planting of ginger and turmeric in Low hills.

- Completion of direct sowing & transplanting of tomato, brinjal, chilli and capsicum.

Delhi

- Continuation of field preparation for sowing of kharif onion in Western Semi Arid Zone.
- Continuation of sowing of bottle gourd, bitter gourd, pumpkin, ridge gourd and cucumber.
- Sowing of spinach, amaranths and ladyfinger.

Punjab

- Continuation of nursery sowing of Brinjal and kharif onion and sowing of okra, radish and cowpea in Moga, Bhatinda, Mansa, Muktsar, Sangrur and Barnala districts of Western Zone districts. Undertake transplanting of cauliflower, planning of evergreen fruit plants such as citrus, mango, litchi, guava, loquat, ber, Amla and papaya.

Uttar Pradesh

- Continuation of nursery sowing of vegetables like cauliflower, cabbage, brinjal, tomato and chilli in Jhansi, Jalaun, Lalitpur, Mahoba and Hamirpur district of Bundelkhand Zone.

Rajasthan

- Planting of papaya in Bilwara, Chittorgarh, Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone.
- Sowing of khira, bottle gourd, ridge gourd, bitter gourd and cucumber in Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone. Continue nursery preparation of kharif onion.

Annexure –I

State-wise Varieties of different crops for *Kharif* Season

State	Subdivision	Crop	Varieties
Kerala		Rice	low land: Intan, Abhilash and Hemavati Upland: Amrut or Prasanna.
		Ladies finger	Arka anamika, Susthira, Arka abhaya
Karnataka	Coastal Karnataka	Rice	for low land Intan, Abhilash and Hemavati, for upland Amrut or Prasanna
	South Interior Karnataka	Red gram	TTB-7, BRG-1, 2, 4, 5, Hyd-3c.
		Groundnut	TMV-2, JL-24, KCG-6
		Ragi	Indaf -9, ML-365
		Sesame	Navile-1, T-7
		Green gram	PS-16, PDM-84,178
		Black gram	Karagao-3, T-9, Rashmi
		Cowpea	TVX-944, KBC-1
		Castor	DCS-9 (Jyothi), DCH-177 & 32

	North Interior Karnataka	Rice	Jaya, Rasi, BPT-5204
		Soybean	JS-335, DSB-21
		Green gram	BGS-9, Sel-4, S-4, Chainamung & Pusa baisaki, DGGV-2
		Black gram	DU-1, TAU-1, TU-1, DBGV-5.
		Sorghum	DSV-2, CSV-15, DSV-3, DSV-62, Hybrids – CSH-14, CSH-16, CSH-18, CSH-30, SSV- 74.
		Pigeon pea	BSMR 736, TS-3R
		Soybean	JS-335, DSB-1, DSB-21, JS 93-05.
		Maize	Hybrids –DMH-2, Arjun and Private hybrids, GH-0727, Renuka (G-25).
		Cotton	DHH-11, NCH-145, NHH-44, DHB-105 and Sahana,
		Groundnut	Bunch type varieties GPBD-4, JL-24 and TMV-2, spreading type varieties: DSG-1 and JSP-39, Bunch type of varieties –GPBD-5 and G-2-52, R-2001-3 (Ajay), Spreading type of varieties – DSG-1 and JSP-39. cotton: DHB-915.
Andhra Pradesh	Coastal Andhra Pradesh	Rice	BPT-5204, vijetha, IR-64 and Bavapuri sannaalu, MTU 1010, MTU 1075, NLR 34449, Pushyami, Sridruti, Sridruthi, Pushkala, Sri Satya.
		Maize	DCH-111, DCH-113, DCH-115, Maandhuri & Priya (sweet varieties), DHM 111, DHM 117, DHM-119, KH 510, Bio 9637, KH 9541, MCH 2, Kohinoor, Prabhal and Bisco 855.
		Red gram	LRG- 38, LRG- 41, laksmi, Abhaya, Asha, Maruthi and PRG-158, LRG 52.
		Black gram	LBG-752, LBG-20, T-9, LBG-623, PU-31, LB-402, LBG-709 and LBG-787 , TBG 1,GBG 104.
		Green gram	LGG-407, LGG-460, LGG-450, LGG-410, TM-96- 2.
		Cotton	Cotton Dorasannaalu
		Ragi	Bharati, Srichaitanya, Vaula.
		Groundnut	Kadiri-7 Bold, Kadiri-8, Bold, kadiri-6 Kadiri-9, Kadiri Harithandra, Kadiri Anantha.

		Sesame	Hima and Sarada (YLM 66)
	Rayalaseema	Rice	MTU 1010, Nellore Masuri in Nellore district.
		Groundnut	Narayani, Abhaya, Dharani, Grishma, TPT-4, Kadiri-6, Kadiri-9 and dharani.
		Redgram	L.R.G-30, L.R.G-41, T.R.G-22,LRG-41, PRG-158, PRG-176, Lakshmi, and Asha.
		Bajra	P.H.B-3, I.C.M.H-356, Dhanashakthi.
		Korra	Prasad, SIA-3085, Krishnadevaraya, Surya nandi, Narasimharaya, Srilakshmi and SIA 3156.
		Castor	PCH-111, PCH-222, Haritha, Kiran.
	Telangana	Rice	RNR15048, kuruvai, ADT 36, ADT 43, ADT 45 and ADT 47.
		Jowar	CSH 6,9,10,11,CSV -15, PNV-1.
		Maize	DHM-101, 103,107 and other private hybrids
		Greengram	ML-267, LGG 407,410,450,460.
		Blackgram	T-9, LGG-20, 623, PBG-1.
		Red gram	LRG 30, ICPL 8863, 332,87119, 85063.
		Soybean	JS 335, MACS-13, 58.
Maharashtra	Konkan	Groundnut	Konkan Gaurav and Trombay Konkan (Tapora), high yielding varieties: TG-26, TAG-24 and TPG-41.
	Madhya Maharashtra	Soybean	Phule Kalyani, Phule Agrani (KDS 344), JS 335, MACS 11188, JS 335, Phule Kalyani (DS-228).
		Sorghum	Hybrid varieties: CSH 5, CSH 9, CSH 13, CSH 14, CSH 16, CSH 21, CSH 25. Improved varieties: SPV 462, CSV 13, CSV 15, CSV 17 and CSV 23.
		Sweet sorghum	SSV 84, CSV 24 SS, CSV 19 SS.
		Groundnut	Phule Morana, Phule Pragati, Phule Vyas, Phule Unnati, Phule RHRG 6021, SB11, TPG41, TG26.
		Rice	Halava: Karjat 184, Ratnagiri 1, Karjat 4, Ratnagiri 711, Phule Radha; Nimgarva: Jaya, Phule Maval, Phule samruddhi, Phule R G –N-6; Garva: Ratnagiri 2, Karjat 2, Daranna, Suvarna; Scented rice: Basmati370, Indrayani, Prabhavati, Sughandha; Hybrid: Sahyadri 1, Sahyadri 2, Sahyadri 3, Sahyadri 4, Sahyadri 5, K R H 2.

		Pearl Millet	Shraddha, Saburi, Phule Shanti or ICTP 8203, ICMV 155.
		Pigeon pea	ICPL 87, Vipula, BSMR-853, BSMR-736.
		Sunflower	EC 68414, SS 56, Bhanu.
	Marathwada	Pigeon pea	rainfed: BDN-2, BDN-708 (Amol), BDN-711 , BDN-716; irrigated: BSMR-853, BSMR-736)
		Green gram	BM-4, Kopargaon, BPMR-145, BM-2002- 01, BM-2003- 2.
		Black gram	BDU-1, TU-1
		Groundnut	JL-24, LGN-2 (Manjra), TLG-45, LGN-1, LGN-123
		Maize	early varieties: Paras, Arun, Kiran, Surya; mid late varieties: Navjot, Manjra, DMH-107, KH-9451, MHH, late varieties: Prabhat, Deccan-103, K-2492, Bio-9381, Maharaja Fodder crops: African Tall, Ganga-5, Vijay and Manjari.
	Vidarbha	Red gram	ICPL- 87119 (Asha), C-11
		Black gram	PKV-15, TAU-1, TAU-2 and TPU-4.
		Green gram	PKV- green gold, PKV mug -8802, TARM-18
		Sorghum	early duration- CSH-14 and CSH-17, medium duration- CSH-9 SPH-388 and improved- SPV-669.
		Cotton	desi cotton: AKA-5, 7, 8, American improved varieties: AKH – 081, PKV-Rajat, AKH-8828, hybrid varieties: PKV-DH- 1
Gujarat	Gujarat Region	Rice	(NAUR-1, GNR-2 (Costal area), GNR-3 (N/V), GNR-4 (long duration), Jaya, Ghujari, GR-5, 7, 8, 9, IR-28 and GAR-13).
		Groundnut	semi-spread GG.20 or erect GG.2, GG.5, GG.7 and TG-26.
		Pearl millet	Late maturity GBH-558, GBH-732 and for moderate maturity GBH-744, GBH-905 and for early maturity GHB-757, GHB-719, GHB- 538.
		Sesame	G.til-1 and G.til-2.
		Maize	G. maize-1, 2, 4, 6, and Ganga safed-Ganga-11.
		Cluster bean	Gujarat Guar-2.

		Green gram	G.Mung-4 and K-851.
		Cow Pea	G. Cowpea-4, G. Cowpea-5, Pusa Falguni
	Saurashtra & Kutch	Groundnut	GG-20 & 22, GUG-10, GG-2,11,13, TAG- 24 & 37, TPG-41, TLG-45.
		Cotton	early: Bg-II GCH-8, Agritop-333, 777, 444, Jay, Beejdhan-2, Sarju, Atom, Bhakti, Medium Late: Bg-II GCH-6, Agritop-444, Solar-76, Swapna, Mallika.
		Cow pea	Gujarat Cowpea-1,2,4, Pusa Falguni.
		Black gram	T-9, GU-1.
		Green gram	GM-4, K-85.
		Pearl millet	GHB-558, 77, 538, 719, 732,744.
		Castor	GAUCH-1, GCH-4,5,6,7, GC-2, 3.
		Soybean	Guj. Soya. 1, 2, 3.
		Pigeonpea	BDN-2, Vaishali, GTH-1, GT-100.
		Sesame	Guj.Til-1,2,3,10, GT-2 or GT-3.
Assam		Bao rice	Maguri, Kekua Bao, Negheri Bao, Tara Bao
		Sali Rice	Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal, for typical lowland rice area, medium duration varieties: Satya and Basundhara T.T.B.-404, Mulagabharu, Kanaklata, Joymoti, IR-36, IR-64. for flood prone area: Luit, Jalashree, Plaban.
		Groundnut	TG-1A, JL-24
		Pigeon pea	T-21
		Black pepper	Panniyur-1, and 2, Kalluvali, Karimunda, kottandam, Balankotta
Meghalaya		Sali rice	Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri
		Groundnut	ICGS76 and JL 24
		Soybean	JS 335, Bragg, Ankur, Pusa Soybean-1 and Local JS 2

Tripura		Aman rice	Gomati, Ranjeet, Swarna, Naveen
		Maize	DMH- 849, 117, HQPM 1, BQPM 9
		Groundnut	TAG 24, TG 37A, ICGS 76
Nagaland		Rice	CAU R1, CAU R3, RCM-9 and RCM-1.
West Bengal		Aman rice	medium duration MTU-7029, MTU1001, Pratiksha and for long duration CR1017, CR1018,
		Guava	Himsagar, Mallicka, Langra for Mango; Safeda, L-49
		Coconut	Eastcoastal, Hazari., Cr1019, Sabita.
		dry seeded long duration rice	Sabita Foundation, Swarna sub-1 certified, IR-64, Hira T.L.
Odisha		Rice	Early varieties: Jogesh, Siddant, Hazaridhan, Mandakini, Jyotirmayee, Virendra, Sahabhagi, Medium varieties: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Kharavela, Naveen, Abhisek, Late varieties: Varshadhan, Ranidhan, Pooja, Mrinalini, RGL-2837, Moti, Ketakijoha, Padmini, Kanchana, Mahanadi, Jagabandhu. Hybrid varieties: CR Dhan 701, NK 5251, JKRH 401, Ajay, Rajalaxmi, Arize 6444G. short duration varieties: Sahabhagi, Khandagiri, Udaigiri, Kalinga-3, Jyotirmayee, Mandakini etc.
		Cotton	HYV cotton: Suraj, Supriya, B.S.-30, B.S.-279, Surabhi, Hybrids varieties: Bunny, Diana, Bhaskra, Namaskara, Tulasi, Sigma, Chiruta, Takat etc)
		Arhar	Asha, Laxmi, UPAS-120, ICPL-88039
		Maize	Shakti-1, Navjot, Decan-107, Decan-109 etc. and hybrids varieties: Megan-G, Megan, MM- 1107, Highshell, Prabal, Proagro 4643, Bio9681, Pinnacle, DMH-7705
Bihar		Rice	Long duration rice- Rajshree, Rajendra sweta, Rajendra Mansuri, BPT-5204, Swarna, Satyam and Kishori), medium duration rice- Seeta, Santosh, Saroj, Rajshri, Prabhat, Rajendra suvasni, Rajendra kasturi.
		Maize	Devki, Suwan, Shaktimaan-1, Shaktimaan-2, Rajendra Shanker Makka-3 and Ganga 11
		Onion	<i>Agrifound Dark Red (ADR), N-53, Bhima Super, Arka Kalyan),</i>
		Turmeric	Rajendra Sonia and Rajendra Sonali
		Ginger	Maran and Nadia.

Jharkhand		Rice	Direct seeded upland rice; improved varieties: Vandana, Birsa Vikas Dhan -109 & Birsa Vikas Dhan -110, medium land rice improved varieties: Anjali, Sahbhagi, Naveen, Lalat, Birsamati, Sugandha, BR-10, Pro-Agro 6444, IR-36, IR-64, low land rice improved varieties Swarna (MTU-7029), Rajshree, Sambha Mahsuri (BPT-5204), Birsa Dhan- 202, Birsamati, Pro-Agro 6444.
		Maize	Birsa Makka-1, Birsa Makka-2, Suwan-1(Hybrid), HQPM (Hybrid)
		Pigeon pea	Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days).
		Ginger	Vardhaman or Nadia
		Turmeric	Rajendera Sonia.
Madhya Pradesh		Rice	Very early maturing: Jawahar Dhan (JD) 75, Vandana. Early maturing: JD 201, JRH-5, JRH-8, Danteswari, Sahbhagi. Medium duration: MR-219, WGL 32100, IR 36, IR 64, Kranti, Mahamaya, Pusa Sugandha-3, Pusa Sugandha-5, Pusa basmati-1, MTU 1010. Long duration: Mahsuri, Swarna
		Soybean	Short-duration: JS 93-05, JS 95-60, JS 335, JS 90-4. Medium duration: JS 97-52, JS 20-29, NRC-37, NRC-7, NRC-12.
		Green Gram	JM-721, TARM-1, LAM-410, HUM-1, HUM-16
		Arhar	TJT-501, ICPL-87
Chhattisgarh		Rice	Upland: CR-40, Purnima, Danteswari, Shabagi, Midland: MTU1010, Samleswari, Rajeswari, Low land : MTU 1001, Suwarna ,Mahamaya, Jal Dube ,Hybrid : Arice 6444, US 312.
		Soybean	J.S. 335, Indira soya-9, J.S. 80-21, J.S. 93-05.
		Groundnut	SB -11 (J 11), ICGS-37, ICGS-44, T.A.G.-24, T.A.G.-28.
		Til	T.K.G. -21, T.K.G-22, T.K.G-55, and T.K.G - 8.
		Tomato	Pusa early dwarf, Sweet 72, Pusa rubi, Pusa Gurab, Mangala, Naveen, Laxmi 5005 & NS 815.
		Brinjal	Punjab Shadabahr, K S 331, P H 5, P H 6 ,KS 224 ,A R B H -543.
Jammu & Kashmir		Rice	Basmati 370 and Ranbir Basmati
Uttarakhand		Rice	Sharbati, Pusa1121, Pusa1, Pusa44, NDR359 etc.

		Pigeon pea	Pant Arhar-3, Pant Arhar-291, UPAS-120, Pusa-992
		Maize	Tarun, Navin, Kiran, Navjot, Pratap maize-1, Pusa sankul-3& 4.
Uttar Pradesh		Arhar	Prabhat and UPAS-120 fast-ripening and late-ripening varieties- Narendra Tur- 1 and Malviya -15
Punjab		Rice	Basmati 370 and Basmati 386; direct sowing: basmati variety Pusa Basmati 1121.
		Maize	PMH 1, PMH 2 and Parbhat.
		Brinjal	BH-2, PBH-3, Punjab Barsati, Punjab Sada Bahar, Punjab Nagina and Punjab Neelam
		Okra	Punjab-8 and Punjab-7
		Kharif onion	Agrifound Dark Red
Delhi		Rice	Hybrid varieties: - K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10, High yielding varieties- Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509, Pusa, Improved basmati, Pusa sugandha-5, Pusa sughanda-4 (Pusa 1121), Ranvir basmati and Taravadi basmati
		Guar	Pusa Navbahar, Durga Bahar
		Bajra	Pusa Composite-443, Pusa Composite-383, HSB -67
		Cluster bean	Pusa Komal
		Beans	Pusa Sem 2, Pusa Sem 3
Rajasthan		Pearl millet	RHB-121, HHB-67, HHB-60, Raj-171, GHB-538, Pusa-605, RHB-177.
		Maize	HQPM-1, HQPM-5, PEHM-1, PEHM-2, Pratap Hybrid-1, Bio-9681, Bio-9637, Navjot, Mahi Kanchan, Pratap Makka-5.