



Tanzania Water Partnership



Water Knowledge Exchange Hub

A water@leeds and GWP-Tanzania Partnership

SETTING THE FOUNDATION FOR A WATER KNOWLEDGE- EXCHANGE HUB IN TANZANIA

AUGUST 2020

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1.0 Introduction

1.1 The Knowledge Exchange Hub Concept

The beauty of any research endeavour is in implementation of its outcomes – either in the fronts of enhanced understanding, or application in policy or practice. It is acknowledged that; there has been, and there are numerous ongoing research efforts in the water sector of which has continued to generate good outputs. However, the uptake of outputs has continued to be low in East and Southern Africa Region. This is mainly because the institutional capacity to absorb and process this evidence into relevant knowledge and information streams, at country and regional level, is limited. We also acknowledge that the connection between research, policy and action is not direct but requires a process of collaboration, interpretation and application as intended to be realised in the water knowledge exchange hub.

The water sector is currently being pitted against a barrage of fluxes (including rapid urbanisation and climate change) and the demand for credible information and knowledge on potential expected outcomes and impacts by communities is ever increasing. This calls for instituting two integrated approaches as envisioned in the knowledge hub (i) generation of robust science and analysis through research (ii) distillation and synthesising of the technical research outputs into knowledge and information products to inform and assist decision-makers in planning future policies and action. .

The establishment of the Water Knowledge Exchange Hub will directly contribute to building local institutional capacities as well as providing a platform for other partners to access credible integrated information on research, policy and practice in the water sector. It is also acknowledged that Development Partners and bilateral agencies are increasingly trying to co-ordinate their efforts and work from the reality of local context and hence operationalization of such a Knowledge Exchange Hub will provide one of the credible reference points for anchoring interventions in the water sector. The innovation about the Water Knowledge Hub is that the project partners will work very closely in collaboration with practitioners and policy makers to generate and synthesise information from research outputs and package the distilled products into accessible formats and mediums. In this case, the practitioners and policy makers will directly contribute in the design and packaging of information as per their requirements. This is a unique approach; different from the conventional realms where technical reports, policy briefs, research articles etc are deposited in website platforms as a repository with the hope that practitioners and policy makers will access them.

1.2 Collaborative framework

In pursuit of collaboration, Global Water Partnership Tanzania and Water@leeds (University of Leeds) signed a Memorandum of Understanding (MoU) with the view to facilitate and enhance partnership in research, capacity development and knowledge management. It is on this platform that the idea of initiating a Water Knowledge Exchange Hub in Tanzania was conceived and has continued to be nurtured.

Global Water Partnership Tanzania is the national accredited arm of the Global Water Partnership Organization which is a worldwide intergovernmental and multi-stakeholder knowledge management action network, and a partnership for sustainable management and development of water resources. The network spans in 13 regions covering 158 countries. The global secretariat is in Stockholm, Sweden. More information on global and Southern Africa initiatives can be accessed in www.gwp.org and www.gwpsaf.org respectively. Global Water Partnership Tanzania is a registered NGO and thrives in the mandate of providing knowledge leadership and a multi stakeholder's platform for information sharing and exchange in water resources management as well as building and strengthening capacity in water resources management.

Water@leeds is the Water Research Centre at the University of Leeds and is one of the largest interdisciplinary water research institutes in the world. Its research performance is internationally excellent and ranks in the top research institutes globally. The Institute has expertise across the water cycle and across the disciplines from sciences and engineering to the arts. The Institute has continued to partner with a wide range of partners with the view to help shape targeted research as well as providing the necessary outputs to inform change practice, and train the next generation of researchers across the world. The Centre's missions is to (i) provide excellent

internationally-recognised water science, technology and policy research (ii) maximize the effectiveness of research funding in the water sector by becoming the focus for interdisciplinary water research (iii) generate world leading research which has major impacts on society, environment and economy (iv) train new innovative, excellent and interdisciplinary water experts to work at the cutting edge of water research, management and policy.

1.3 Other existing collaborative capital for operationalizing the knowledge hub

GWP Tanzania has signed collaborative MoUs with various strategic partners including Ministry of Water in Tanzania, University of Dar es Salaam, University of Texas (A&M) and Bremen Overseas Research and Development Association (BORDA). At regional level, GWP Tanzania has an MoU with WaterNet, a regional network of research institutions on water in Southern and Eastern Africa region of which has more than 64 members. GWP Tanzania is also in the process of establishing collaborative ventures with international and Regional Centres of Excellence in water sector. GWP, of which GWP Tanzania is part of, has MoU with various regional and pan-African institutions such as COMESA, SADC, AMCOW and NEPAD. The links with regional and Pan-African institutions provide a platform for reaching out and engaging with other partners across the regions in institutionalizing and operationalizing the water knowledge and exchange hub in southern and eastern Africa region.

2.0 Anchoring the Knowledge Hub

Research outputs are more meaningful if they influence or contribute to decision making process. Most often, researchers operate in their own domain with little interaction or input from policy makers and practitioners especially on demand driven applied research. The same has been the case where policy makers have continued to make decisions with minimal reference to ongoing research and or innovations. This is exacerbated in a context such as Tanzania where the majority of research is funded by external partners and is led by external research institutions. This approach has not produced large gains in local research capacity. The practitioners, who form a large part of the water sector (Development Partners, NGO's, Civil Societies, Private Sector, individuals etc) have often found themselves in the middle. They often have practical experience on emerging issues in the water sector and are eager to deploy applied research principles despite their minimal interaction with researchers.

The above narrative has continued to be the norm, with each actor i.e policy makers, researchers and practitioners always trying to look for a common platform for knowledge exchange and sharing of experience. The Knowledge Hub will try address this gap through the Triple Helix concept on knowledge sharing, learning and interaction between three main actors in the water sector as illustrated in the Figure 1.



Figure 1: The Triple Helix Concept

2.1 Pilot project

The idea of establishing a water knowledge hub was conceived during the 10th Anniversary celebrations of water@leeds in September 2019. During this time, GWP Tanzania and Water@leeds successfully submitted a proposal to the Economic Social Research Council – Impact Acceleration Account (ESRC-IAA) for a small research grant to support initial steps of building the foundations for a Knowledge Exchange and Engagement Hub in supporting informed leadership and investment in water and sanitation in Eastern and Southern Africa, through the Leeds Social Sciences Institute. The initial step of the initiative is to collaboratively review and distil evidence produced by researchers at the water@leeds and other partner institutions - starting specifically with the management and governance of water resources. This will lead to the production of synthesised knowledge materials such as podcasts, short videos, summaries of research and technical reports, policy briefs etc aimed at supporting policy makers and wider audiences in the water sector. The initiative will support and strengthen dialogue and collaboration among key stakeholders in the water sector i.e Researchers, Policy makers and Practitioners. This piloting will enable GWP Tanzania and water@leeds to co-produce a plan for long term collaboration and to work with other partners in Africa and beyond on financing this vision.

3.0 Stakeholder consultation

The immediate action in implementation of the pilot project was to share the concept with other stakeholders in the region and the best platform for doing this was the annual *Maji* (water) week scientific conference that was scheduled for March 17-19 2020. GWP Tanzania and water@leeds secured a side session and invited many stakeholders to the event. The side session was designed to be followed by a 2 day planning session with the view to amalgamate all ideas that were to be gathered during the side event as well as establishing strategic partnerships for developing of a broader proposal for establishing the water knowledge exchange hub.

Unfortunately, the Maji Week Conference was cancelled at the 11th hour on 16th March as part of Governments effort to manage COVID 19 pandemic. In this case, the side session did not take place and hence an obvious disruption in implementing the idea. However, GWP Tanzania and water@leeds re-steered the process while adapting to online tools as the world evolved and revolved around the COVID-19 Pandemic.

In this regard, toward end of May 2020, a decision was made to administer a simple online survey inscribed in google form of which was shared with targeted stakeholders in southern and east Africa region. These stakeholder were more or less the same who were to be invited for the *Maji* Week GWP Tanzania – water@leeds side event. Partners were invited to fill the survey that was accessed through <https://forms.gle/rNGnqRLTuTs6Skb98>

Stakeholders in the water sector were to anonymously fill the survey with an option for providing contact information if one was interested in participating in a webinar, that was to be organized at a later date, for sharing the outcome of the survey. Given the fact that the survey was targeting some key stakeholders, the link to the survey was shared through personalised email and follow ups were made through phone calls of text messages. GWP Tanzania leveraged on its close working relationship with Ministry of Water and other partners in Tanzania, the strong GWP network effects in the regions, connections and associations with WaterNet and UNESCO Regional Offices (IHP Programme) in accessing and mobilizing stakeholders to respond to the survey.

4.0 Unveiling the generation and consumption patterns of knowledge in water sector in East and Southern Africa region

The online survey garnered 64 responses from 101 targeted individuals who were working or have a sound working experience in eastern and southern Africa region. The individuals were affiliated to different organizations as indicated in Figure 2. Many of the responses were recorded from stakeholders in Tanzania.

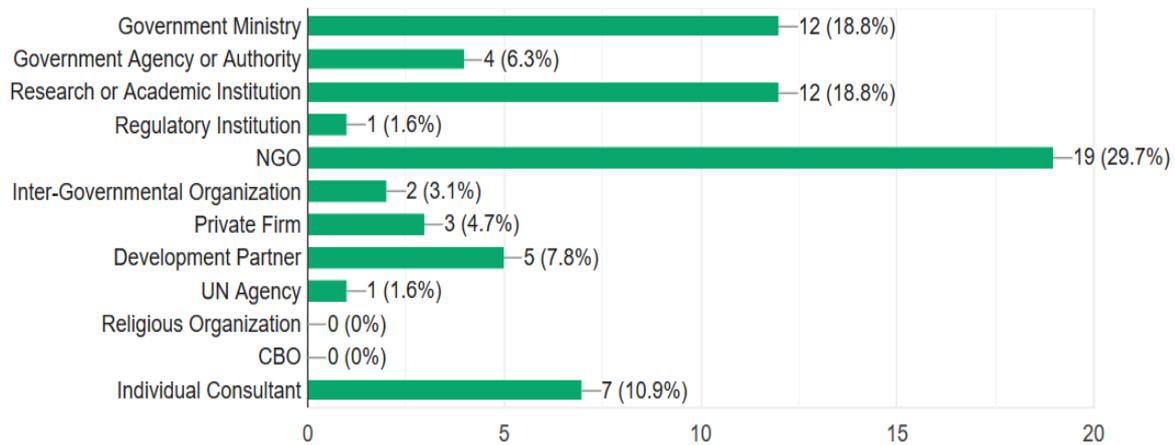


Figure 2: Categories of stakeholders

The stakeholders were asked to respond to a set of questions that had the objective to:

- i) Assess knowledge generation patterns in water governance
- ii) Assess knowledge consumption patterns in water governance
- iii) Establish preference in knowledge acquisition

Thus, each question had inbuilt function to address the above objectives, with part 1 of the questions assessing knowledge generation pattern and part 2 designed to assess knowledge consumption patterns. The questions revolved around a set of main knowledge or information sharing products that are widely used to share information or knowledge and stakeholders' perception on their preference (consumption pattern). The main knowledge products that were considered in the survey are journal articles, technical reports, short videos, popular articles as narrated herein.

4.1 Journal articles

Figure 3 highlights the relatively huge interest in reading journal articles compared to less capacity in authorship of the same.

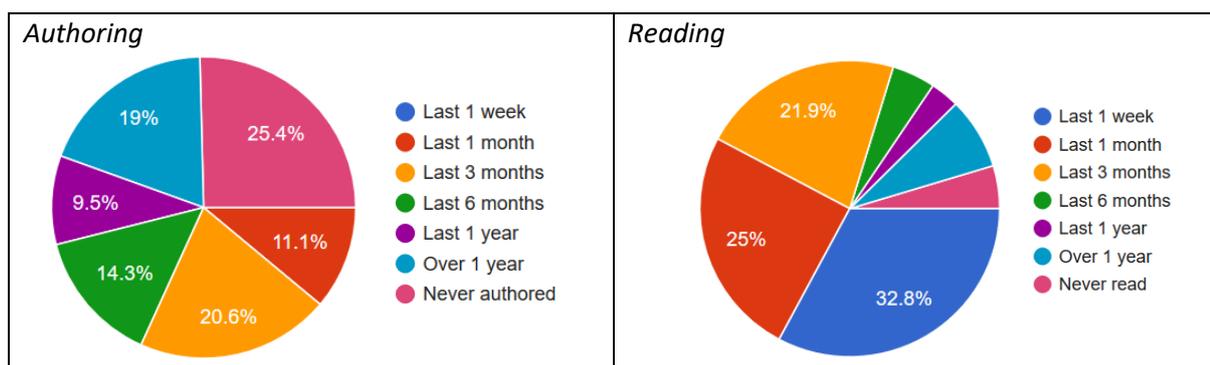


Figure 3: Authoring and reading journal articles

Given the fact that 25% of the total 64 respondents confirmed that they had not authored a journal article, it confirms that even some researchers, who formed 18% of the total respondents had not published a journal articles in their career. However, there is an appreciable interest in reading journal articles as attested by the 32 and 25% of the respondents who noted to have read an article within a week and month respectively.

4.2 Technical reports

Reading of technical reports seems to be of huge interest as presented in Figure 4. Approximately 29 and 26% of the respondents indicated that they had read a technical report within a week and a month respectively. This is in contrast to publication of such reports where it was reported that 23% had never authored a technical report while 16% indicated that they had only produced a technical report in over 1 year. This further showcase the apparent imbalance in generation and consumption of knowledge in the region.

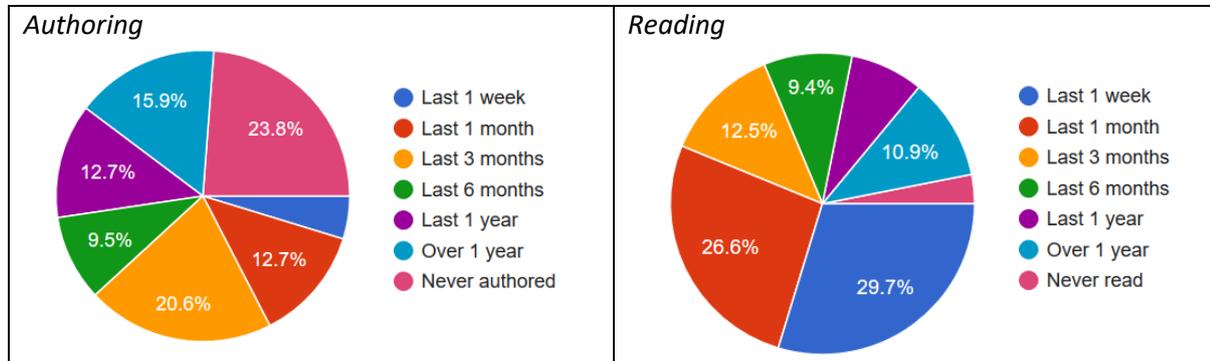


Figure 4: Authoring and reading technical reports

4.3 Popular articles

From Figure 5, majority of the respondents (44%) indicated that they have never authored a popular articles e.g newspaper articles, blogs etc on water governance. This in contract to the demand of the same knowledge product (37%) where respondents noted to have read a popular article within a week. Such an overlay highlights that there is a huge demand by stakeholders in updating on current affairs in water governance despite the less interest or capacity to reach out and educate wider audiences using popular articles.

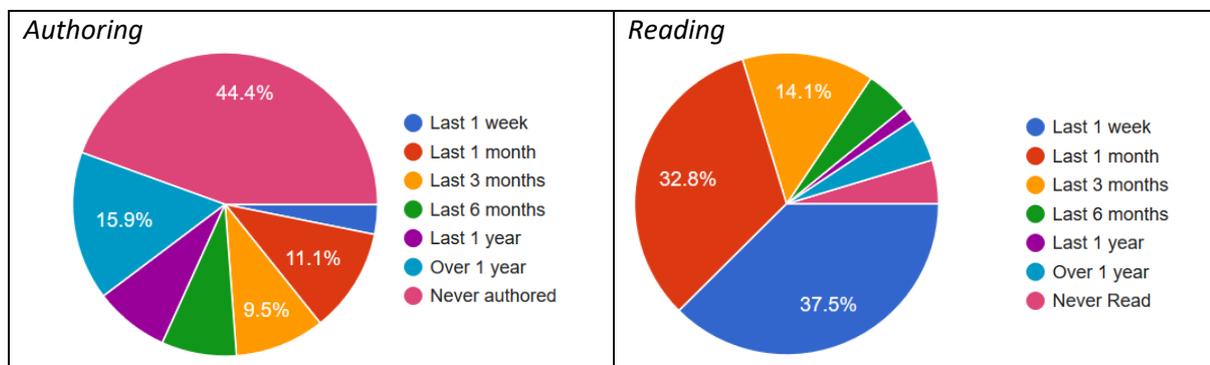


Figure 5: Authoring and reading popular articles

4.4 Short videos

The survey showcased the power of audio visual where most (42%) of respondents indicated their interest in watching short videos on water governance as indicated in Figure 6. However, such a great interest is matched by an equal incapacity to generate such audio visuals where 42% of the respondents noted that they have never produced short videos on water governance. Nevertheless, it is appreciated that the conventional knowledge production systems have not invested much in generation of short videos as part of knowledge products. This provides an opportunity for the Water Knowledge Exchange Hub to test such a domain while documenting lessons learnt.

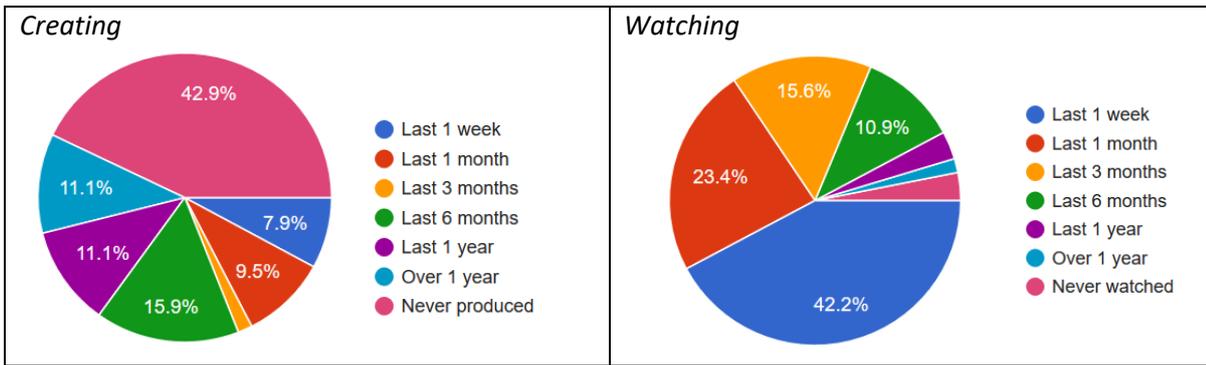


Figure 6: Creating and watching short videos on water resources governance

4.5 Preference of knowledge products

Each stakeholders was asked to identify the best three mediums they would wish to use in receiving knowledge or information on water governance. Figure 7 shows the preferences of stakeholders, with majority (67%) preferring scientific journal articles and summaries of technical reports respectively. This could be explained by the fact that journal articles and summaries of technical reports are distillates of research efforts and hence most preferred. Policy briefs and short videos were the other preferred mediums that attracted considerable interest from stakeholders (33 and 31% respectively).

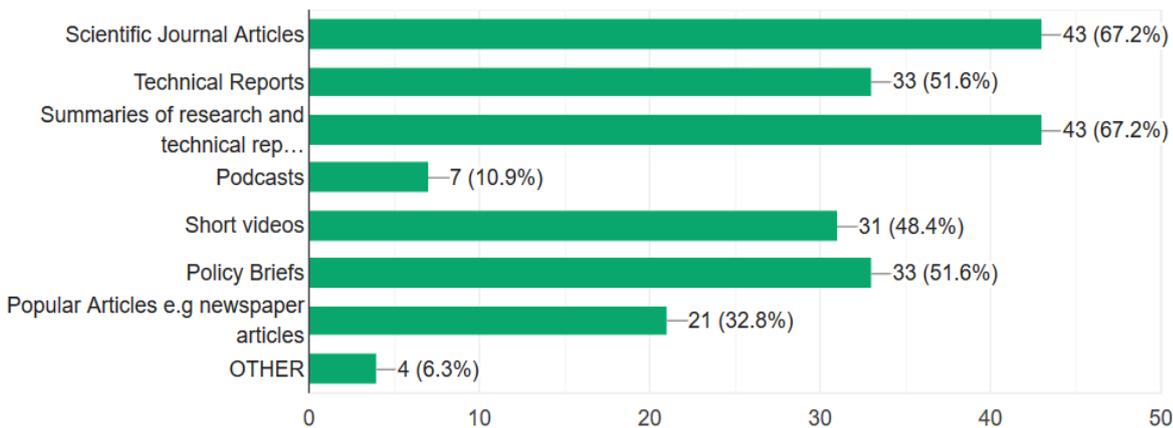


Figure 7: The best mediums for receiving knowledge or information

4.6 Channels for accessing knowledge products

The stakeholders were asked to showcase their three most preferred channel for accessing information. A number of options were provided as indicated in Figure 8 but also the participants were free to mention and substantiate other preferred channels that were not provided. Most of the participants indicated subscribed emails (65%) followed by WhatsApp groups and Twitter. Such results showcase the impact of social media in sharing or accessing information of which the water hub could capitalise upon.

Other channels for accessing information that participants mentioned are Google search engine (including Google Scholar), LinkedIn, Research gate, IWA connect, Research4life, Websites for journals, Word of mouth among others.

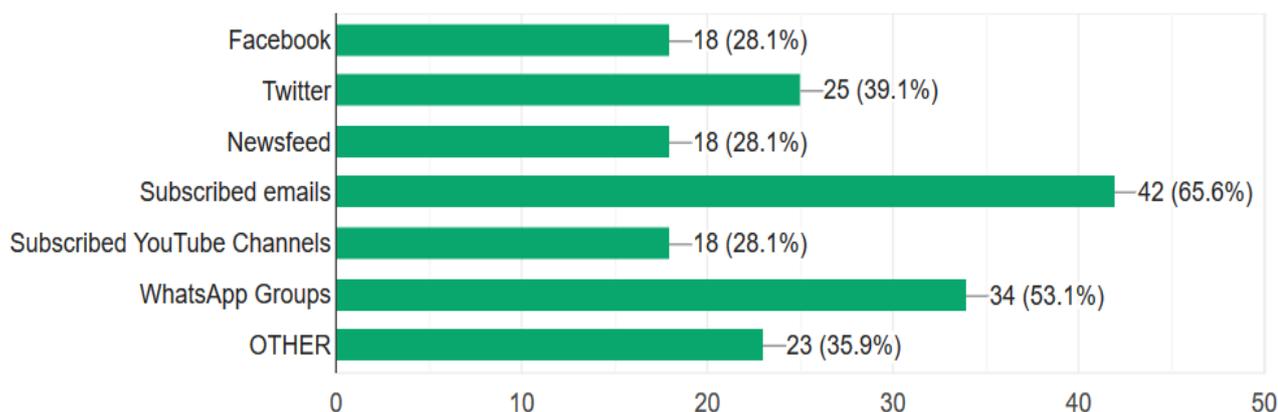


Figure 8: Channels of accessing information

4.7 More information on water governance

An open ended question was asked to participants to state any information on water governance that they would wish to have but was not available at their disposal. Participants were free to list all thematic areas on water governance they would wish to have more information. The intention of this question was to enable a quick assessment on inherent knowledge gap or demand in the front of water governance. Table 1 is a synthesis of the responses that were received.

Table 1 Desired information on water governance

<ul style="list-style-type: none"> • Institution arrangements and stakeholders analysis • Climate change and WEF Nexus • Data quality and access • Waste Water Management • Indigenous knowledge in water governance • Resilience of water infrastructure • Water investment opportunities • Groundwater management • Hydro-economic models • Water resources financing • Economics of water • Hydropolitics/Water diplomacy 	<ul style="list-style-type: none"> • Trans-boundary water management • Economic valuation of ecosystems • Wetland ecology • Water resources and biodiversity • Water governance and gender • Threats to water resources (pollution, poor allocation etc) • Agricultural water management • Conflict resolution and negotiations in WRM • Best practices in water resources management • Water demand management
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There are numerous thematic areas of water governance that the stakeholders listed of which showcases knowledge gaps. However, it is acknowledged that there is a need for more refinement of the responses, through an iterative engagement process with the stakeholders, given the fact that the scope of most of the thematic areas mentioned above is relatively wide.

4.8 Other functions of the water knowledge hub

The participants were asked to mention any other function they perceive the knowledge hub could do in supporting the water sector. This open ended question was meant to gauge the trust the stakeholders had in the concept as well as the institutional set up of the hub. More than 124 interesting responses were recorded as summarized in Table 2.

Table 2 Other functions of the hub

<ul style="list-style-type: none"> • Mentoring fresh graduates • Advocacy and research on water issues • Capacity building in public sector • Prepare short training in water sector • Event organisers in Water Sector • Prepare scheduled webinars • Brokering knowledge on specific contemporary water issues • Sharing water related risk assessments • Coordinate Maji Week • Influence direction of water sector • Provide best practices in the water Sector 	<ul style="list-style-type: none"> • Source of information for media • Serve as information repository • Source of information for students • Networking and collaboration • Giving credible advise in water sector • Carry out water resources research • Become a data centre • Increase interest for students and researchers • An intermediary between donors and the government • Develop an inventory of local expertise
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The stakeholders seemed to have understood and aligned well to the idea of knowledge hub and had trust in its foundational set up as adduced from their responses. Most of the responses are pointers to what need to be done or in be place in the water sector. Such information is vital to the water hub, and other stakeholders as well, on developing or instituting requisite mechanisms for addressing some of the needs expressed by the stakeholders.

5.0 Webinar

The outcome of the survey was presented to stakeholders on 14th July 2020 through a webinar. A total of 80 participants registered for the webinar but the actual attendance/login at any given time ranged between 45 and 60. Figure 9 is a screenshot of the webinar. The concept and foundational realms of establishing the water knowledge hub was also presented to the participants. Three invited panellists mainly drawn from the three main actors (Triple Helix) in the water sector in Tanzania i.e policy makers, research institutions and practitioners presented on some key aspects on knowledge management pathways as well as potential areas of convergence with regards to the knowledge hub. Table 3 to 5 is a summary of some of the key discussion points that were presented by each panellist.

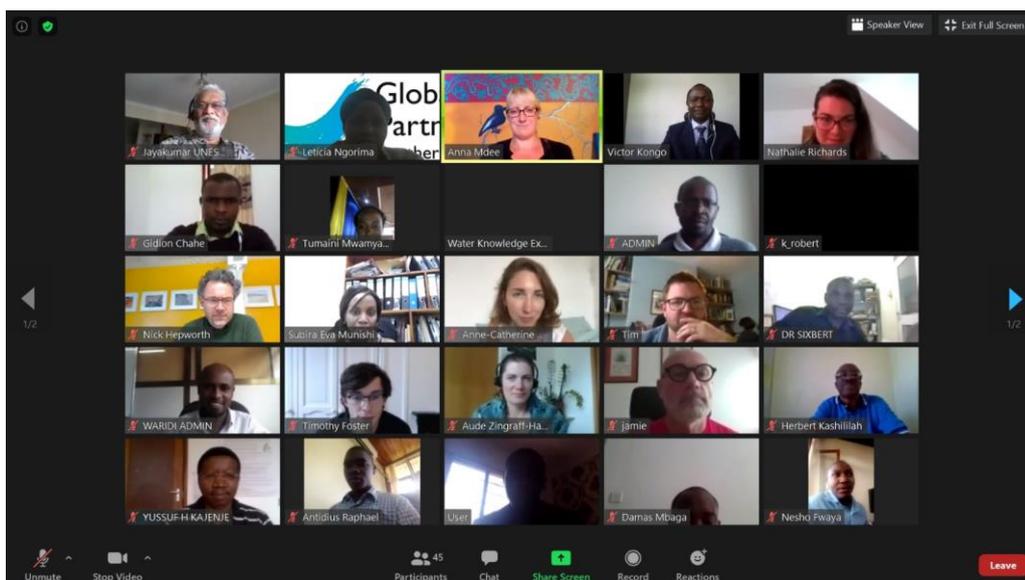


Figure 9: Webinar screen shot

5.1 Presentation from Development Partners (UNESCO Regional Office-Nairobi)

Presented by Dr. Ramasamy Jayakumar

Head of Natural Science Sector; Hydrologist for Sub-Saharan Africa; UNESCO Nairobi Office and Regional Hydrologist for Sub-Saharan Africa.

Table 3: Summary of presentation by UNESCO Regional Office-Nairobi

Process of setting priority areas to develop programmes within the water sector in Tanzania	Some of the challenges in accessing up to date information	Contribution of the water knowledge exchange hub in addressing the challenges
<ul style="list-style-type: none"> All interventions in Tanzania guided by the Intergovernmental Hydrology Programme (UNESCO-IHP) UNESCO has established a list of water security key challenges for Africa i.e (i) Education, Knowledge and Capacity Development (ii) Managing Transboundary Systems (iii) Water-Food-Energy Nexus (iv) Global Change and Risk Management (v) Water Governance and Management (vi) Access to Safe Water and Sanitation 	<p>The main challenge is on realizing Open Science where all stakeholders can access freely any information at any time.</p> 	<ul style="list-style-type: none"> The water hub should be open and accessible to every one The hub should be a well-structured platform with enhanced collaboration and communication among collaborative partners. The hub can learn from and build on other existing platforms and initiatives to enhance collaboration. The hub should formulate and enhance open call for materials—where the hub partners can formulate a consortium to share available scientific materials related to water security in Africa Training/education materials in water governance should be designed in line with the current hydrology science needs for Africa while connecting research into practice.

5.2 Presentation by Research institutions (Sokoine University)

Presented by Dr. Makarius Lalika

Lecturer of Environmental Science, Department of Geography and Environmental Studies
College of Science and Education, Sokoine University of Agriculture

Table 4: Summary of presentation by research institutions

Process of setting priority areas to develop research programmes within the water sector in Tanzania	Challenges researchers in Tanzania face in making research outcomes available to recipients e.g Donor agencies or ministry of water	Contribution of the water knowledge exchange hub in addressing the challenges
<ul style="list-style-type: none"> Priority areas for research within the water sector in Tanzania are set to inform policy and support the water sector development programme. There is no clear framework for guiding research in the water sector 	<ul style="list-style-type: none"> No clear platform for disseminating research information from researchers to policy makers and other stakeholders in the water sector Most of the research undertaken has the elements of top-down approaches from the government or donor agencies. It should be a two-way process Inadequate recognition of the work from researchers and academicians Inadequate public investments in water research 	<ul style="list-style-type: none"> Establishing a platform for sharing research outputs and knowledge Enabling learning and sharing knowledge in the water sector

5.3 Presentation by Policy makers (Ministry of Water)

Presented by Eng. Pamella Temu

Assistant Director - Water Resources Division
Tanzania

Table 5: Summary of presentation by Policy maker

Process of setting priority areas to develop and fund programmes within the water sector in Tanzania	Challenges Ministry of Water in Tanzania faces in accessing up to date research outcomes	Contribution of the water knowledge exchange hub in addressing the challenges
<ul style="list-style-type: none"> All Government interventions in the Water Sector are coordinated under Water Sector Development Programme (WSDP) (2006-2025). 	<ul style="list-style-type: none"> Most of the research outputs are not in the format policy makers desires. We need summaries of research outcomes 	<ul style="list-style-type: none"> Previously, there has been no structured platform for exchange of knowledge and information between Policy Makers and Researchers in Tanzania.

<p>Currently, in 2nd phase of WSDP (2015-2021)</p> <ul style="list-style-type: none"> The main components of WSDP II are (i) Water resources management (ii) Rural water supply (iii) Urban water supply and sewerage (iv) Sanitation and hygiene and (v) Programme delivery support 	<ul style="list-style-type: none"> Most of the research in water sector do not clearly show impact to society Most of research endeavours in the country do not engage policy makers from the beginning. The policy makers are often involved during presentation of research results. Policy makers can add value to the research process. The Ministry of Water lacks access to scientific journals on water. There is low priority and no strong with Research and Academic institutions in the country. 	<ul style="list-style-type: none"> 2019, Ministry of Water initiated annual <i>Maji</i> (water) Week Scientific Conference as a platform for researchers, practitioners and policy makers to exchange ideas on best practice and research advancements in water sector. In this case, the hub could support the annual Maji Week Scientific Conference In 2019, the Ministry established a Centre of Excellence on water resources management and development where it will also coordinate research issues in the water sector. The hub can collaborate with WRCoE in undertaking targeted applied research in the country The hub can collaboratively work together with the WRCoE by providing research summaries to policy makers The hub can lead in undertaking short training sessions in building capacity for researchers and practitioners in producing knowledge products for targeted stakeholders The hub can undertake continued analysis of information needs of policy makers in the water sector and passing the same to researchers in collaboration with the WRCoE The hub can be an outreach centre on information sharing with stakeholders in the water sector The hub can develop mentoring programme for young researchers through internship programmes
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6.0 Way forward

The questionnaire and the webinar were good platforms for collating ideas and anchoring the concept of water knowledge exchange hub. The initial seed funding from the Economic Social Research Council – Impact Acceleration Account (ESRC-IAA) provides a base for amalgamating efforts towards developing a 5 year programme in collaboration with other strategic partners while keeping in mind the Triple Helix Concept of engaging the three main actors in the water sector i.e policy makers, researchers and practitioners.

What we will do now:

1. Under the ESRC-IAA funding GWP Tanzania and water@leeds will produce some sample knowledge products (video, research summaries, podcast) using recent relevant research on Tanzania based on research initiatives at University of Leeds. This will be done in close collaboration with Ministry of Water (Water Resources Centre of Excellency) and other civil society actors in Tanzania.
2. Prepare a costed proposal for a 5-year project to initiate the Knowledge Exchange Hub. We will establish a steering group for this initiative which will meet before October 2020. We are seeking interactions with interested development partners and the Ministry of Water. We are particularly aware of the need to engage with several ongoing initiatives such as the Ministry of Water Centre of Excellency, the UK- Global Challenges Research Fund ARUA project among others.