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# What are the most important future research questions in East Africa

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## *Introduction*

There are volume of articles that highlight the importance of making policy decisions based on rigorous and reliable evidence. However, the question of how researchers identify which questions require immediate attention, energy and effort remains elusive. In most academic spaces and Sub Saharan Africa, research agenda-setting is influenced by factors such as the agenda of funding and aid bodies, Universities' research priority, or the researcher's interest. In recent times, there have been several exercises to open up the research agenda-setting to a wider audience. In Sub-Saharan Africa, such research exercises are lacking in many spaces and sectors. What is evident in Sub-Saharan Africa is that some of these exercises are, by default, available to a few academicians who have managed to establish their links and initiatives. This has led to uncoordinated efforts in deciding which research questions need to focus on.

In 2019, water@leeds, one of the largest interdisciplinary water research group located in the University of Leeds conducted a global survey, requesting the wider global audience to identify priority research questions that researchers need to address and answer in the future. What was different about this exercise was the opportunity it gave for wider audience participation. Thus, practitioners, policymakers, students, non-water experts all had the opportunity to participate. The survey also gained attention and interest in Sub-Saharan Africa. In East Africa, which is the region in focus for this article, we received a total of 151 questions from 21 respondents. In this article, the focus is to present some of the lessons that we gleaned from the questions submitted from the East African participants and to suggest potential research pathways for the East African water sector. We are aware this is a generalist attempt to clump the region together and offer ideas, however, the lessons we hope to offer are general and could be applied on a country and regional basis.

## *Emerging Themes*

In Table 1, we present the 10 most important questions based on broader simple themes such as Water Quality, Security and Sustainable Management. Some sub-themes emerge out of these broader sets. For example, a majority of the questions brings unto the fore important aspects of competing uses of water and how conflicts (especially transboundary conflicts) around these competitions can be resolved. There are also emerging sub-themes around the water-food-energy nexus and the availability of adequate knowledge of emerging water contaminants. Underlain all these questions are concerns around power and politics and how these shape policy interventions, water use, sharing and conflicts.

## *Critical Lessons in Water Research and Management*

The first impression one gets from the questions (listed in Table 1 below) is its normative and simple outlook. When the team set out to conduct this priority exercise, the expectation was that questions submitted by participants were going to be novel, ground-breaking, thought-provoking and reflect people's fear about the future by gleaning from the present. Yet, the

questions still called for more answers, evidence and research into some of the current challenges facing the water sector. Through analysis, we realised that the term 'sustainability' and 'sustainable management' was a priority for many respondents. For instance, specific themes around these terms included, "sustaining local institutions"; sustaining water infrastructure: sustaining projects; sustaining groundwater resources: and scaling up successful interventions. These are not entirely new questions and there are quite some data to support such questions. This observation, however, probes two further enquiries. First, how accessible are these pieces of evidence to both policymakers and non-academic actors? What we observed from the data received was that majority of our respondents from the NGO sector, were questioning the evidence, and the availability thereof of some of these known questions. Secondly, it proves that existing frameworks for applying to solve these water challenges are ineffective and flawed. There have been concerns over the effectiveness of IWRM in dealing with complex and contextual challenges around water management. Seeing these old questions brings these conversations again to the fore.

Another batch were questions that sort answers for specific contexts, especially around the Nile Basin, which calls into attention the unavailability of data on some of these 'obvious' questions. What we mean here is that, whilst the data on a general water topic might be available, there might be a lack of enough data for specific contexts. Even if there is, it links back to the issue raised above, about the lack of evidence available to the non-academic audience to provide room for evidence-informed decision making. Some aspect of the questions garnered was less of what one will define as a research question but had underscored aspects embedded within them. For instance, the question, "what feeling do you get when you see clean water?" is not in itself a research question, but rather a normative and specific question that hope to evoke attitudinal and behavioural change to respondents. Thus, such questions could be used as a foundational question for behavioural and psychological research around water use and protection. It is important to highlight that some questions probe researchers to enquire both about the past and the future.

### *Way Forward*

For most parts of questions that have evidence, the task remains to how they can be able to influence policymaking and daily decisions at various scales. In 2019, we launched a Water Knowledge Exchange Hub (KEH) in collaboration with Global Water Partnership-Tanzania to use relevant research evidence conducted by various researchers in the University of Leeds to support informed leadership and investment in the water and sanitation sector in Eastern Africa. The goal is to be able to collaboratively produce and share relevant research

engagement materials such as research briefings, podcasts and short videos with policymakers, technocrats, practitioners, politicians, and wider audiences in the region.


*Table 1 The top 10 most important water research questions for East Africa*

| BROAD THEMES | Top 45 Water Questions for East Africa |
|---|---|
| Water Security and governance | 1. Can maximized water security minimize transboundary water conflicts?<br>1. How can groundwater resources in East African countries be best developed, utilized and sustainably managed?<br>2. How does ecosystem degradation affect water security at scale?<br>3. How can the water governance efficiency of the river basins be measured in the context of bringing sustainable development of the resources?<br>4. What are the impacts of increasing competing demands of water on water resources sustainability? |
| Water Quality | 5. What can be done to improve water quality monitoring, control, implementation and enforcement?<br>6. In the advent of change of livelihoods and urbanisation, the pollutants of water are continuously changing from organic to inorganic (emerging pollutants). What is the future of water quality and is the current science and infrastructure able to handle the emerging pollutants? |
| Sustainable water management | 7. Is it possible to establish the economic value of available data so that policy makers can get to know the economic implication of making decisions without sound analytics |

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|---|---|
| | 8. Is there a way of putting all the data concerning water and sanitation on a single database so that they can be accessible by everyone?<br><br>9. What mitigation measure have been put in place to protect and sustain various water projects that are being abandoned after the end of a project cycle? |

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