

➤ ***Redefined the Drought Declaration Criteria***

GOI has Updated Manual for Drought Management and revised the criteria for declaration of drought in the country in 2019 based on UASB research report of the period 2011-2017.

- ✓ When the crop sown area (coverage) by the end of July / August is less than 75 per cent, it can be considered drought.
- ✓ Range of Percent available Soil Moisture (%) and Moisture Adequacy Index (%) have been increased to 50 per cent from 25 per cent
- ✓ Of the 4 Indicators, initially 3 had to be in drought hit category. This is revised to 2. Now, if 2 of the 4 Indicators are severe then that region is declared as "Drought"

➤ ***Silicon in Soil and Plant Nutrition***

A decade long extensive research studies conducted at the University of Agricultural Sciences, Bangalore was able to establish crop response to external application of Si; beneficial effects of Si in enhancing biotic and abiotic tolerance in crops and most importantly, in increasing crop yield. Potential silicon deficient area under major cropping systems were identified and characterized by calibrating available Si in these soils. Various potential Si sources such as calcium silicate, diatomite, foliar silicic acid, crop residues and biochar were evaluated on different crops under different climatic conditions and several silicon-based technologies were developed. Accordingly, the Central Fertilizer Committee, GoI, included Silicon components in Fertilizer Control Order

- ✓ Diatomite Amorphous Silica in S. O. 1446 (E) dated 2017
- ✓ Orthosilicic acid (2.0% WSL) in S. O. 5887 (E) dated 2018 & FCO, 2019b
- ✓ This enabled more than 50 companies in India to produce and make silicon products suitable for Indian agriculture.

➤ ***Agroclimatic Atlas of Karnataka***

Agroclimatic Atlas of Karnataka was developed based on the weather and crop data collected from Indian Meteorological Department (IMD), Department of Economics and Statistics (GoK) and Karnataka State Natural Disaster Monitoring Centre (KSNDMC) Bengaluru.

- ✓ It serves as baseline and presents detailed Climate & Soil information and Agricultural scenario at micro and meso scale in 176 taluks of Karnataka

➤ ***Land resource inventory in watershed and Atlas generation***

The Atlas is disseminated to all the line departments such as Agriculture and Horticulture department to help the farmers of rainfed areas in the concerned districts for farm level planning and better crop production. Planners, Researchers and Policy makers can make effective use of technological tools such as Land Resource Inventory, Hydrological and Meteorological information in addition to Socio-economic data for providing farmer friendly scientific and parcel level information to the farmers. DSS portal is also available to the

stakeholders and farmers. Survey number wise LRI for each micro watershed with summary are provided for issuing advisory services at Raitha Samparka Kendras (RSKs) level. During the process of the LRI tools like Satellite Remote Sensing, Geographical Information System, are used for providing the locations specific advisory to the farmers. The note worthy outputs in the form of documentation, reports and papers were prepared and submitted to Watershed Development Department for use of farmers.

- ✓ LRI atlases (Kannada & English) have been generated for 423 micro watersheds
- ✓ Socio-economic Studies have been completed in 428 micro watersheds and concerned and respective reports
- ✓ 76 sub watershed and 3 pilot micro watershed hydrology atlases (in English)
- ✓ 3 Hydrological stations at Halayapura, Devanayakanahalli and Yarehalli were established
- ✓ Nearly 81,550 LRI cards were generated and sent to the respective districts for distribution to the farmers.