Let's safeguard traditional knowledge

KEN OTIENO

Long before a drought reaches the evening news, an elder in Turkana has already read it in the sky. He has watched which direction the ants moved their eggs, noticed how early the acacia flowered, tracked the behaviour of migratory birds that arrive weeks ahead of rain or refuse to arrive at all.

He has cross-checked this against the moon's halo, the colour of the sunset, and the wind at dusk. By the time a meteorological bulletin catches up with what he already knows, the herd has usually moved.

This is a forecasting method, built and tested over generations, operating in a landscape where a formal weather station may sit hundreds of kilometres away and a rain gauge, even where one exists, tells you what fell yesterday rather than what is coming next week.

What separates this from folklore is the same thing that separates any science from guesswork: it is observation, repeated over decades, checked against outcomes, refined when it fails, and relied upon for decisions that carry real consequences for a family's herd. It happens to be transmitted orally rather than published, and held collectively rather than credentialed. Its different form of recording does not make it any less rigorous.

The instinct in policy circles is to treat this knowledge as charming but auxiliary, useful colour for a project document, and subordinate to whatever the meteorological department eventually produces. That instinct gets the relationship backwards. In the drylands, indigenous ecological knowledge is often the more complete dataset, because it has been collected continuously, locally and at almost no cost, by people whose lives depend on getting the reading right.

A national meteorological service can tell a county roughly what rainfall to expect this season. It cannot tell a herder which specific valley will green first, or which watering point will hold through the next six weeks. That knowledge exists, but it exists in the heads of elders, herders and the women managing household water and forage, and it rarely makes it into a planning document.

The gap this creates is not trivial. When national drought early-warning systems and climate services are designed without incorporating what communities already observe, they produce forecasts that are technically sound and practically thin, generalised enough to miss the variation that actually determines whether a herd survives a season. Meanwhile, the knowledge that would have closed that gap erodes quietly, generation by generation, as younger pastoralists move toward towns and formal education systems that have no room in their curricula for how to read a sunset.

There is a better way to build climate services for the drylands, and it does not require choosing between indigenous knowledge and science. Community-based observation networks, blending local weather stations with satellite data and the observations herders are already making, offer a genuine template. So does the growing recognition, in institutions from UNESCO's Local and Indigenous Knowledge Systems programme to national meteorological agencies experimenting with participatory forecasting, that combining the two produces sharper predictions than either produces alone.

The point is not to validate indigenous knowledge by holding it up against a model. It is to build the model so that indigenous observation is one of its primary inputs rather than just an afterthought consulted for texture.

Digital tools have a role here, and a serious one. Mobile platforms that share drought information, price data and early warnings can extend the reach of good forecasting well beyond the range of a single elder's memory. But technology adopted without the community it serves tends to produce dashboards nobody trusts and platforms nobody uses.

The pastoralist who has spent 40 years reading pasture and sky is not a research subject waiting to be digitised. He is a working scientist whose instruments happen to be observation, memory and an intimate familiarity with a specific stretch of land, and any climate information system built for Turkana should start by asking what he already knows.

The writer is Executive Director, Resource Conflict Institute