

## Signs of the weather

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When most of us think of weather prediction, we think of the weather forecasts presented on the television or radio. It is only recently that we have had access to this meteorological science. Traditionally, we have predicted the weather according to our own observations of the sky and other natural signs that might indicate rain or storms, drought or flood. Many agricultural communities in Bangladesh continue to draw on this local and traditional knowledge to supplement the televised forecasts, with these natural "signs" highly interesting for scientists.

In their piece "Lets talk about the weather" published on March 20 in the Dhaka Tribune, Dr Scott Bremer and Dr Abu Syed introduced the w that is working with communities in Sylhet Division to better understand the local weather and how it shapes their lives.

In interviews with almost 240 local people, they unpacked a rich store of local and traditional knowledge of weather. In this piece we want to report on a second step in the project, where 25 of the people interviewed in Sunamganj were brought together as "citizen scientists," to discuss their understanding of the weather in a workshop at the Sunamganj Sadar LGED office, from 9-10 March, 2016. This saw people discussing the natural signs they use to predict the weather, which are intriguing for the climate scientists present.

It is no wonder that Sunamganj communities have their own traditional and local knowledge to predict the heavy rainfall, hailstorm, or flash floods they experience.

Local proverbs such as "Abundance of mango will bring floods and abundance of jackfruit will increase rice production," or "Abundance of mango and paddy will bring flood" are in common use, and provide early warnings about the possibility of floods.

Sunamganj people also interpret early warnings of floods or rainfall by observing the behavior of animals, birds, insects or amphibians. For example, citizen scientists said that snakes will come to their house or balcony before a major flood. Frogs croaking in the month of March (Chaitra) provides a warning of rainfall. If grass hoppers are flying too high in the middle of April, rainfall will occur.



If cattle return to their home or birds return their nests, this provides a sign that a big storm is coming, and if herons are flying erratically, then this is a particular sign of a northwesterly storm.

Citizen scientists also said they interpreted the weather by observing the position and colour of clouds or the speed and direction of wind.

For example, where dark clouds appear in the northeastern sky, there is a high chance of heavy rainfall and consequent flash flood.

Likewise, a persistent southerly wind may be a precursor to heavy rainfall. If water levels rise coinciding with a cold breeze, a flash flood may be coming. Often senior citizens are able to provide early warning based on their experiences and wisdom.

Sunamganj communities continue to interpret natural signs to predict the weather, because many say that meteorological weather forecasting systems are incorrect, not location-specific, or inaccessible. Some hilly areas in the northeastern parts of Bangladesh are outside of electricity and newspapers coverage. The only early warning regarding a climatic disaster is their local knowledge which often comes from their lifetime experiences. Disseminating early warnings to those areas are quite challenging but cannot be ignored!

Sunamganj's citizen scientists suggested ways to improve the dissemination of early warning messages. For most, any weather related warning announced over TV or radio by the government is considered very seriously, however, they argue that for these warnings to be more useful they should be more location-specific, accurate, early and in the local language.

The media has a role to play, as does communication technology such as voice messages through mobile phones and the internet. Warning signs and meaning can also be included in the school syllabus from primary school.

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