Residential Training Program on
Data-Driven Drought Assessment and Declaration in Gujarat
Organized by
Gujarat Institute of Disaster Management
Venue:Ground Floor, GIDM, Campus, Date: 16th May, 2026
Time: 10:30 to 18:15 Hrs.

Concept Note:

Drought continues to be one of the most complex and widespread natural hazards, affecting water availability, agriculture, livelihoods, and the overall economy. In Gujarat, where rainfall variability and water stress are recurring challenges, effective drought assessment and timely declaration are critical for planning relief measures and minimizing impacts. Traditionally, drought declaration relied largely on revenue-based assessments and limited indicators such as rainfall deficit. While useful, these methods were often not comprehensive, leading to delays, inconsistencies, and challenges in decision-making.

Recognizing these limitations, the Government of India introduced a more scientific and technology-driven approach through the Drought Manual (2016), which has been further strengthened in the updated Drought Manual (2020). This new framework shifts the focus from conventional revenue-based assessment to a **remote sensing and data-driven model**, ensuring greater accuracy, transparency, and timeliness in drought declaration. The revised approach integrates multiple parameters, including rainfall patterns, crop conditions, satellite-based vegetation indices, soil moisture status, hydrological indicators, and socio-economic conditions.

Under this system, drought assessment follows a structured and evidence-based process. It begins with rainfall-based indicators as mandatory criteria to identify potential drought-affected areas. This is followed by analysis of impact indicators such as crop health, soil moisture, and water availability using remote sensing and field data. The final stage involves ground verification to validate findings before official declaration. This three-tier process ensures that drought declaration is not only data-driven but also supported by field realities.

The transition from a revenue-based model to a remote sensing-based system requires a significant shift in understanding, skills, and operational practices among field-level officials. Officers at district and taluka levels, including Mamlatdars, Talatis, Agriculture Officers, and engineering staff, play a key role

in implementing these guidelines. However, effective use of the new system depends on their ability to interpret data, understand indicators, and apply the guidelines correctly in real-time situations.

In this context, the proposed one-day training program aims to build the capacity of all targeted participants on the practical use of the Drought Manual (2020) for drought declaration in Gujarat. The training will focus on simplifying the technical aspects of the manual and providing clear guidance on how to use remote sensing-based indicators for assessment. It will also address common challenges faced by officials in understanding and applying the new framework.

The program will cover key aspects such as the basic concepts of drought and Disaster Risk Management, detailed understanding of the drought declaration process, interpretation of various indicators, and the role of remote sensing technologies in assessment and monitoring. Special emphasis will be placed on the shift from traditional practices to the new data-driven approach, highlighting its advantages in improving accuracy and reducing subjectivity.

Participants will also be guided on timelines, reporting mechanisms, and coordination among departments to ensure timely and effective drought declaration. Discussions may include practical examples and case-based learning to enhance understanding and application at the field level. The training will provide a platform for participants to clarify doubts and share field-level experiences, thereby strengthening collective learning.

The target participants for this program include Mamlatdars, Deputy Mamlatdars, Disaster Managers, Talatis, Agriculture and Horticulture Officers, District Agriculture Officers, and engineering officials involved in water resource management. These stakeholders are directly responsible for implementing drought assessment and declaration processes, and their capacity is crucial for effective governance.

The shift to a remote sensing-based drought declaration model marks an important step towards modernizing drought management in India/Gujarat. However, successful implementation depends on the preparedness and capability of field-level officials.

This training program will play a key role in bridging the knowledge gap, enhancing technical understanding, and promoting uniform practices across the state. By equipping participants with the necessary skills and insights, the program will support timely, accurate, and transparent drought declaration, ultimately contributing to better planning, response, and resilience in the face of climate variability.