



## UNIVERSITY OF ZIMBABWE

### Faculty of Agriculture Environment and Food Systems

### Terms of Reference for a PhD Fellowship on Adaptive Investment Pathways for Smallholder Irrigation Development along Sand Rivers

#### 1. Background

The University of Zimbabwe and IHE Delft in the Netherlands, and 12 other partners are implementing the Smallholder farming families **Adapt African Alluvial Aquifers to Strengthen Their Own Resilience (A4Store)** Project scheduled to start in 2023 and end in 2027. A4Store envisions empowered marginal communities in rural drylands of Sub-Saharan Africa capable of using alluvial aquifers to enhance their well-being, strengthen their resilience, and sustainably manage and conserve riparian ecosystems. To this end, A4Store aims to assist rural poor farmers to access and use nature-based water stored in sand rivers in sustainable and equitable ways through a co-learning approach. A4Store focuses on dryland regions in Kenya, Ethiopia, India, Mozambique, Niger, and Zimbabwe. The University of Zimbabwe wishes to recruit a full time PhD fellow to spearhead the research on Adaptive Investment Pathways for smallholder irrigation development along sand rivers in Zimbabwe, Kenya and Mozambique.

#### 2. Roles and Responsibilities

The objective of the research is to understand how the Adaptive Investment Pathways (AdIP) concept can contribute to a co-learning approach which can lead to greater well-being and resilience for resource-poor farmers, while empowering riparian communities to manage their natural resources sustainably and equitably. The research will be carried out at the farm and landscape scale, in sand rivers with varying intensity of water use. The research is partly retrospective in nature, and partly supports ongoing action research.

At the farm scale the research seeks to understand:

- profile/trajectories of farmers who invest in sand river based irrigation and the monitoring and learning pathways.
- agricultural (crops, livestock) and non-agricultural (riparian vegetation) benefits and how these interact and impact on livelihoods.

At landscape scale the research seeks to understand:

- different actors, institutions, and how they interact.
- the benefits derived from the sand river resources by different actors within the riparian community (e.g. ecosystem services, livestock, irrigation, sand harvesting etc.).

- environmental and social risks from climate shocks and irrigation development and how to facilitate landscape monitoring plans .
- how monitoring of the different components can best be done.
- how an appropriate sustainability framework for sand river systems can be co-developed.

### **3. Application Procedure**

Applications are hereby invited to fill in the full time PhD fellowship available at the University of Zimbabwe. Applicants should possess a Masters degree in water/irrigation and natural resources. Experience in water management in Southern Africa sand river systems in particular will be an added advantage. Applicants should be a citizen of any Southern African Development Community (SADC) member state. Female candidates are encouraged to apply. The duty station will be Bulawayo or any approved city in Zimbabwe.

Interested persons should apply by email to Professor Emmanuel Manzungu at [emmanuelmanzungu@gmail.com](mailto:emmanuelmanzungu@gmail.com). The application should include an application letter, curriculum vitae and a motivation of not more than 1000 words.

Applications must be submitted by 13 November 2023. Only shortlisted applicants will be contacted.