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Maharashtra Faces Intensifying Drought Stress as Rainfall Deficit, Water Scarcity and Crop Loss Deepen Across Regions

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Recent Developments:

Maharashtra is facing an intensifying **drought-like situation** as rainfall deficits, prolonged dry spells, declining reservoir levels and crop stress have affected agriculture and drinking-water availability. As of 22 September 2026, the state had received **17% less rainfall than normal**, with the southwest monsoon expected to begin withdrawing around **5 October**.

31 of Maharashtra's 36 districts have reported deficient rainfall, while 20 districts face deficits ranging from **25% to 58%**. In more than 100 of the state's 355 drought-affected talukas, dry spells between rainfall events have extended to **40–60 days**.

Opposition leaders have demanded an early drought declaration, while the Maharashtra government has initiated preliminary assessments and indicated that formal drought-related surveys will proceed according to the applicable disaster-management framework.

The Chief Minister has also directed preliminary assessments for immediate farmer assistance without waiting for assistance from the **National Disaster Response Fund**, indicating that state-level relief measures can operate separately from central disaster assistance.

Why the Drought Declaration Has Not Yet Been Made:

Seasonal and Procedural Constraints:

Under the drought-assessment framework, the **kharif season assessment** is linked to the withdrawal phase of the southwest monsoon, with the Maharashtra government preparing to begin the formal review from **5 October**.

The assessment of **rabi-season drought conditions** is undertaken later because rabi agriculture depends on post-monsoon conditions and water availability extending into the subsequent agricultural season.

Drought is not determined exclusively by cumulative rainfall; the assessment considers a combination of **meteorological, agricultural, hydrological and socioeconomic indicators**.

Maharashtra has therefore been undertaking preliminary assessments and field-level damage documentation before submitting a formal proposal for central assistance.

State Declaration and Central Assistance:

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A state can identify and declare drought conditions based on local circumstances, but access to assistance under centrally prescribed disaster-relief norms depends upon conformity with the applicable **assessment parameters and verification procedures**.

The **National Disaster Response Fund**, constituted under Section 46 of the Disaster Management Act, 2005, supplements the State Disaster Response Fund when a disaster of severe nature exceeds available state resources.

Maharashtra's disaster-management framework also allows the state to use part of its State Disaster Response Fund for certain locally notified disasters, subject to prescribed conditions and state-level approval.

Drought Assessment and Declaration Process:

Field-Level Assessment:

District authorities conduct **panchnamas and crop-loss surveys** to document damage to agricultural production, livestock, water resources and rural livelihoods.

The assessment records both the **physical extent of damage and its financial implications**, providing the evidence required for subsequent relief measures.

Preliminary assessments can enable the state government to identify immediate requirements such as **drinking water, fodder and farmer assistance** before central assistance is released.

Central Verification:

After submission of the state's assessment, a **central team may visit affected areas** to independently verify the reported conditions before central disaster-relief assistance is considered.

This process creates an evidence-based link between the state's drought assessment and the release of assistance from the **National Disaster Response Fund**.

Key Indicators Used for Drought Assessment:

Multi-Dimensional Assessment:

Drought assessment uses multiple indicators rather than relying only on rainfall deficiency, including **crop loss, rainfall deficit, moisture adequacy, decline in food production and labour migration**.

Moisture Adequacy Index is particularly important because agricultural drought depends on the availability of usable soil moisture rather than rainfall totals alone.

Other relevant indicators include **drinking-water scarcity, groundwater depletion and fodder shortage**, which capture the wider socioeconomic and hydrological dimensions of drought.

The prescribed assessment framework therefore distinguishes between **meteorological drought, agricultural drought and hydrological stress**.

Threshold-Based Indicators:

The assessment framework includes specific indicators such as a substantial reduction in cultivated area, severe drinking-water shortage, declining groundwater levels and inadequate fodder availability.

The supplied drought-assessment framework identifies **sowing below 50% of cultivable kharif or rabi area** and substantial rainfall deficiency among relevant indicators.

These indicators are considered together because rainfall deficiency by itself does not necessarily establish the severity or socioeconomic consequences of drought.

Impact on the Kharif Season:

Delayed Sowing and Crop Stress:

Erratic rainfall delayed kharif sowing from the usual **10 June period to around 15 July**, reducing the effective growing period for several crops.

Subsequent rainfall gaps after sowing affected **flowering and fruiting**, increasing crop stress even in areas that had received adequate rainfall during earlier stages.

Soybean and cotton have been among the most affected crops, particularly in **Marathwada and Vidarbha**, where they form an important part of the livelihood base of small and marginal farmers.

Sugarcane has also experienced growth stress in parts of **Marathwada and western Maharashtra**.

Government Response:

During the July monsoon session, the state government announced a **₹40,385-crore farm loan waiver**, along with an additional **₹50,000 incentive** for farmers who had regularly repaid their loans.

The government has also undertaken preliminary assessments and indicated that emergency measures concerning **drinking water and fodder** would be taken where required.

Water Stress and Reservoir Situation:

Regional Variation:

Water availability has shown substantial regional disparities, with **Marathwada emerging as the most severely stressed region**.

Data up to **20 September 2026** showed Maharashtra's 138 major dams at around **85% capacity**, compared with 96% during the corresponding period of the previous year; 264 medium dams were at around 65%, compared with 77% a year earlier.

The state's 2,630 small and micro dams were at only around **43% capacity**, compared with 57% during the same period of the previous year.

Regional Reservoir Levels:

Marathwada: 46%, compared with 81% during the corresponding period of the previous year.

Amravati: 64%.

Nagpur: 72%.

Pune: 88%.

Nashik: 83%.

Konkan: 76%.

The disparity demonstrates that Maharashtra's drought vulnerability is **spatially uneven**, with rain-shadow and semi-arid regions facing greater water stress than relatively better-watered areas.

Rainfall Pattern and Agricultural Vulnerability:

Deficient and Uneven Rainfall:

Maharashtra's problem is not limited to the seasonal rainfall total; the **distribution and intensity of rainfall** have also become important determinants of agricultural stress.

Several areas have experienced long dry intervals followed by short, intense rainfall events, which can increase **soil erosion and runoff** while reducing effective soil-moisture retention.

Such rainfall variability can produce agricultural drought even when isolated heavy-rainfall events occur during the monsoon.

Rain-Fed Agriculture:

Maharashtra has a substantial dependence on **rain-fed agriculture**, making crop production highly sensitive to variations in monsoon timing, duration and spatial distribution.

The state's irrigation potential is reported at **less than 20%**, substantially limiting the ability of irrigation infrastructure to compensate for prolonged monsoon failure.

The resulting vulnerability is particularly significant in **Marathwada and Vidarbha**, where agricultural livelihoods remain strongly dependent on seasonal rainfall.

UPSC Relevance:

GS-III — Agriculture and Disaster Management:

Drought: Classification, assessment indicators, agricultural impacts and institutional response.

Agriculture: Rain-fed farming, crop vulnerability, irrigation deficit, sowing delays and productivity losses.

Water Resources: Reservoir storage, groundwater depletion, drinking-water security and regional water inequality.

Disaster Management: State Disaster Response Fund, National Disaster Response Fund, damage assessment and central verification.

Climate Variability: Erratic monsoon distribution, prolonged dry spells, intense rainfall events and increasing agricultural vulnerability.

Rural Economy: Farm indebtedness, crop losses, labour migration, fodder scarcity and livelihood insecurity.

Key Concepts for Prelims:

National Disaster Response Fund: Constituted under Section 46 of the Disaster Management Act, 2005, and used to supplement the State Disaster Response Fund during disasters of severe nature.

State Disaster Response Fund: Primary state-level fund for immediate response to notified disasters.

Drought: A multidimensional phenomenon involving inadequate water availability and its effects on agriculture, ecosystems, water supply and livelihoods.

Moisture Adequacy Index: Indicator used to assess the availability of soil moisture relevant to agricultural conditions.

Panchnama: Field-level documentation used by government authorities to record and assess damage for relief and compensation purposes.

Value Addition for UPSC:

Mains Analytical Framework:

Drought in Maharashtra illustrates the transition from a purely rainfall-deficit problem to a broader challenge involving monsoon variability, agricultural vulnerability, water-resource management and disaster governance.

Way Forward:

Expand **micro-irrigation**, watershed development and rainwater harvesting in drought-prone regions.

Improve **groundwater recharge** and regulate groundwater extraction through aquifer-based planning.

Promote **crop diversification and drought-resilient varieties** suited to local agro-climatic conditions.

Strengthen **weather-based crop insurance and early-warning systems** using district- and taluka-level rainfall and soil-moisture data.

Develop more reliable **reservoir and inter-basin water-management strategies** while prioritising drinking water and ecological requirements.

Combine immediate disaster relief with long-term **climate-resilient agriculture and irrigation expansion** to reduce structural dependence on monsoon variability.