

Editorial - II

Looking forward beyond agrometeorological advisories

The scope of Agricultural Meteorology is enlarging year after year. The initial efforts were to understand the effect of weather and its variability on crop growth and development. Attempts were then made to relate weather factors during different stages of growth on yield of many crops using multiple regression equations. During late 1940s, the concept of Potential Evapotranspiration brought out significant development in Agricultural Meteorology through quantification of water requirements of many crops during different stages of their growth. The agrometeorological water balance models lead to the estimation of the water used by a particular crop in a specified place.

The actual yields were found to fall short of anticipated yields due to biological interferences to crop growth and occurrence of extreme events during critical stages of crop growth. Researches were carried out to understand the relationship between changes in weather on initiation and intensification of crop pests and diseases so that the farmers can be warned on occurrence and spread of crop pests and diseases and advised on agronomic measures for their avoidance. Simultaneously, the meteorological services also improved the capabilities of weather forecasting through long range forecasting of monsoon rainfall, monitoring the origin, development and movement of large scale weather systems using satellite data, deploying radars for predicting local weather at micro level and through establishment of medium range weather forecasts for predicting weather 3 to 10 days in advance.

The knowledge base evolved through agrometeorological research coupled with advances made in weather forecasting has paved the way for launching agromet advisory services to guide the farmers in taking weather based farm decisions in crop planning to management throughout the country by now. Agrometeorological advisories are now being

issued also as SMSs in regional languages and farmers now look them up in their mobile phones.

In developing economies like ours, the percentage of people depending on agriculture and allied sectors is around 60 percent and most of them are small and marginal farmers with small holdings. These farmers have comparatively limited access to inputs and supplies required for crop production and management and are also deprived of critical services. Their income through farming is not assured. These uncertainties are further aggravated due to looming threats of climate change and variability.

Central government initiated several action plans for doubling farmers' income and further to expand farming as a profitable occupation. Cooperative and collective farming through land consolidation can facilitate monocropping over large areas and help in; i) carrying out agricultural operations through mechanization, ii) efficient use of ground water and its recharge, iii) optimal use of surface irrigation, iv) effective adoption of pest and disease control measures and, v) optimal and timely use of agrometeorological advisories. Farmers' cooperatives can improve access of growers and stakeholders to better i) pricing of their produce and, ii) financial support.

Very recently, Dr. MS Swaminathan, recognized as father of green revolution in India, emphasized the need to understand the relationship between monsoon activity and markets and stressed the need for mapping market supplies and demand. There are situations leading to decline in prices due to excess production during favorable growing seasons. He advocated that the farmers should be assured of minimum support price (MSP) not less than 150 per cent of the cost of production.

The time has come now to understand the

influence of weather on productivity of small holdings compared to productivity of monocropped areas under consolidated land holdings. There is need to develop models that can help in land consolidation without sacrificing the interests of farmers with small holdings. The meteorologists should work in close collaboration with economists in modeling market supplies in relation to seasonal weather during growing season at regional level. The governments should take necessary steps to prevent distress sale of agricultural produce by announcing minimum support price (MSP) before the harvesting season begins. Change in dates of presentation of budgets of State and Central governments is called for to provide real-time relief to farmers, when required with both dryland and irrigated

holdings from rainfall and temperature vagaries.

More comprehensive and focused research is required to understand weather and climate, their variability to develop appropriate policy frame work for resilient and sustainable farming depending upon the progress of Indian monsoon during the growing season.

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