



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

Valid for 23rd June to 6th July, 2017

Date of Issue: 23rd June, 2017

Issued by

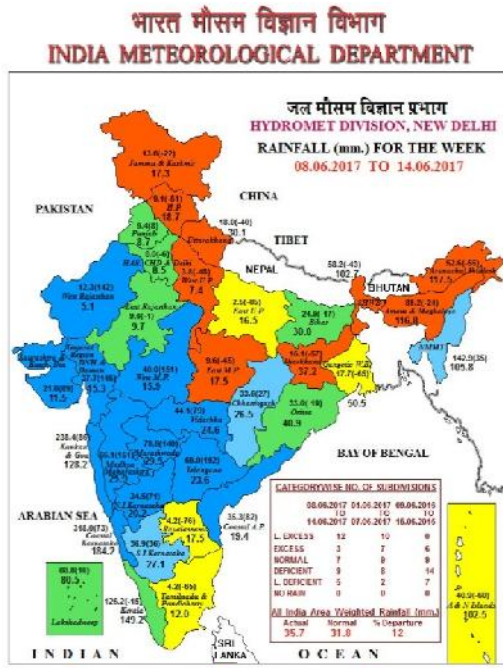
**Earth System Science Organisation
India Meteorological Department**

&

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

Realized Rainfall

(8th to 21st June 2017)

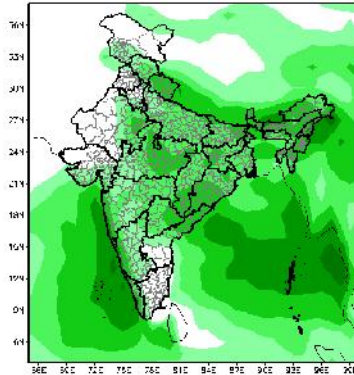


- Normal or above normal rainfall occurred during last two weeks in Punjab, Haryana, Chandigarh & Delhi, West Rajasthan, Odisha, Nagaland, Manipur, Mizoram, Tripura, Marathwada, Coastal Andhra Pradesh, Telangana and North Interior Karnataka.
- Normal or above normal rainfall occurred in either of the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

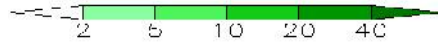
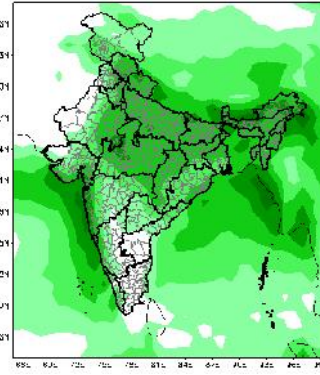
Extended Range Forecast System

Districtwise rainfall forecast and anomaly maps for the next 2 weeks (IC =21 June)

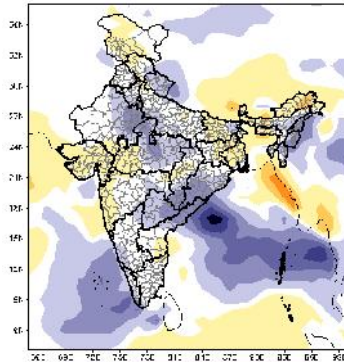
MME Weekly Rainfall (mm/day)
(Week1: 23Jun-29Jun)



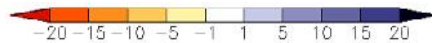
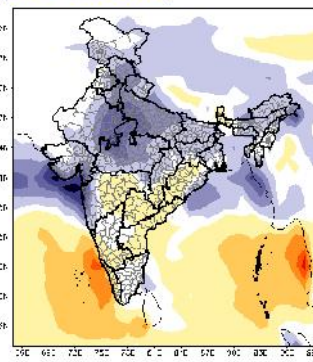
MME Weekly Rainfall (mm/day)
(Week2: 30Jun-06Jul)



MME Weekly Rainfall Anomaly (mm/day)
(Week1: 23Jun-29Jun)



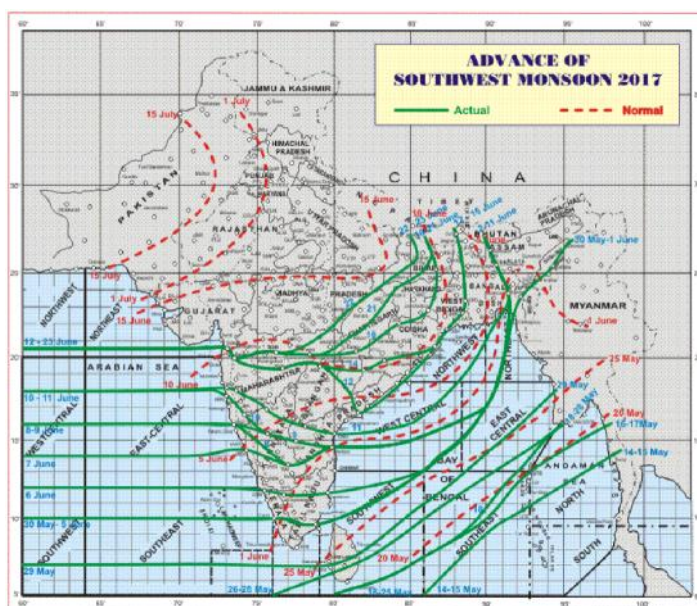
MME Weekly Rainfall Anomaly (mm/day)
(Week2: 30Jun-06Jul)



- Extended Range Forecast (ERF) indicates that during week 1 (23-29 June), rainfall is likely over many parts of the country except over most parts of West Rajasthan, north Gujarat, parts of Punjab and Haryana, Tamil Nadu and adjoining region and above normal rainfall is likely over south and eastern Odisha, south Chhattisgarh, north Coastal Andhra Pradesh, Telangana, East Madhya Pradesh, northern parts of West Madhya Pradesh and adjoining West Uttar Pradesh, East Rajasthan, Uttarakhand.
- During week 2 (30 June -6 July), North India and northern parts of central India is expected to be very active during the week with above normal rainfall likely over northern parts of country, northern parts of central India, northern parts of west-coast, Konkan & Goa and adjoining regions of south Gujarat. However, rainfall is likely to be below normal over southern parts of central India and south peninsula.

Advance of Southwest Monsoon - 2017

23rd June, 2017



- The Northern Limit of Monsoon (NLM) passes through Lat. 20.5°N / Long. 60°E, Lat. 20.5°N / Long. 70°E, Valsad, Nasik, Buldana, Nagpur, Mandla, Patna and Lat.27°N / Long. 85°E.
- Favourable conditions are developing for further advance of southwest monsoon into some more parts of north Arabian Sea & south Gujarat during next 48 hours.
- Favourable conditions are likely to develop for further advance of southwest monsoon into remaining parts of Madhya Maharashtra, Marathwada Vidarbha, some more parts of East Madhya Pradesh, remaining parts of Bihar and some parts of West Madhya Pradesh and East Uttar Pradesh during next 3-4 days.

Strategic Agricultural Planning based on rainfall during next two weeks till 6th July

Salient Agromet Advisories

- There was good monsoon rainfall over Northeastern States, Southern States, West Bengal, Odisha, Jharkhand, Chhattisgarh, many parts of Bihar, Maharashtra, some parts of south Gujarat, East Madhya Pradesh and rainfall activity is likely to continue during succeeding week except over Rayalaseema and Tamil Nadu. This rainfall situation facilitates to continue sowing of *kharif* crops in the above region.
- Punjab, Haryana, Rajasthan, Madhya Pradesh, Uttar Pradesh and Himachal Pradesh have received good pre-monsoon showers during last fortnight and conditions are also favourable for advance of monsoon into some more parts of south Gujarat, remaining parts of Madhya Maharashtra, Vidarbha, some more parts of East Madhya Pradesh and remaining parts of Bihar and some parts of West Madhya Pradesh and East Uttar Pradesh during next 4-5 days. This facilitates land preparation and sowing of *kharif* crops in these regions.

South Region
Kerala
Rainfall situation

During 15.06.2017 to 21.06.2017, Northern zone of Kerala received 60.38mm against the normal rainfall of 209.7 mm (71.2% Deficit). Southern zone of Kerala received 14.73mm against the normal rainfall of 90.7mm (83.8% deficit). Central zone of Kerala received 40.3mm against the normal rainfall of 142.8mm (71.8% deficit). High range zone of Kerala received 15.4mm against the normal rainfall of 155.5mm (91% deficit) and Problem area zone of Kerala received 20.5mm against the normal rainfall of 132.2mm (84.5% deficit).

Advisories

- **Paddy:** As there is sufficient rainfalls, field preparation and transplanting of rice can be performed. Remove all the weeds and strengthen the field bunds. Block the wholes on the bunds to prevent soil erosion and nutrients loss from the flooded fields. Apply farm yard manure or compost @5kg/m² and 350 kg lime at the time of ploughing and thoroughly incorporate them into the soil. While transplanting apply the fertilizer; 400g urea, 900g mussooriephos and 150g muriate of potash for the medium duration varieties and 400g urea, 700g mussooriephos and 120g muriate of potash for the short duration varieties to each cent (40 square meter) of land area. Apply potash only after two weeks of lime application
- **Planting:** Planting of coconut, pepper and arecanut in the High Altitude Zone.
- **Coconut:** Apply one-third dose of the recommended fertilizers and 50 kg organic manure per palm. As a prophylactic measure to control bud rot apply 1% Bordeaux mixture in the tender leaf axils. Farmers are advised to keep vigilance against red palm weevil, rhinoceros beetle and mealy bugs
- **Arecanut:** There is a chance of Leaf and Inflorescence rot. Ensure good drainage in the gardens. Prune the shade trees surrounding the palms and ensure good light penetration in the gardens. Apply 1kg lime per vine in the basins. Application of 100gm potash per palm, in addition to the normal dose also is recommended. Apply Bordeaux mixture (1%) to the inflorescences and leaves. Apply 500 grams of lime per plant. Spray 1% Bordeaux mixture as a prophylactic measure to control *mahali* and bud rot diseases.
- **Banana:** Ensure good drainage in the plantation. Apply lime in the basins at the rate of 1kg per plant. If disease is seen, cut and burn the effected leaves and spray Contaf® @ 1 ml + wetting agent 1ml per litre of water. Apply 1% Bordeaux mixture + wetting agent also within a week.
- **Pepper:** Drench the soil and with 0.2 % Copper oxy chloride and spray the aerial part with 1% Bordeaux mixture as a prophylactic measure to control Quick wilt and pollu disease. Application of *Trichiderma / Psuedomonas* culture will control the quick wilt infestation.
- **Ginger :**Remove weeds and apply urea @ 33 Kg per acre. To control soft rot, drench the soil with 1% Bordeaux mixture/0.3% mancozeb. Apply green leaf mulching to prevent soil erosion and to increase the organic matter content in the soil. Mulching with Lantana camera plants will reduce the attack of stem borer.
- **Cardamom:** Ideal time for main field planting. Take necessary phyto-sanitary measures to manage capsule rot (Azhukal disease) and spray 1% Bordeaux mixture (500-1000ml/ plant) before the onset of monsoon. As a prophylatic measure to control rhizhome rot drench the soil with 2-3 liters of copper oxy chloride (0.25%) solution. Application of trichoderma can control the azhukal and rhizome rot to some extent. Apply mulch and clean the drainage channels.

- **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. Spray 40-54 ml Ethrel in 200 litres of water to reduce fruit fall in coffee.

Tamil Nadu

- Transplanting of *kuruvai* rice in Western and Cauvery Delta Zones; SRI cultivation of rice in Cauvery Delta Zone.
- In the cauvery delta zone, continue land preparation for kuruvai season rice (varieties ADT 36, ADT 43, ADT 45 and ADT 47). Before sowing take appropriate seed treatment.
- In the North Eastern Zone, continue ploughing to improve soil moisture conservation and cover root zone of horticulture crops with coir pith to conserve moisture.
- In the western zone, pruning in vineyards may be continued and spray *Pseudomonas* @ 20g/litre of water 25 days after pruning. Undertake weeding in groundnut crop fields and ploughing in non cropped lands to arrest growth of weeds.
- Sowing of small millets in the foothills of Western Ghats areas.

Karnataka

- Ploughing across the slope will make *in-situ* soil moisture conservation and take up land leveling so that more rain water is conserved in the soil.
- Take up land preparation and strengthen the bund with fodder grass which will facilitate conservation of rainwater due to monsoon showers.
- Agroforestry on the bund involving *Melia dubia* (Hebbevu), Silver oak and *Causurina* is recommended for sustainable income under abnormal extreme rainfall events.
- Procure good quality of seeds and fertilizers. Take up the germination test for Kharif sowing.

Coastal Karnataka

- Continuation of transplanting of rice in Coastal Zone and drill sowing of rice in Hill Zone with proper drainage facilities.
- Planting of arecanut seedlings.
- Provide adequate drainage in rice fields.

South Interior Karnataka

- Due to high humidity (warm and humid weather) possibility of pest and disease build up is more in already sown crop. Take prophylactic measures depending on the crop.
- Since there is a deficit rainfall during this month, protective irrigation may be given for the crop sown in the pre-monsoon shower.
- Agro forestry on the bund involving *Melia dubia* (Hebbevu), Silver oak and *Causurina* is recommended for sustainable income under abnormal extreme rainfall events
- Take up land preparation and strengthen the bund which will facilitate conservation of monsoon showers before sowing.
- Wherever sowing has not been undertaken, FYM, tank silt application may be applied before sowing.
- Ploughing across the slope will make in situ soil moisture conservation and take up land leveling so that more rain water is conserved in the soil.
- The farmers are advised to procure good quality of seeds and fertilizers. Take up the germination test for Kharif sowing.
- The following crops are suggested for *kharif* sowing:
Under monocropping the long duration crops Eastern & Central Zone.
 - Redgram : TTB-7, BRG-1,2,4&5

- Castor: DCS-9 (Jyothi), DCH-177&32

Under double cropping the short duration crops:

- Ragi : Indaf -9, ML-365
- Sesamum : Navile-1, T-7
- Groundnut : TMV-2, JL-24, KCG-6
- Cowpea: TVX-944, KBC-1
- Green gram: PS-16, PDM-84,178
- Black gram: Karagao-3, T-9, Rashmi(LBG-625)

North Interior Karnataka

- Continuation of nursery sowing of rice.
- Continuation of sowing of green gram, black gram, sunflower, maize, Bt. cotton, red gram, bajra, sesame, soybean, jowar and groundnut (bunch type) with sufficient rainfall.
- In light and medium black soils adopt intercropping of cotton + onion (1:5), cotton + chilli (1:1), cotton + groundnut (1:3), cotton + green gram (1:1), cotton + soybean (1:1), kharif jowar + red gram (2:1), groundnut + castor (3:1), bajra + red gram (2:1), sesamum + red gram (2:1), groundnut + red gram (3:1), green gram / black gram + red gram (2:1), groundnut + castor (3:1), bajra + groundnut (2:4), chilli + onion (2:4), red gram + soybean (2:4), hybrid cotton + soybean (1:2), maize + soybean (1:2) row proportion.

Andhra Pradesh

Coastal Andhra Pradesh

- Utilizing the rainfall received during the week in all districts of Andhra Pradesh, farmers are advised to complete land preparation and take up sowing of kharif crops where ever land preparation completed.
- Farmers are advised to take up sowing of green manure crops like Sunnhemp or Daincha in paddy fields in north coastal, Godavari, Krishna, Guntur districts.
- Continue sowing of rice nurseries in Srikakulam, Vizianagaram, East and West Godavari, Krishna and Guntur districts under assured irrigation and utilizing the canal water released in Godavari Delta.
- Continue sowing of mesta, sesame, ragi, planting of sugarcane in North Coastal AP (Srikakulam, Vizianagaram and Vishakhapatnam), Krishna and Godavari districts with the available soil moisture.
- With the good rainfall received during the week, farmers are advised to go for sowing of rainfed crops like maize, bajra, redgram, greengram, blackgram, cotton, groundnut, chilli, turmeric in Krishna and Godavari zones and maize, bajra, ragi redgram, greengram, blackgram, groundnut in North Coastal Andhra Pradesh.

Rayalaseema

- Utilizing the rainfall received during the week in all Rayalaseema districts (Ananthapuramu, Kurnool, Kadapa and Chittoor), farmers can for sowing of rainfed crops like Bajra, Sorghum, Foxtail millet, Redgram, Greengram, Blackgram, Castor and Onion.
- Farmers can continue sowing of rainfed Groundnut in Southern zone (Chittoor, Nellore and Kadapa districts) and under assured irrigation in scarce rainfall zone (Kurnool and Ananthapuramu districts). They are advised to treat the seed with Imidacloprid @ 2ml/kg and Tebuconazole @ 1g/kg of seed before sowing.
- Take up groundnut sowings from 1st July onwards under rainfed conditions in Ananthapuramu and Kurnool districts to avoid the risk of moisture stress at critical stages

and yield reduction in June sown crop.

Telangana

- Continuation of nursery preparation of rice (medium duration varieties).
- Continuation of sowing of maize, green gram and soybean in North Telangana Zone.
- Land preparation for sowing of red gram in North Telangana Zone.
- Continuation of sowing of jowar, bajra, maize, soybean, green gram, cotton, red gram etc. in South Telangana Zone.
- Intercropping of red gram in cotton or maize fields.

West Region

Maharashtra

Konkan

- Transplanting and direct sowing of rice.
- Provide adequate drainage in already sown rice and nagli fields.

Madhya Maharashtra

Rainfall

- During 16.06.2017 to 22.06.2017, Western Maharashtra received 16.4 mm rainfall against the normal rainfall of 22.6 mm (27.6 % deficit), In Nashik region, Nashik, Dhule and Nandurbar district received low rainfall and in Pune division Pune, Solapur, Sangli, Satara and Kolhapur district received average rainfall in last week.
- Continue nursery sowing of rice/finger millet in Nashik, Dhule, Nandurbar, Ahmednagar and Pune districts.
- Continue sowing of soybean, tur, cotton, groundnut and sunflower in Pune, Solapur, Kolhapur, Satara and Sangli districts and sowing of soybean, cotton and moong in Nashik, Dhule, Nandurbar and Jalgaon districts.

Contingency Crop plan for Western Maharashtra

- Sunflower + red gram (2:1), **Red gram:** BSMR- 736, 853, BDN- 708, phuleraleshwari, vipula, **Sunflower-Modern**, Phuleraviraj, Bhanu etc.
- Pearl millet + red gram (2:1), Soybean + red gram (2:1), **Pearl millet:** shradha, saburi, shanti, **Red gram:** BSMR- 736, 853, BDN- 708, phuleraleshwari, vipula, **soybean:** JS- 335, DS-228, JS- 9305.
- Red gram + mung (1:3), **Red gram:** BSMR- 736, 853, BDN- 708, phuleraleshwari, vipula, **Mung**TAU-1, T-9, Phule M-2, J-781.
- Red gram + urd (1:3), **Red gram:** BSMR- 736, 853, BDN- 708, phuleraleshwari, vipula, **Urd - TPU- 4.**

Marathwada

- Continuation of sowing pigeon pea, green gram, black gram, groundnut, soybean, Bt. cotton and maize, nursery preparation for *kharif* onion.

Vidarbha

- Undertake remaining preparatory tillage for sowing of *kharif* crops (sorghum, cotton, greengram, blackgram, soybean) and keep the inputs ready accordingly.
- Sowing of crops be undertaken after sufficient pre-soaking rains, when 2 to 3 days of

about 60-75mm rainfall has occurred.

- Continue land preparation for nursery sowing of kharif rice in Eastern Vidarbha Zone.
- For cotton, recommended deshi varieties include AKA-7 with seed rate 12 to 15kg/ha and spacing of 60 x 15 cm. American improved varieties include AKH-081, AKH 9916 with seed rate of 12 to 15 kg/ha and spacing 60x15cm OR 60x30 cm depending on the soil type. Cotton deshi hybrid PKVDH-1 is recommended with seed rate @ 3.0 to 3.5 kg/ha and spaced at 60x45 cm. Recommended Bt cotton varieties may also be preferred.
- Recommended soybean varieties are JS-335, JS 93-05, JS 9560, JS 97-52, MAUS-71, MAUS-81.
- Pigeon pea varieties to be chosen as per the soil type are - early duration varieties for medium soil type(TAT-10, ICPL 87, AKT-8811) , medium duration varieties for medium to heavy soil type(BSMR-736, PKV Tara, BSMR-853) and long duration varieties for heavy soil type (ICPL-87119, C-11).
- Recommended sorghum varieties are early duration- CSH-14 and CSH-17, medium duration- CSH-9 CSH-16, SPH-1635 and improved- SPV-669,CSV-20.
- Recommended greengram varieties are PKV- green gold, PKV mug -8802, TARM-18 and for black gram PKV-15, TAU-1, TAU-2 and TPU-4.
- Feasible risk minimizing intercropping systems include cotton + greengram/blackgram (1:1), pigeon pea + greengram / blackgram/soybean (2:4) , sorghum + greengram/pigeonpea (3:3) and cotton + sorghum+ pigeonpea+sorghum (3:1:1:1), cotton+soybean+pigeonpea+soybean (3:2:2:2). Also in soybean after every 6 or 9 rows one row of pigeonpea may be sown.
- Crop specific seed treatment/inoculation is advisable at the time of sowing for that use Azotobacter @ 25 gm/kg, Rhizobium @ 25 gm/kg, PSB @ 25 gm/kg and bio-fungicide Trichoderma @ 4 gm /kg of seed.
- As far as possible follow BBF layout for sowing kharif crops, particularly soybean, green gram and black gram.

Gujarat

- Land shaping and soil conservation measures like contour bunding are advised.
- Water harvesting, storage and ground recharge structures should be prepared.
- Land preparation operations should be completed before on-set of monsoon so that timely sowing can be done with soaking rains.
- Ensure vaccination of animals for different diseases in rainy season. Provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals. Keep fodder in safe place to avoid spoilage due to rainfall.

Till now most parts of the state received insufficient rainfall for *kharif* sowing. Contingent crop planning will be required if monsoon delay further for more than about 10 days

Region wise crop and cultivars are suggested as below for sowing on sufficient receipt of rainfall or by irrigation.

1 For South and Middle Gujarat region:

- i. Paddy: GR-8,9 and Gurjari can be transplanted.
- ii. Fodder sorghum: S-1049, C-10-2
- iii. Sunflower: Modern, EC 68414

- iv. Cotton: Guj. Hy. Cotton-6, 8, 10, 12 and Desi cotton
- v. Early maturing Bt. Hybrid cotton and Intercropping: pearl millet + pigeon pea (2:1) are advised.

2 For North Gujarat region:

- i. Sunflower: Modern, EC 68414
- ii. Blackgram: T-9, Guj. Udid-1
- iii. Greengram: GM-4, K-851, Meha

3 For Saurashtra region:

- i. Groundnut: GG-2, 5,7, TG-26, TG-38, GJG-9
- ii. Sunflower: Modern, EC 68414
- iii. Greengram: GM-4, K-851, Meha

Northeast Region

- Make provisions for draining out excess water from the fields in areas receiving excess rainfall.
- Start transplanting of rice in areas of normal rainfall.
- Transplanting of varieties i.e. Gitesh, Prafulla of Sali rice may be delayed until normal rainfall occurs in rainfall deficit districts.

Meghalaya

- Sowing of maize in high and mid altitudes and land preparation for transplanting of Sali rice.

Arunachal Pradesh

- Transplanting of finger millet and rice, sowing of cowpea, French bean and soybean.

Nagaland

- Nursery sowing of TRC/WRC paddy.

Manipur

- Transplanting of rice and completion of nursery sowing of rice.
- Maintain water level at 5-8 cm in pre-kharif rice.
- Sowing of cowpea.

Mizoram

- Transplanting of rice.
- Maintain proper drainage in the Jhum rice, cowpea, okra and maize fields.

East Region

West Bengal

For the areas receiving scanty rainfall:

- Prepare nursery and collect IET-4094, Swarna, Shatabdi, Lalat, IET 9947, IET 1444, IET 2233 seed.

For low lying areas (the area prone to flash flood):

- The areas where flood or stagnation occurred, there tall variety like Ranjit may be select. Short duration variety (like Daya, which matures in 95 days) may be select.

▪ Other practices

Due to sufficient rainfall occurred in West Bengal, following measures are recommended

- SRI method of rice cultivation is suitable for uplands in the region.
- Continue weeding and intercultural operations along with proper drainage channel in vegetable crop field.
- Sow rice seed in nursery bed without irrigation facility and maintain 1-2 cm standing water from rainfall.
- Due to humid and warm weather, infestation of blight in vegetable crops is likely to increase; spray Mancozeb @ 2 g per liters of water.
- Agricultural operation should be done based on weather based agro-advisories and contingency crop plan for respective region.

Bihar

Paddy

- Nursery sowing in the upland areas is advised for early varieties of paddy such as Sahbhagi, Prabhat, Dhanlakshmi, Richariya, Saket-4 and Rajendra Bhagwati.
- Farmers are advised to finish the nursery sowing of medium duration rice varieties such as Sita, Santosh, Saroj, Rajendrasweta, Rajendrasuhasni, Rajendrakasturi, Kamini and Sugandha at the earliest. Weeding is advised in 10-12 days old paddy nursery.
- Before sowing, seeds should be treated with Carbendazim @ 2.0 gram/kg of seed.

Onion

- Sowing of kharif onion in raised bed is advised. Agrifound Dark Red (ADR), N-53, Bhima super, Arka kalyan are recommended varieties for sowing in North Bihar region. Seed should be treated with Captain or Thiram @ 2.0 gram /kg of seed.
- Weeding is advised in 15-20 days old onion nursery. Nursery should be covered by net at the height of 6-7 feet for protection against sunlight.

Vegetables

- In uplands, sowing of kharif vegetables such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd, bitter gourd is advised. Weeding is also advised in 15-20 days old kharif vegetables.

Other crops

- Complete the sowing of *kharif* maize, turmeric, ginger and elephant foot yam at the earliest. *Devki, Suwan, Shaktimaan-1, Shaktimaan-2, Rajendra shanker makka-3* and *Ganga 11* varieties of maize, *Rajendra Sonia* and *RajendraSonal*i varieties of turmeric, *Maranand Nadia* varieties of ginger and *Gajendra* variety for elephant foot yam are recommended for sowing in North Bihar districts.

Jharkhand

- Nursery sowing of rice, sowing of maize, red gram and black gram.
- Sowing of direct seeded upland rice. Recommended varieties are Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111 and Vandana.

Odisha

- Land preparation and direct sowing of rice in medium and low lands.
- Complete nursery sowing of rice. Select short duration varieties of rice like Sahabhagi, Khandagiri, Kalinga-3, Jogesh, Sidhant etc. for bonded upland and medium duration rice varieties like MTU-1010, Lalat, Konarka, Surendra, Nabin, MTU-1001 etc. in medium

land.

- Land preparation/transplanting of rice from 1st week of July.
- Land preparation and sowing of medium duration crops like groundnut, maize, red gram, green gram and cotton in upland.

Central Region

Madhya Pradesh

- Nursery sowing of rice; sowing of soybean, maize, groundnut, arhar, green gram and black gram. Nursery sowing of onion in Satpura Plateau Zone.
- Land preparation for sowing of soybean, maize and ready keep inputs in Malwa Plateau Zone.

Chhattisgarh

- For sowing of Soybean, maize, groundnut crops, fields should be well prepared so that perennial grass are destroyed. If there is pre monsoon shower farmers are advised for sowing of maize crop in their field.
- Looking to the monsoon activity ensure the arrangement of inputs like seed fertilizers etc.
- Cleaning of the field and repairing the ridges at this time is to be necessarily completed.
- Priority should be given to line sowing method in khurra boni (dry seeding).

Vegetables:

- Looking to the weather condition of previous days vegetable growers are advised to arrange proper drainage facility in their field.
- High yielding variety seeds should be arranged for direct sown vegetables and field preparation should be done accordingly.
- Mulching should be done in ginger and turmeric crops

Fruit :

- Pruning should be done in the fruit orchards like guava mango, citrus and pomegranate. Application of Bordo paste should be done on the pruned branches after this operation.
- Plantation should be ensured in already dug pits and plantation of papaya and bananas can be done. FYM application can be done @ 10 Kg./ pit.

North Region

Punjab

- Nursery sowing of basmati rice.
- Sowing of arhar, maize and soybean.

Haryana

- Nursery sowing of basmati rice.
- Land preparation / sowing of guar, bajra, maize, cluster bean.

Delhi

- Nursery sowing of basmati rice.
- Sowing of bajra, maize, cluster bean.

Uttar Pradesh

- Nursery sowing and direct sowing of rice.
- Sowing of maize, arhar, groundnut and nursery sowing of onion.

Uttarakhand

- Nursery sowing of basmati rice, sowing of maize and groundnut.
- Prepare land for maize, jethi rice, soybean and cowpea in Hill Zone.

Himachal Pradesh

- Completion of nursery sowing of paddy, continue sowing of cucurbits crops, early okra, spinach, coriander, fenugreek, raddish and turnip.
- Sowing of bhindi and French bean in the field.

Jammu & Kashmir

- Completion of nursery sowing of rice.
- Land preparation for transplanting of rice seedlings in areas, where seedlings are approaching near 4-6 leaf stage.
- Strengthen and raise the dike height of field bunds during the preparation of land to retain rain water as much as possible.
- Continuation of sowing of maize.

Rajasthan

- Sowing of groundnut, pearl millet, sorghum, maize, mung bean and cluster bean in Eastern Zone.
- Prepare field for sowing of groundnut and pearl millet in Western Zone.

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