

National Agricultural Drought Assessment and Management System (NADAMS)

National Agricultural Drought Assessment and Monitoring System (NADAMS) is a system that helps in predicting and occurrence of droughts by providing almost perfect information on prevalence, severity level and persistence of agricultural drought right from the sub-district to the state level.

Droughts in India

Before we go into detail about NADAM it is necessary to understand the reasons for its implementation. Drought in India has caused the deaths of millions from the 18th through the 20th century. Agriculture in India is heavily dependent on the monsoons as such any deviation in the usual patterns will be catastrophic as the necessary water to irrigate the fields will be denied. The resulting water shortage will lead to either average yields or complete failure, resulting in starvation. Major drought-prone areas include southern and eastern Maharashtra, northern Karnataka, Andhra Pradesh, Odisha, and Rajasthan.

With the National Agricultural Drought Assessment and Monitoring System in place it has become slightly easier to predict the weather pattern of the monsoons.

This helps in preparing a relief plan for the drought-hit areas before the event takes place, thus diminishing casualties that will happen as a result.

When and How was NADAMS implemented?

The NADAMS project was initiated towards the end of 1986, with the participation of the National Remote Sensing Agency, Dept. of Space, Government of India, as the agency in charge of its implementation, with the support of India Meteorological Department (IMD) and various state departments of agriculture. NADAMS was made operational in 1990 and has been providing agricultural drought information in terms of persistence, severity and prevalence at state, district and sub-district level. In the early years of the project, drought assessment was largely dependent on only one satellite derived index.

Ever since its implementation, NADAMS project has undergone improvements in both methodology and technology such as use of moderate resolution data for disaggregated level assessment, use of multiple indices for drought assessment, synchronising data from ground observations and satellite based interpretation, providing user friendly information, etc. Recently, most of the analysis of the satellite data, of a part of the field data has been

automated. The agriculture drought assessment and monitoring, under NADAMS project, is carried out through the following methods:

- Using multiple satellite data,
- Analysing rainfall indicators,
- Analysing soil moisture index
- Ground observations.

A logical modeling approach is followed to classify the districts into Alert, Watch and Normal during June, July and August and Severe, Moderate and Mild drought conditions during September and October. The monthly Drought Assessment Reports are communicated to all concerned State and national level agencies and also kept on the Mahalanobis National Crop Forecast Centre MNCFC website (An Attached Office under Dept. of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India). It covers 14 states of India, which are predominantly agriculture based and prone to drought situations.

Relevant Questions for NADAMS

How do state governments make use of the data from NADAMS?

The data provided by NADAMS helps in making an early assessment of a drought situation and thus helps the State Governments to measures that will help in reducing the stress placed on farmers as a result of drought situations that might come their way.

Which states in India are covered under the NADAMS project?

Under the NADAMS project the following states in India are covered:

- Andhra Pradesh,
- Bihar,
- Chhattisgarh,
- Gujarat,
- Haryana,
- Jharkhand,
- Karnataka,
- Madhya Pradesh,
- Maharashtra,
- Odisha,
- Rajasthan,
- Telangana,
- Tamil Nadu
- Uttar Pradesh.

