HIGHWAY: reflections and observations

By Mark Majodina, World Meteorological Organisation Representative for Eastern and Southern Africa

Lake Victoria is the largest body of freshwater in Africa and is a vital resource to people living alongside it in Kenya, Uganda, and Tanzania. Families and whole communities depend on the lake to provide them with a livelihood through fishing and operating small boats. Yet the lake can be dangerous, with unpredictable weather and winds making conditions out on the water treacherous. Each year, up to 5,000 people die on the lake. Many are the main breadwinners of their family, meaning that thousands more people are not only left to grieve, but they also suddenly find themselves with no income.

HIGHWAY was a project instigated by the WISER programme that aimed to develop a regional Early Warning System for the Lake Victoria Basin area, and to ensure that the warnings are easily accessible to communities that need them. The project was funded by the FCDO and led by the World Meteorological Organisation in partnership with the National Meteorological and Hydrological Services in Kenya, Tanzania, Rwanda, Uganda and the UK, the East African Community (EAC), the Lake Victoria Basin Commission and the National Centre for Atmospheric Research (NCAR).

As the regional representative for the WMO, I was pleased to play a part in this vital, life-saving project. We started by understanding what people wanted from weather forecasts and warnings, engaging the end-users like fisher people, and enabling the weather producers to understand the requirements of communities across the region. These sessions also enabled us to train people living in the fishing communities in how to use weather forecasts and early warning systems, so they knew what particular information meant and what to look out for before setting sail.

The project also increased the meteorological observations across the region, gathering more inputs for each forecast to improve their quality. This involved improving some of the observational equipment used by the forecasters. For instance, in Kenya and Tanzania, the project helped to rehabilitate the upper air

sounding stations and refurbish some synoptic stations around the lake itself, as well as maintaining the weather radar facilities. The more accurate the information that went into the weather reports, the more reliable and trusted each forecast and warning would be.

HIGHWAY also brought some new forecast tools to the table, including the UKMO Unified East Africa Model, which was a forecast giving a resolution of 4km. Alongside a Rapid Development Thunderstorm (RDT) and a Nearcast modelling product, this helped to hugely improve the accuracy of severe weather forecasts provided across the communities.

Of course, developing forecasts and weather warnings was only half the story. We also had to ensure that the messages were coming across loud and clear to the communities that needed them. HIGHWAY instigated a number of ways to disseminate weather information, ranging from basic to high-tech solutions. For instance, warning flags and notice boards were put in place along the coast, but end users could also hear forecasts on local radio stations or even receive weather updates via SMS message.

One final benefit of the project was that it helped to harmonise the weather information available across the region. With a number of different meteorological services covering the area, weather forecasts and warnings varied a great deal, with multiple formats being used, and forecasts being issued at different times. Consistency helped to make the weather information more intelligible and recognisable to everyone in the communities we targeted.

It is difficult to be completely objective about how much the local communities trust the forecasts following HIGHWAY, as trust is, of course, a difficult commodity to measure. However, since the project came to an end, there have been indications that end users are happily using the weather information. Anecdotal evidence suggests that fisherfolk are using forecasts to assess hazards and decide whether to venture out onto the water. They are also using forecasts to make sure they can preserve their catch, such as the local 'Omena' fish, which is also known as the Lake Victoria sardine. The level of demand from the communities for weather information also suggests that people trust the forecasts and rely on them.

The programme has also certainly helped the national services to provide meaningful and efficient weather services to their citizens, making weather information much more visible to and valued by communities. Fisherfolk can now plan their day-to-day

working lives with much more certainty and can make informed decisions about purchases they need to make for their business. In their feedback, for example, they have said that the forecasts help them to optimise their fuel costs and reduce any potential risks to boats and crew.

One final sign of the success of the project is that end users have begun to share the weather information themselves, posting it on social media platforms like WhatsApp. It is a great example of how co-production of weather services can engage the people who provide weather information as well as the people who use it to change and even save lives.