National Agromet Advisory Service Bulletin

based on

Extended Range Weather Forecast

Valid for 31st July to 13th August, 2015

Date of Issue: 31st July, 2015

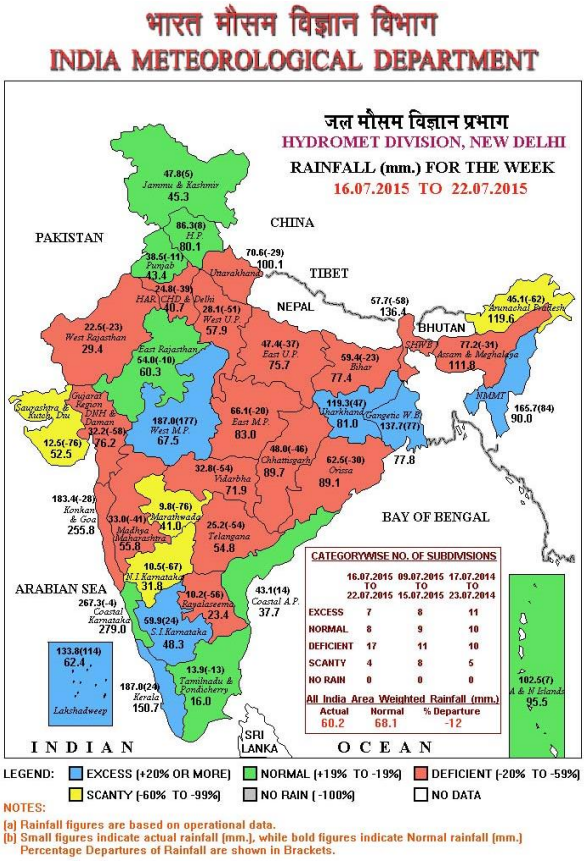
Issued by

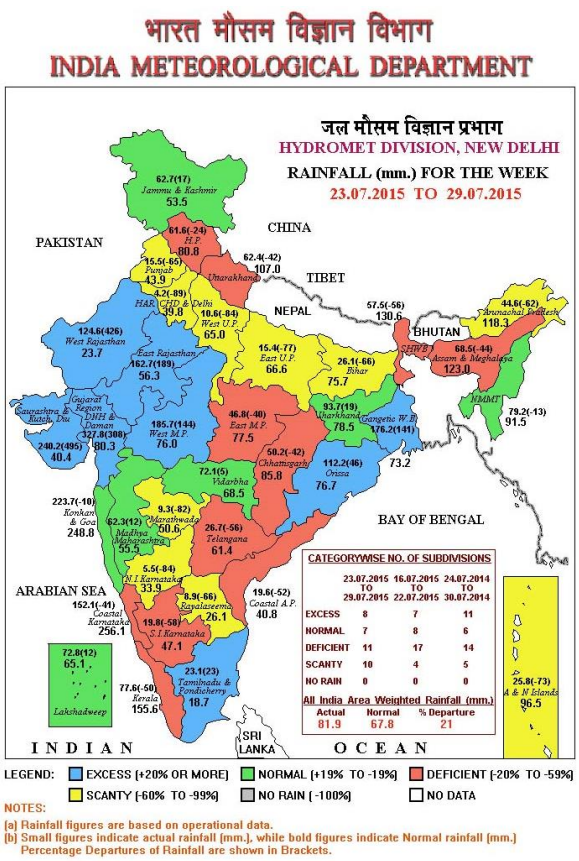
Earth System Science Organisation
India Meteorological Department

Indian Institute of Tropical Meteorology, Pune
&
Indian Council of Agricultural Research
AICRPAM, CRIDA, Hyderabad

Realized Rainfall

(16th to 29th July 2015)





- Normal or above normal rainfall occurred during last two weeks in Jammu & Kashmir, East Rajasthan, West Madhya Pradesh, Gangetic West Bengal, Jharkhand, Nagaland, Manipur, Mizoram and Tripura and Tamil Nadu,

- Normal or above normal rainfall occurred in either of the last two weeks in Himachal Pradesh, Punjab, West Rajasthan, Konkan & Goa, Madhya Maharashtra, Vidarbha, Gujarat State, Odisha, Coastal Karnataka, South Interior Karnataka, Kerala, and Coastal Andhra Pradesh.

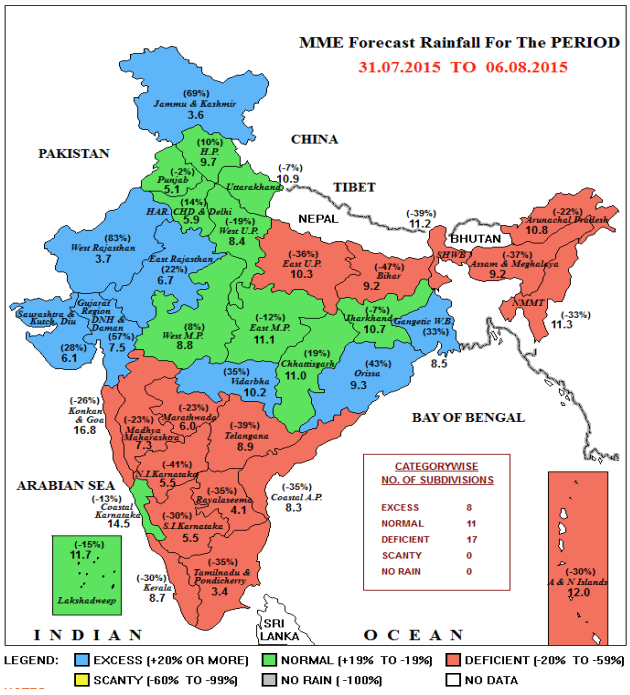
- Below normal rainfall occurred in the last two weeks over remaining parts of the country.

Extended Range Forecast System

Subdivisionwise rainfall forecast map for the next 2 weeks (IC = 29 July)

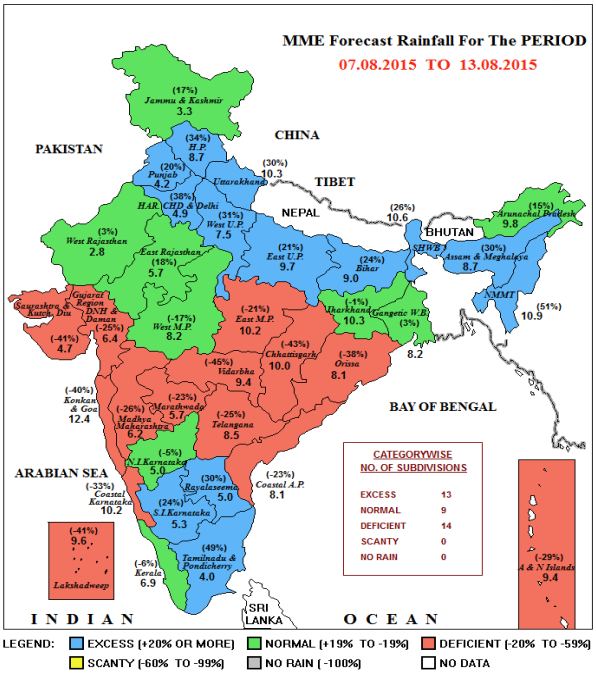
Rainfall forecast (mm/day) (31 July – 13 August, 2015)

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT



Notes:
(a) Rainfall figures are based on MME forecast
(b) Bold figures indicate forecast Normal rainfall (mm/day)
(c) Percentage Departures of Rainfall are shown in Brackets

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT



Notes:
(a) Rainfall figures are based on MME forecast
(b) Bold figures indicate forecast Normal rainfall (mm/day)
(c) Percentage Departures of Rainfall are shown in Brackets

- Normal or above normal rainfall would occur in next fortnight over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana & Delhi, West Uttar Pradesh, Rajasthan, West Madhya Pradesh, Jharkhand and Gangetic West Bengal.

- Normal or above normal rainfall would occur in either of the next two weeks in East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Bihar, Sub-Himalayan West Bengal & Sikkim, Odisha, Gujarat State, Vidarbha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Karnataka, Rayalaseema, Tamil Nadu and Kerala.

- Below normal rainfall would occur in the last two weeks over Konkan & Goa, Madhya Maharashtra, Marathwada, Telangana and Coastal Andhra Pradesh.

Strategic Agricultural Planning based on rainfall during next two weeks till 13th August

Good rainfall occurred mainly over Jammu & Kashmir, East Rajasthan, West Madhya Pradesh, Gangetic West Bengal, Jharkhand, Nagaland, Manipur, Mizoram and Tripura and Tamil Nadu during last fortnight. Even though, over the regions like **Gujarat** and **Madhya Maharashtra,** crops experienced moisture stress situation upto last week due to deficient rainfall during last few earlier

weeks, the situation improved due to good rainfall during last week. Whereas, over the regions like **North Interior Karnataka, Telangana, Rayalaseema, Marathwada** and some districts of **West Vidarbha** (**Buldhana, Washim** and **Yavatmal** districts), crops have been still experiencing moisture stress situation due to deficient rainfall during last few weeks. Rainfall is likely to occur mainly over NW India and over northern parts of central India with subdued rainfall over south peninsula and NE India during the week of 31 July - 06 August. However, subdued rainfall is likely to occur mainly over central India and NW India with rainfall belt mainly over foothills, NE India and south peninsula during the week of 07 - 13 August.

In view of occurrence of good rainfall during last week, following agricultural activities are suggested for the Gujarat State and Madhya Maharashtra.

Gujarat

Due to heavy rain during previous week, suggested agricultural activities are -

- Removal of excess water and maintenance of proper drainage facilities in the crop fields.
- Storing runoff water for future use.
- There is water logging in cotton, green gram, sesame and groundnut crop fields in Banaskantha, Mehsana, Patan, Gandhi Nagar, Kachchh (Bhuj), Jamnagar and Surendranagar districts of Gujarat State. Resowing of short duration varieties of crops in case of more than 60% damage in these districts.

Taking the advantage of good rainfall during last week, the following agricultural activities are suggested-

Gujarat Region

North Gujarat Zone

- Sowing of medium duration variety of bajra (GHB-744) and short duration varieties of bajra (GHB-558, GHB-538, GHB-719), maize (Guj. Maize-2 and Guj.Maize-4 and 6), green gram (K-581 and Gujarat Mung-4), black gram (Guj. Black Gram-1 and T-9), sesame (G.til-1 and G.til-2) and cow pea (Guj.cowpea-3 & 4 and Pusha Falguni).
- Intercropping of green gram, pigeon pea, guar with bajra and short duration pulse crops with orchards.

Middle Gujarat Zone

- Sowing of pearl millet (medium duration varieties like GHB-744, short duration varieties like GHB 538, GHB 732, GHB 719, GHB-577) and maize (GM-4, 6, Narmada Moti); intercropping of green gram, pigeon pea, guar with bajra.
- Sowing of sorghum (CSH-5, 6, 1, GJ-39, 40, 41), oilseed crops like sunflower (Modern, EC-68414 and Guj-1) and sesamum (Guj. Til 1, 2, 10), pulse crops like black gram (T-9, Guj. Udid-1), green gram (GM-4, K-851, Meha), cowpea (Guj. Cowpea 1, 2, 4, Pusa Falguni) and fodder sorghum (S-1049, C-10-2, Gundari, GFS 4, 5).
- Nursery preparation for tobacco.

Bhal and Coastal Zone

- Sowing of short duration varieties of crops like bajra (GHB-558, GHB-538, GHB-719), green gram (Guj. Mungbean-4, K-851), sesame (Purva-1), sorghum (GFS-4 & GFS-5), castor (GAU-CH-1, GCH-6) and pigeon pea (BDN-2).
- Sowing of short duration varieties of cotton with higher seed rate and wider spacing.
- Sowing of fodder crops like sorghum for fodder purpose with higher seed rate.

South Gujarat Heavy Rainfall Zone

- Transplanting of *kharif* rice with 2-3 seedlings per hill at 20 x 15 cm spacing.
- Gap filling in rice.
- Sowing of tur in South Gujarat Zone.
- Use of SRI technique for transplanted rice in case of nursery failure. Use more seedlings at closer spacing, in case seedlings are over aged.

Saurashtra & Kutch

- Sowing of short duration crops like green gram (K-851, G.Moong-4), black gram (T-9, G.U.-1), sesame (G.Til-2, G.Til-3), castor (GAUCH-1, GCH-4, GCH-6, GCH-7), bajra (GHB-538, GHB-558, GHB-719, GHB-732, GHB-744), pigeon pea (BDN-2, G.Tur-100), cow pea (Guj.cowpea-3 & 4 and Pusa Falguni), fodder sorghum (Gundari, GFS-4, GFS-5) and maize (African tall).
- Intercropping of green gram, pigeon pea, guar with bajra and short duration pulse crops with orchards in Kutch.
- Intercropping cotton with green gram or cowpea to increase crop yield.

Madhya Maharashtra

- Sowing of contingent crops like sunflower (Morden, SS-56, LSFH-35, BSH-1), cowpea, pigeon pea (Vipula, BSMR 736, 853, BDN 708, 711) and moth bean. However, sowing of contingent crops in Ahmednagar, Satara and Sangli districts and eastern parts of Pune district after receipt of sufficient rain.
- Transplanting of rice in Western Ghat region.
- Sowing of fodder crops like jowar (Ruchira, Phule Amruta, Phule Godhan), maize (African Tall, Karveer, Rajshree) and bajra (Nutrifeed).
- Weeding and mulching with crop residues in early sown jowar and soybean to conserve soil moisture.
- Thinning to maintain plant population.
- Maintenance of 2-3 cm water level in rice nurseries in Western Ghat, Kolhapur region and Pune (western parts).
- Weeding and basin mulching in orchards.
- Spraying of mixture @ 2% Potassium nitrate in 10 litres of water in already sown crops like bajra, groundnut, soybean, cotton, red gram and jowar in Ahmednagar, Satara, Sangli districts and eastern parts of Pune.
- Remaining *kharif* sowing in rainfall deficit areas should be undertaken only upon receipt of sufficient rains.
- Apply protective irrigation during morning/evening hours for stressed crops/orchards in rainfall deficit districts. Otherwise undertake light hoeing to create soil mulch to conserve profile soil moisture.

In view of continuous deficient rainfall situation during last few weeks, following agricultural activities are suggested for North Interior Karnataka, Telangana, Rayalaseema, Marathwada and some districts of West Vidarbha (Buldhana, Washim and Yavatmal districts).

North Interior Karnataka

- Long dry spell has resulted in severe depletion of soil moisture, hampering the growth of seedlings of the sown crops. Sowing of contingent crops may be undertaken after receipt of

sufficient rainfall. Following contingency measures are suggested:

- Thinning out of excess and weak seedlings by removing alternate rows as the moisture stress is noticed.
- Light hoeing and mulching with crop residues.
- Intercultivation and weeding in standing crops.
- Opening conservation furrows after two rows in wider spaced crops and after every 8th row in narrow spaced crops.
- Spraying of 1% Potassium Nitrate (KNO3) to already sown crops where soil moisture is available so as to induce drought resistance in the crops.
- Adoption of drought resistance and moisture conservation measures in crops to be sown.
- Sowing of fodder crops on preference.
- Select short duration, drought resistant crops and varieties.
- Sowing of crops in wider rows to overcome moisture stress.

- Maintenance of 2-3 cm water level in transplanted rice field.
- Sowing of niger, foxtail millet (PSC-1, RS-118), matki, horse gram (PHG-9, KBH-1), castor as well as intercropping of pearl millet + pigeon pea (2:1), pigeon pea + sesame (1:2 or 2:4), bajra + castor (2:1) in light and medium black soils and bajra, pigeon pea, castor, chilli, sesame, foxtail millet, onion, bajra + castor (2:1), fodder crops in medium black soils.
- Pigeon pea: recommended variety is TS-3R where the crop is susceptible for wilt disease.

- **North East Transition Zone:** Contingency measures (laterite red soil and shallow to medium black soils):
  - Sowing of short duration red gram (Pragathi), sesame (DS-1), horse gram, foxtail millet (HMT-100-1), bajra, maize (DMH-2, Arjun), cowpea (C-152), castor (DS-1, 48-1).
  - 25% higher seed rate in dry sowing of red gram with 90 x 20 cm spacing.
  - Transplant 25-30 days old red gram seedlings of BSMR-736 and Asha varieties.
  - Intercropping of red gram + foxtail millet (1:5) / redgram + bajra (1:5).
  - Protective irrigation to sugarcane, soybean, green gram, black gram and vegetable crops.
- **North East Dry Zone:** Contingency plan
  - Adoption of medium duration red gram varieties.
  - Adoption of dry sowing practice in red gram with ridges and furrows at 90 cm apart.
  - Sowing of sunflower and castor at 90 x 20 cm.
  - Use 25% higher seed rate in red gram with 90 x 20 cm spacing.
  - Transplanting of 25-30 days old red gram seedlings of BMSR-736 variety.
- **North Transition Zone:** Sowing of groundnut and maize (Hybrids – DMH-2 and Arjun and private hybrids), where the conditions are favourable.

  Contingency plan:
  - Weed management.
  - Frequent intercultivation to manage moisture stress.
  - Protective irrigation if water is available.
  - Withholding of fertilizer application till dry spell is over.
  - Deep intercultivation, surface mulching and foliar application of urea (2%) & MOP (2%) during dry spell.
  - Application of irrigation in sugarcane.

Telangana

- Light hoeing, weeding and mulching in early sown jowar, soybean, green gram and black gram for conservation of soil moisture.
- Foliar spray of 2% KNO_3 to prevent wilting of crops.

- Supplementary irrigation by using micro-irrigation (sprinkler) in early sown crops.
- Application of irrigation in sugarcane.
- Deficiency of micronutrients observed in cotton and tuber crops in Southern Telangana Zone due to dry weather conditions. To correct the deficiency, spray micronutrients mixture on crop.
- Sowing of sole red gram (Maruti, Lakshmi, PRG 158 etc.) adopting spacing of 90 x 30 cm, sunflower and castor after receipt of rain.
- Nursery raising for short duration rice varieties in Southern Telangana Zone after receipt of sufficient rain.
- Maintain 2-3 cm water level in rice nurseries.

Rayalaseema

- Mulching in already sown crops for conservation of soil moisture.
- Due to less rainfall, maintenance of 2-3 cm water level in rice field.
- Protective irrigation in earlier sown groundnut, castor; spraying of 2% urea solution to prevent wilting of the crop.
- Sowing of contingent crops like pearl millet, jowar, green gram, red gram, castor, cluster bean and cowpea after receipt of sufficient rain.
- Red gram intercropped with jower / bajra @ 1:2 ratio.

Marathwada

- Sowing of contingent crops like Bt cotton (short duration), castor, tur and sunflower and adoption of intercropping of bajara + tur after receipt of sufficient rain.
- Sowing of contingent crops like guar and coriander in light soil after receipt of sufficient rain.
- In view of prevailing subdued rainfall during last few weeks, mulching in crops with crop residue to conserve soil moisture and protective irrigation (drip or sprinkle method) to earlier sown crops like soybean, cotton, red gram and jowar in view of prevailing water stress condition.
- Light hoeing and weeding in early sown jowar, soybean, green gram, black gram, cotton and red gram to conserve soil moisture.
- Foliar spray of 8% Kaolin in orchards like banana, pomegranate and sweet lime and also spray of 1 to 1.5% Potassium Nitrate (KNO3) on *kharif* jowar and soybean during dry spells.
- Light irrigation, if water is available, wherever moisture stress condition is prevailing.

Vidarbha

- Sowing of contingency crops like sunflower (TAS 82, PKV SF-9, PKVSH-27, KBSH 1), castor (AKC-1, GCH-4, 5, 6, DCH-117), pearl millet (PKV Raj, Shradha and Saburi), sesame (AKT-64 and JLT-7) and pearl millet + pigeon pea (2:1 or 4:2), sunflower + pigeon pea (2:1), sesame + pigeon pea (4:1) intercropping systems in west Vidarbha.
- Sowing of pigeon pea (AKT 8811 and Vipula with 60 x 30 cm spacing; PKV- Tara and BSMR-736 with 90 x 20 spacing) in unsown areas.
- Nursery sowing for *kharif* vegetable seedlings (chilli, tomato, brinjal etc.).
- Transplanting of rice in east Vidarbha.
- *Kharif* sowing in rainfall deficit areas (Buldhana, Washim and Yavatmal districts) should be undertaken only after receipt of sufficient rains.
- Maintenance of 2-3 cm water level in already transplanted rice field.
- Light hoeing, mulching in already sown crops like soybean, cotton, red gram and jowar in West Vidarbha for conservation of soil moisture.
- Weeding in rice nursery / transplanted field, soybean, cotton, red gram and green gram.

- Light irrigation in West Vidarbha, if water is available, wherever moisture stress condition prevailed.
- Weeding and basin mulching in orchards.

West Bengal

- Re-transplanting of wet seeded *aman* rice in Coastal Saline Zone, as transplanted *aman* rice fields are damaged totally in most of the areas. Undertake transplanting after recession of flood water. Drain out excess water from vegetable fields to avoid further damage.
- Sowing of direct seeded *aman* rice in Laterite and Red Soil Zone where seedlings over 30% areas have been damaged.
- In Hill Zone, transplanting of *aman* rice and sowing of soybean with seed rate 70-75 kg/ha and planting distance of 4-5 cm.
- Rejuvenate the low lying areas to store rainwater for jute retting.
- A continuous vigil against disease infestation of vegetable crops is needed.

Odisha

- In North Central Plateau Zone, complete resowing in all type of lands if seeds have been completely washed away due to heavy low pressure rain; choose varieties of medium duration for the medium land.
- Direct seeding of rice varieties like Sahabhagi, Khandagiri in medium land, Lalat, Prijat, Surendra, Kharavela in medium low and Swarna, Mahanadi, Prachi, Ramachandi, Indravati, Jagabandhu and scented varieties like Kalajeera, Pimpudibas, Gangabal in deep low lands, dry bed and wet bed nurseries of rice in low lands.
- Sowing of arhar (short duration varieties like UPAS-120, ICPL-86012, ICPL-87 or medium duration varieties like Asha, Visakha, DA-11. C-11), ragi (HYV-Divyasingh, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra, and Chilika), cotton, groundnut, sesame, ragi, vegetables like okra, cowpea, cluster bean, guar, raddish, brinjal, tomato and chillies and *kharif* pulses in uplands and also sowing of maize (Navjot, Shakti, Decan-107, Decan-109) for fodder purpose.

Madhya Pradesh

- Undertake transplanting of rice as early as possible.
- Due to heavy rainfall in the last week, farmers are advised to drain out excess water from pulse and oilseed crops.
- Herbicide application is required to control weeds in soybean and paddy fields, particularly crop plants attaining 30 days old.
- Monitoring of soybean field, particularly for white fly incidence that cause yellow vein mosaic disease. Rogue out mosaic plants from the field. Apply insecticide after consulting scientist from the nearest KVK.
- Sowing of green gram, black gram and oilseed crops require less water and can be intercropped with pigeon pea in rainfall deficit regions, particularly in eastern M.P.

Rajasthan

- Drain out the excess rain water from crop field where water logging conditions prevailed due

to heavy rainfall.

- Top dress the remaining dose of nitrogen fertilizer in maize, sorghum and bajra crops where the crop attained 25-30 days as adequate soil moisture is available after wide spread rainfall.
- Gap filling is to be done in sorghum wherever plant wilted due to prolonged dry spell as the present soil moisture conditions are quite favourable due to receipt of good rainfall during last 6-7 days.

Bihar

- Upland: transplanting of rice should be avoided. Black gram, sesame, pigeon pea and vegetables will be more profitable in this condition.
- Medium & low land: transplant 30-35 and 40-45 days old seedlings of medium and long duration varieties, respectively.

Uttar Pradesh

- If transplanting of rice seedlings is not done, then sowing of short duration drought resistant varieties such as NDR-97, NDR-2064, Pant Dhan-4 and Shusk Samrat are recommended.
- Spray 2% urea solution to increase the drought resistance of crops.
- Undertake gap filling to maintain optimum plant population.
- Give preference to pearl millet, black gram, sesame and oil seeds.
- Apply lifesaving irrigation, wherever possible.

Normal agricultural activities are continued over remaining parts of the country in view of receipt of good rainfall during the season. However, there is possibility of heavy rainfall over eastern and northeastern regions of the country during next fortnight. Hence, there is need to make arrangement of good drainage facilities over these regions to avoid stagnation of water in the crop fields.