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Barso Re Megha Barso

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"When will it rain?" Sudha asked her husband.

Are husband's expected to know more about rain than wives do? Her husband Ravi thought to himself as he looked out through the window, towards the sky.

"Cloudy sky..it may rain today, " he said.

Sudha pointed to a bag. "You spent eight thousand rupees on these 10 cotton seed packets. We must find the best time to sow"

Ravi said to his wife. "You are a post graduate. I am sure you can take a look at the India Meteorological Department web site."

Ravi worked as an engineer with the irrigation department and had purchased five acres of land two years ago near Umred in Nagpur. The land was just a few hundred metres away from his house.

"I already did," Sudha replied. "As per the IMD-LRF, experimental forecast based on the ESSO-IMD-IITM coupled dynamical model suggest that prediction for 2016 monsoon averaged over the country as a whole is likely to be $112\% \pm 5\%$ of LPMA and 106% of LPA. El Nino conditions declined and now have turned to neutral ENSO conditions. As per CFSV2 there is about 50% probability of La Nina conditions during monsoon of 2016." Sudha paused, knowing well that she

had stumped her husband, which of course was deliberate.

A close friend told her once that getting precise rainfall data from the Met website was like the 2013 Unnao gold hunt by the Archaeological Survey of India. Sudha didn't quite agree. But, felt that the IMD could issue weekly bulletins especially for the farmer with specific focus on the district-wise seasonal rainfall distribution. Rainfall mattered most to the farmer. The data could be in a tabular format, which would make it easy to search and understand. She also felt, that the abbreviations were painful.

"Riddles aside, when will it rain in Nagpur?" Ravi asked her with a puzzled look.

"SST is above normal and currently neutral IOD conditions are prevailing." SPI was based on IDW, EPS, PR, PPR, MR and SFM as verified by WMO guidelines to modulate ISMR as per GCM developed by ECPC." Sudha continued, "If you need more you may visit the IMD web sites to understand what these abbreviations and what ARG, AWS, HWSR etc., mean"

Ravi stared at his wife. This was deliberate torture he thought. All he had asked her was, if it would rain and she had rained 'technical stones' and abbreviations on him!

She had topped the University. She was intelligent and obviously she wanted to highlight the difficulties that she encountered in deciphering the abbreviations. Probably, she wanted him to know how difficult it was in getting rainfall information. He remembered what she told him when she was in

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Dr. K.R. Kranthi

her advanced stage of pregnancy. 'Men will have to become pregnant to know the pain'. He had replied that 'pot bellied men experience it all through their lives anyway'. They had laughed. Now she wanted him to experience what she went through in her hunt for the rain forecast.

"Will...it....ever.....rain?" Ravi asked again.

"I did get a lot of gyan from the wonderful informative web sites of the Met Departments. There are maps and discussions and plenty of abbreviations, some of which you may never find the expanded form, anywhere on their sites," she replied

"Rain...what about rain in Umred?" Ravi asked.

Sudha pointed out to the screen on her laptop. "Finally I found this useful site called imd.grimmet.gov.in. They predict district-wise weather for five days titled as 'value added forecast'. They've done a god job actually. You get to know details on rainfall in mm, maximum and minimum temperature in degrees Celsius, maximum and minimum relative humidity in percentage, wind speed in km per hour, wind direction in degrees and cloud cover in okta"

"What is okta?" Ravi asked.

"I need to Google it. It is not there on the web site," she said.

"Will farmers be able to use all these data?" he wondered aloud.

Sudha said. "Forecast on rain, thunderstorms, hailstorms etc., could be useful. The regular temperature, humidity, wind etc., may add value I guess. That is why they call it value added forecast."

"Will it rain?" Ravi asked again.

"No rains in Nagpur district at least for the next five days," she declared. Sudha looked at her husband, thinking he was a simpleton, who lived life full of hope. But then, she rationalised, when you turn into a farmer, life is all about hope anyway. Agriculture is probably the only profession where you see growth everyday in your crop. Hopes build up. Dreams are conjured. But uncertainty is the name of the game. One bout of drought, hailstorm, excess rain, insects or diseases can draw curtains on the dream. But, the farmer doesn't give up. He waits for the next year. Keeps fighting until his hopes start to breathe again. Indian farmers breathe hope. Her husband built his hopes on cotton. Their crop wasn't so very good the previous year. They spend about a lakh rupees and got back just about the same amount from 24 quintals seed cotton. Strangely, the market prices boomed one and a half times more, two months

after they sold their cotton. Couldn't anyone have predicted this and shared it with farmers?

Ravi looked out of the window and it was raining. "Just a couple of hours ago you said that it wouldn't rain in Nagpur," Ravi teased Sudha.

"It was the website predictions, not me. But this rainfall could be localised. One must realize that rainfall prediction can be very tough." Sudha continued, "BBC issues weather forecast for one week, skymet and timeanddate do it for a fortnight and accuweather does it for 90 days. None of the weather forecasting web sites actually predicted that it would rain today in Nagpur."

"Do they predict for all districts?"

"Yes. Some web sites predict weather for more than 5-6 locations in each district."

"How accurate are these?" he asked her as if she was an expert in meteorology.

"Don't really know," she admitted.

"But will this rain be enough to sow," he asked her.

"Heard that at least 100 mm rain would be essential before sowing cotton," she replied.

"How will you know this?" Ravi wanted to know.

Sudha started her tirade again. "Cumulative rainfall for the week is available CRIS for customised rainfall information system, on the hydro.imd.gov.in. You need to actually understand some more abbreviations such as NWP, 00 UTC & 12 UTC, WRF, MME, GFS, RSMC etc before you can get the best out of the website. I am still trying to get the expanded form for these abbreviations. Nevertheless, district-wise daily, weekly and cumulative rainfall distribution can be obtained from the 'rainfall statistics' button. This is pretty useful." Sudha continued. "I looked at the other web sites. Good distribution of rainfall is predicted for Maharashtra except for a dry patch from the last week of July to mid August. This year should be good for the state."

"What else Sudha Mata?" Ravi mocked in jest.

"The 'weather watch' on the Ministry of agriculture web site agrocoop.nic.in is actually useful to get an idea of what is happening across the country. The weekly update every Friday gives information on rain, insect pests, diseases, water reservoir status, fertilizer position, crop sowing update and procurement of rice." Sudha said sounding more and more like an agriculture expert, though all she had done was one week of web surfing!

"Amazing" Ravi exclaimed. "But, do you think that district level information would be enough for farmer to take decisions based on rainfall data?"

Sudha smiled again. Did her husband think that she had all the answers? She paused and said "Yes. Some web sites such as that of the Maharashtra State Government update rainfall data every day. Up-to-date rainfall data is presented in maharain.gov.in up to the levels of circle and tehsil in each of the districts."

"You sounded cynical at first. But, seem to be appreciative now," Ravi teased her.

Sudha continued. "True. My first foray into the rainfall data search was like Alice in Wonderland entangled in abbreviations. But once I got there, it dawned on me that there could be a lot of hard work behind those numbers of rainfall in mm. The data is huge and confusing. Many private agencies and Government departments do simplify data and send information through SMS on all these weather parameters to farmers. But farmers may not be able to use temperature, humidity and wind data. Rainfall data of the past one week and forecast for the next seven days would certainly be useful for many agricultural operations. Other weather parameters may be important, but rains matter most. You need to be a modelling expert to use any data on temperature, humidity and wind data to decide agricultural operations. I feel the IMD should provide rainfall data in Excel sheet format with as tehsil-wise seasonal record of daily rainfall data of the preceding rainy days in the season and the 7 day rainfall forecast. This would enable agricultural scientists to formulate advisories for farmers."

"So you do think this information can finally reach farmers?" Ravi asked.

"Of course yes." Sudha said. "Many Government agencies have done a commendable job. Information on many of the Government web sites indicate that great efforts have been made at several levels to take it to the farmer. There are mobile apps now. But as you can understand, the task is not simple." Sudha continued.

Ravi was impressed. His wife had unlocked the case of the 'rainfall mystery' as deftly as only Sherlock Holmes would have.

"Can we sow now?" he asked.

"I have been looking at cicr.org.in for their advisory. It has rainfall data for 55 cotton growing districts and state-wise weekly advisories in nine languages for cotton growers. They recommend sowing after receiving 80-100 mm rainfall. The advisory also states that water is most

crucial for the crop at flowering and boll formation stage. Therefore with the current rainfall distribution pattern, with a predicted dry patch from mid of July to mid-August in some parts of Marathwada and Madhya Maharashtra, early sowing with adequate soil moisture using short duration varieties or hybrids would be beneficial. This is a lot of good information."

"I heard that the cotton institute also send free voice mails in vernacular languages every week to more than 2.5 lakh farmers across the country," Ravi said.

"You're right. I called up this number 09423680707, spoke to one Dr. Wasnik and registered for their voice mail programme called E-Kapas."

A week had passed. They sat in the balcony again on the Sunday morning

"When will it rain?" Ravi asked his favourite question.

Just then the phone rang. A pre-recorded voice said. "Rains will start on Sunday. It would rain heavily all across Nagpur district all through the week starting from Wednesday. Good time to sow cotton. This message is brought to you under E-Kapas from ICAR-CICR Nagpur"

"Incredible!" Ravi exclaimed.

Sudha jingled, "Desh badal raha hai..age badh raha hai."

Just a few minutes later it started raining. As Ravi and Sudha stood in their balcony, they saw a farmer with a big bag of fertilizer on his head rushing for shelter under a tree. His wife carrying seed packets in a bamboo basket on her head followed him quickly. They placed the bag and basket on the ground and tried desperately to protect them, even as they got wet, themselves.

Sudha and Ravi looked at each other and laughed.

It had taken one week of web surfing for this post-graduate couple to decide when to sow, and they were still having 'chai pe charcha' in their balcony, not very sure whether they could trust the weather advisories. But the illiterate farmer, appeared to know precisely when to sow his field!

(The views expressed in this column are of the author and not that of Cotton Association of India)

He walks in the rain
Why does he walk in the rain?
Would rains on the soil end his turmoil?
With rainbow of dreams, woven in the sky
He walks on the mud, hopes held high
He tills and toils weathering the storms
Reaps his sweat, repays his debt
Year after year, hopes held high
The farmer walks in the rain,
So that no one can see him cry.

- Dr. K.R. Kranthi