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Status of monsoon and contingency plans for some rainfall deficit/excess areas

During 1st June to 17th August, the country as a whole experienced 17% deficit rainfall, which is considered as normal. The rainfall was deficit by 26% over North-West India, 12% over Central India, 17% over Southern peninsula and by 15% over East and North-East India. Monsoon was active over most parts of the country and vigorous over Central and East & Northeast India during the last week. Dry weather prevailed over Punjab, Marathwada, Haryana, Chandigarh & Delhi and Telangana. Heavy showers (more than 200 mm) enhanced moisture supplies to rice in Odisha, West Bengal & Chhattisgarh. Current rainfall status and contingency plans for major rainfall deficit regions in the country are given below.

Maharashtra

The rainfall was deficit by 29% in Vidarbha, 62% in Marathwada, 18% in Madhya Maharashtra, and by 11% in Konkan region. In the state, 80.5% of normal kharif sowing area has been covered mainly with cotton, soybean, pigeonpea and paddy so far. Contingency plan for Marathwada region is as follows:

- As rainfall is deficient during most part of the season and there is also possibility of only light rain during the next week, sowing of crops is not recommended till sufficient rains are not received.
- In cotton, top dressing of fertilizers may be done after receiving sufficient rainfall. Dust mulching by hoeing may be carried out to conserve moisture.
- Farmers may take up intercultural operations like weeding / hoeing in already sown cotton, soybean, and pigeon pea crops to conserve soil moisture and remove weeds. Apply supplementary irrigation to already sown crops.

For Vidarbha:

- Unsown/delayed sowing areas can be accommodated with sole pigeonpea (AKT 8811, Vipula, PKV- Tara and BSMR-736 with closer 45x20 spacing).
- Alternative crops include sunflower (TAS 82, PKV SF-9, PKVSH-27, KBSH 1 and KBSH 44), Pearlmillet (PKV Raj,Shradha and Saburi) Sesame (AKT-64 and JLT-7), Castor (AKC-1, GCH-4,5,6, DCH-117,32), and pearlmillet+pigeonpea (2:1 or 4:2), sunflower+pigeonpea (2:1), sesame+pigeonpea (4:1) intercropping systems.
- Early rabi pigeonpea (C-11, ICPL-87119 with closer spacing 45x20 cm) can be sown up to September 15.
- Early rabi sesame (N-8) can be sown up to September15.

Punjab

The rainfall deficit is 59% so far in the state.

- In Western Zone of Punjab, nursery sowing of tomato, transplanting of brinjal and planting of kharif onion crop both with bulb sets as well as seedlings can be carried out. Field preparation can be started for sowing of short duration hybrid maize (PMH 2) during second fortnight of August.

- Short duration early maturing and drought tolerant varieties of crops including maize (PMH2) and moong (PAU 911, ML 818) are suggested.
- Moong variety-ML-613 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong– PAU -911 variety has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozepur districts.
- Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evapotranspiration losses and to conserve moisture for rabi crops.
- De-tasselling in maize is advised to reduce transpiration losses.
- Life-saving irrigation may be given, if available.
- In case of limited release of water in canals due to low rainfall, direct seeding of paddy and zero tillage sowing of Raya is recommended which saves 20-25% irrigation water.
- Bed planting of summer Moong (67.5×37.5 cm) which saves 20-30% irrigation water can be adopted.

Haryana

Rainfall was deficit by 60% in Haryana, Chandigarh and Delhi meteorological sub-divisions. As the rainfall situation is scanty so far, crop diversification is advocated and short duration mung bean (MH 421, SML 668) or maize or fodder crops as per local demand/ market are suggested in place of paddy. Intercropping of pearl millet + greengram/moth bean(intercropping 8:4/6:3) is recommended. In case of poor plant population (<two-third), re-sowing may be done as and when rain resumes. Cluster bean can also be intercropped with pearl millet. Sowing of sesame should be avoided beyond mid August.

Andhra Pradesh and Telangana

Rainfall was deficit by 35% and 31% in Coastal Andhra Pradesh and Rayalaseema regions, respectively. The total area sown in Andhra Pradesh is 23.13 lakh ha (55% of normal kharif sown area) as on 13 August 2014. Telangana state is also facing deficit rainfall (-54%). The total area sown in the state of Telangana is 31.5 lakh ha (78% of normal kharif sown area). Farmers of Chittoor district are advised to go for spraying of 2% urea or DAP or KNO_3 to protect the rainfed groundnut crop from moisture stress. In Krishna, Guntur and Prakasam districts, farmers are advised to provide protective irrigation to cotton. In Kadapa district, sowing of contingency crops like redgram (60 x 20 cm spacing), maize, tomato, cowpea, field bean (TFB 5) and sunflower in red soils; whereas in black soils instead of groundnut, crops like redgram, jowar and sunflower are suggested. In Krishna and Guntur districts, farmers are advised to sow cotton in heavy soils, rainfed crops like maize, greengram, redgram in light soils. Adopt closure spacing of 90 x 30 cm in heavy soils or 75 x 30 cm in light soils and top dressing of fertilizers at 20 days interval, when soil moisture is sufficient for application of fertilizers.

Gujarat

Saurashtra & Kutch region is facing deficit rainfall of 19% and other regions are facing 29% deficit rainfall. As there was good rainfall during last few weeks transplanting of rice and vegetables and sowing of castor and cluster bean may be continued in Gujarat. Planting of new orchards may be completed. Sowing of following contingency crops may be taken up in North Gujarat and Saurashtra regions.

North Gujarat Region: Sesame (cv. Guj. Tal 1, 2, 10), sunflower (cv. Modern, EC 68414), Fodder sorghum (cv. S-1049, C-10-2).
Saurashtra region: Black gram- cv. T-9, Guj. Udid-1; Greengram-GM-4, K-851, Meha; Sorghum cv.CSH-6 and CFS-4 for fodder purpose; Guar-Guj. Gaur 1 and 2 specifically for Kutch region.

Odisha

In Odisha rainfall so far is 14% in excess over normal. About 13 districts namely Kendrapada, Jajpur, Bhadarak, Jagatsinghpur, Cuttack, Khurda, Puri, Nayagarh, Dhenkanal, Anugul, Boudh, Baragarh and Sambalpur are put on high flood alert. In the flood affected areas, the following contingent measures may be taken up after the flood water recedes

- In direct seeded rice, if the entire crop is damaged, wet seeding with sprouted seeds should be done by taking 120-130 days duration varieties.
- Apply 50% N & K_2O and full dose of P_2O_5at the time of sowing and rest dose at tillering stage.
- If loss in seedlings is less than 50%, go for distribution of clonal tillers with application of 50% N and 50 % K_2O.
- In transplanted rice, in case of silt deposit, water may be sprayed to nursery.
- Avoid application of urea and spray 1% K_2SO_4.
- Clonal propagation may be taken up if the loss in plant stand is less than 50%.
- Paddy nursery may be resown with short duration variety (90-110 days) if the nursery has been damaged by recent floods. In main field, gap filling with same age seedlings should be done and plant 3-4 seedling/hill with closure spacing.

Arunachal Pradesh, Assam & Meghalaya, NNMT

As northeastern states received good rainfall during last fortnight and likely to receive rainfall in next fortnight, transplanting of kharif rice in Arunachal Pradesh is expected to be completed; transplanting of medium duration (130-135 days) sali rice with varieties like Satyaranjan, Basundhara, Jaya, IR 36 etc. is expected to continue till 15-20 August in Upper Bramhaputra Valley Zone of Assam, sowing of red gram, groundnut and sesame in Hill Zone of Assam; transplanting of medium duration (130-135 days) sali rice and sowing of redgram and sesame may be continued in Central Bramhaputra Valley Zone of Assam. Transplanting of sali rice is expected to be completed in Meghalaya. Sowing of pigeon pea and transplanting of rice in Mizoram, transplanting of rice and sowing of soybean, groundnut and pulses like black gram, green gram in Nagaland, transplanting of kharif rice and nursery raising of cole crops in Manipur and sowing of vegetables in Tripura are expected to continue.

In the flood affected areas of Lower Bramhaputra Valley Zone of Assam, the following contingency measures may be adopted for sali rice:

- Raising of community nursery for late transplanting with old seedlings of the varieties like Profulla and Gitesh (if damage is more than 50%).
- Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage).
- Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days).
- Adopt submergence tolerant varieties like Jalashree and Jalkuwari for frequent flood prone areas.
- In partially affected fields, drain out excess water and apply 1/2 N + 50% K_2O as top dressing during tillering stage.

Note: The above is a general overview for the states. However, ICAR (CRIDA) has prepared district level contingency plans (covering all farming situations within the district) and placed in the websites of the Ministry of Agriculture & Cooperation, Government of India (www.agricoop.nic.in) and CRIDA (www.crida.in) for further details.