## The numbers game: IMD forecast for farmers

With the India Meteorological Department getting its monsoon forecast wrong this year, its modelling has necessarily come under the spotlight. In April, the IMD had predicted "near normal", or 96%, rains and then upgraded the figure to 98% a couple of months later. These percentages refer to the proportion of rains to 89 cm, a 50-year average of monsoon rains. However, the country finally ended up with "below normal" rains (that is, less than 96% of the 50-year long period average). In itself, this is not a problem. Crop sowing is expected to be only a little less than last year, which saw a record harvest, with more districts posting deficient rain. Better drought management has over the years weakened the link between rain shortfall and food production, but the IMD continues to persevere with the meaningless practice of assigning a catch-all number to the quantum of rain expected during the monsoon. While initially conceived as a measure to bring rigour to the task of warning the government about a drought or weak rains, it has now become a numbers exercise, couched in statistical error margins and pedantic definitions, to ward off blame for getting its forecast wrong. While a single number, 96 or 95, has the power to brand rainfall as "near" or "below" normal, the IMD never admits to being in error. It relies on the security of generous error margins. Thus, a 98% forecast, say, implies a range from 94% to 102% and so could span "below normal" to "above normal".

The fallout of focussing on numbers to gauge a phenomenon as geographically and quantitatively varied as the Indian monsoon is that it has ripple effects of tricking everyone from policymakers to the stock markets that a 'normal' monsoon implies all will be well with rainfall distribution. So this year's floods in Mumbai, Assam and Bihar, and the months-long drought in Karnataka and Vidarbha were all merged under an umbrella number. The Indian monsoon has over the centuries stayed remarkably consistent at around 89 cm during the monsoon months, give or take 10%. The challenge lies in capturing intra-seasonal variation or forecasting a sudden change in global weather (such as typhoons) that can affect rainfall over specific districts. Therefore, simply getting these blanket four-month forecasts right doesn't really help. While more and more farmers are opting for crop insurance and have far greater access — via mobile phones — to news on weather patterns, what they seek are localised, actionable inputs to guide them on sowing or harvesting decisions. The IMD is increasingly relying on supercomputers and sophisticated models to warn of weather changes at the district level. These localised estimates aim to warn of threatening weather — and are operationally useful — rather than reduce rain to numerical jugglery. The IMD must give momentum to this shift.

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## END

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