

## Outcomes: HyCRISTAL launch, September 2015

**HyCRISTAL: Integrating Hydro-Climate Science into Policy Decisions for Climate-Resilient Infrastructure and Livelihoods in East Africa:** HyCRISTAL will develop new understanding of climate change and its impacts across East Africa, working with decision makers in the region to use climate information for decision making on the 5-40 year time-scale.

The HyCRISTAL launch brought together the research team and invited partners from the East African region to Speke Resort Munyonyo near Kampala, Uganda. They discussed the challenges and opportunities for integrating climate information into decision-making and adaptation practices, horizontally across some of the most vulnerable communities in the region, and vertically across levels of governance and action.



*Left: Hon. Flavia Munaaba Nabugere opening the HyCRISTAL meeting. Right: The HyCRISTAL research team and project partners with the Hon. Flavia Munaaba Nabugere*

The meeting was opened by the **Hon. Flavia Munaaba Nabugere**, Acting Minister for Water and Environment in the Cabinet of the Government of the Republic of Uganda (left image above), who spoke about the relevance of the research to livelihoods in Uganda and across the East African Community (EAC). Her words were echoed by the comments of **Dr Ally-Said Matano** of the Lake Victoria Commission/EAC (right image above: front row, fourth from left) and **Dr Hassan Virji**, Chair of the HyCRISTAL Advisory Board (right image above: front row, third from left), who stressed that heads of state agreed that the largest threat in the regions is climate change and its impact on food security, water and infrastructure. **Dr John Marsham**, Principal Investigator of HyCRISTAL (right image above: front row, second from right), emphasised the importance of communication and ongoing interactions between decision-makers, scientists and practitioners to ensure that HyCRISTAL tackles the most significant challenges in East Africa. The subsequent HyCRISTAL team meeting was closed by the **Rt. Hon. Dr Ruhakana Rugunda**, Prime Minister of the Republic of Uganda (right image below), who stressed the importance of the project for the region and his support for the work.

The one-day workshop provided an opportunity to gather information about constraints to increased integration of science, as well as to gain insights about how such information could best be presented to stakeholders, and how it could be made more practically meaningful in two key settings: for rural communities reliant on fish stocks and vulnerable to climate change, where alternative livelihoods such as agriculture are required; and for urban populations where water supply and sanitation is under pressure, being outstripped by the pace of population growth, and

where flooding, that is likely to become more frequent in the future, often overwhelms the current sanitation provision, seriously affecting health.



*Left: The HyCRISTAL research team with the Rt. Hon. Dr Ruhakana Rugunda. Right: Rt. Hon. Dr Ruhakana Rugunda closing the HyCRISTAL meeting.*

Workshop participants divided into four groups to identify **decisions**, **opportunities** and **entry points**. Outcomes are being used to develop a key list of user-relevant metrics of climate change to focus HyCRISTAL science.

## Workshop Summary

### Scene-setting talks

After the opening remarks from **Hassan Virji**, **Dr Ally-Said Matano**, the HyCRISTAL Principal Investigator **Dr John Marsham**, and the **Hon. Flavia Munaaba Nabugere**, **Dr John Marsham**, outlined the key features of HyCRISTAL (see text in blue boxes). **Prof Frederick Semazzi** (left image above: front row, third from right) provided the context for HyCRISTAL and its relationship to other projects in the region, particularly the World Meteorological Organisation HyVic and the EAC-led HyNEWS, which have been created in response to a call from the EAC to create a regional science base that will build resilience to climate change. Prof Semazzi particularly emphasised the challenges posed by declining rain fall, increasing urbanisation and other land use changes, declining fisheries and increasing risks posed by intense rainfall.

Funded by the Future Climate for Africa (FCFA) programme, a UK Department for International Development (DfID) and Natural Environment Research Council (NERC) initiative, HyCRISTAL is one of five projects which will address climate change across different regions of Africa and use climate information for decision making on the 5-40 year time scale. As such, HyCRISTAL partners are crucial to the success of the project. The project is divided into three sections or pillars which focus on understanding climate change, climate impacts and use of this information in real-world decisions. A further outcome of the project will be capacity development at both individual and institutional level across East Africa.

**Dr Richard Anyah** (left image above: second row on left) focused on climate change and water resources, emphasising that the LVB is the largest fresh water basin in Africa, but despite this a significant proportion of people in the region live on less than \$2/day and agriculture is largely

dependent on rainfall with limited irrigation. The lake is very sensitive to both local and global perturbations. Future changes in total rainfall are uncertain, but both increased heavy rain and dry spells are likely. **Prof Barbara Evans** (left image above: second row second left) introduced the urban issues that HyCRISTAL will consider in light of predicted climate changes over the 5 to 40 year period. Focusing on water supply access in urban areas and particularly sanitation/removal of excreta/waste, work will focus on improving public health and reducing current mortality and morbidity levels by improving Water, Sanitation and Health (WASH) services and closing the loop on waste disposal. **Prof Ros Cornforth** (left image above: front right) spoke about the need to 'climate-proof' rural livelihoods, communities, agricultural systems and fisheries. Much of this work will be implemented within country and regional governance and institutional structures and so involves a range of different partners from the humanitarian, development and/or economic sectors.

The presentations ended with an active questions and answers session with topics discussed ranging from the East African Paradox and its causes (why in parts of East Africa is there currently an observed drying, with climate models showing a wetting), to how such uncertainty should be considered from the outset in all modelling assessments, to building observational and model prediction capacity in East Africa; the use of hybrid models (regional earth system coupled with land cover models); linkages between urban and rural issues; and exploring water stress, water quality and lake ecology in the LVB region.

### **Group Sessions**

Participatory workshop sessions drove discussion aimed at identifying the key needs of decision-makers in the region. In addition to the HyCRISTAL team, there were 29 partners from six countries, including practitioners, engineers, agronomists, fisheries experts, economists and development specialists. This wide-range of interests was instrumental in helping to explore the key decisions needed and relevant entry points and decision-making processes.

Participants divided into four groups to discuss four topics to identify **decisions, barriers, information, metrics, opportunities** and **entry points** for each. Analysis of workshop outcomes is ongoing and will inform the direction of the project. For more information, please contact the HyCRISTAL team ([hycrystal@leeds.ac.uk](mailto:hycrystal@leeds.ac.uk)).

### **Closing remarks**

The discussion generated rich contextual information to inform HyCRISTAL research and the decisions it is designed to inform. The discussion topics revealed participants' willingness to use the research to benefit the poorest people in the region. There was wide agreement that maintaining communication throughout and beyond the project is key to this: it will not simply consist of knowledge transfer but will be an iterative process of discussing findings and refining methodology.

### **Acknowledgements**

The HyCRISTAL team would like to thank all delegates for their time, for engaging so fully with the ambitions of the HyCRISTAL project and their substantive contributions. In particular, we would like to thank the East African Community and the Government of the Republic of Uganda for their support, and our Advisory Board for their time. HyCRISTAL is co-funded by the UK Natural Environment Research Council (NERC) and the UK Department for International Development (DfID) (NE/M02038X/1). HyCRISTAL is grateful for support from GEWEX and a further meeting report is available in November 2015 [GEWEX news](#).