ASPIRE: reflections and observations

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ASPIRE was a ground-breaking project under the WISER programme that aimed to make weather forecasting in the Sahel region from East to West Africa more reliable. As the in-region consultant, supported by the Norwegian Refugee Council, I was very pleased to be involved.

The Sahel is home to some of the world's poorest countries, where rural households depend on agriculture and livestock for their livelihoods. To make a sustainable living, families have to know when the seasonal rains will come so they can plant crops at exactly the right time.

In such a precarious situation, accurate and reliable weather forecasting is absolutely vital. To provide seasonal forecasts for people across the region, the national and regional meteorological offices would gather in April every year before the rain season began.

In West Africa, this regional meeting is known as PRESSAS, where meteorological bodies congregate with data and information accumulated from the past few months. They then use various models to analyse the data and draw up a forecast for the seasonal climate.

By its very nature, a meeting like this can be quite subjective. Forecasters from different meteorological offices will arrive with their own views about what the forecast might look like, and then discuss it as a group. The discussions would lead to a consensus on the predicted weather, including precipitation over the three-month period across different countries in the Sahel region.

In such a situation, it's only natural that one expert may carry a little more authority in the group and their voice is heard most – or that one conceptual model might have more weight than others. The ensuing forecast will have some of this subjectivity built in, which then has knock-on effects for farmers and families.

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For instance, the forecasts tend to overstate the likelihood of near-normal rainfall rather than predicting any extreme events. That means that families will often miss an opportunity to improve their chances of mitigating climate risk.

To take one example, maize and peanut crops need more rainfall than many other crops grown in the region. But if the forecast doesn't suggest heavy rainfall, being skewed towards a normal pattern, a farmer might decide not to plant them and miss out.

ASPIRE helped forecasters across the Sahel move to more objective forecasting by introducing them to the seasonal models produced by global producing centres, locations where the World Meteorological Organisation (WMO) has designated accreditation to forecast providers that adhere to well-defined standards. In using information from these centres, subjectivity in the forecasting process is negated which enables improved consistency and usability beyond human interpretation.

Another key benefit of a more objective forecasting approach is that it is verifiable. Subjective forecasting methodologies provide little to no ability to track forecast effectiveness as they change from year to year, which means that it can prove difficult to evolve the forecasting approach to improve factors such as accuracy. Whereas, with a purely objective forecast, effectiveness can be measured and verified as comparisons can be made consistently between forecasts and actual events, which can then help fine tune methodology in subsequent years to strengthen results.

During the ASPIRE project, I met with representatives from the meteorological offices at PRESSAS and provided training in how to use these objective forecasting tools. We had a number of sessions in Dakar, Senegal, as well as Niger and Mali.

ASPIRE also brought social protection stakeholders and climate information providers together. Social protection stakeholders, such as charities and non-governmental organisations, need to make decisions based on the available weather forecasts. We introduced them to the forecast providers so they could explain what they were looking for from weather information.

After the project came to an end, WISER produced a series of training videos to demonstrate the need for seasonal forecasting and how to use the meteorological tools. Following an easy-to-watch interview style, the videos are all about ten minutes

long and are hosted on the Met Office YouTube channel. They are aimed at people who are involved in providing forecasts and help to delve a little deeper into how objective forecasting can make a tangible difference to people's lives.

Although fairly specialised, the videos have been a success with a number of meteorological offices in the Sahel and around the world. For example, Franklin Joseph Opijah from the University of Nairobi stated: "Wow! The YouTube video presentations are very enlightening for anybody interested in seasonal forecasting!"

Looking back on the project, I would say it has been very successful for two main reasons.

Firstly, people have recognised that the current seasonal forecasting methods in the African climate forums have some subjectivities. They understand that they have to combine the techniques they are using with more objective tools to create a more reliable and useful forecast.

Secondly, there is now a strong link between weather services and social protection stakeholders across the Sahel. Social protection organisations can use weather information to inform better decision making to help make people more resilient to weather events.

Looking ahead, I would like to see if we can go even deeper in strengthening this resilience. If we could introduce a project at a local level, we could generate reliable predictions to help people take action before weather events. Ultimately, that would help to protect more livelihoods and save lives.