

# **Stakeholders' composition, knowledge and use of earth observation data in wetland ecological assessments, Zimbabwe**

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## **Abstract**

The study analyses stakeholders' knowledge and use of earth observation (EO) derived data in the assessment and monitoring of Driefontein and Intunjambili wetlands' ecological conditions. Data was collected using a questionnaire survey administered to 282 randomly selected households and semi-structured interviews carried out with purposefully selected key informants representing institutional stakeholders. The results of this study show that the stakeholder categories identified in the two wetland areas are government departments, statutory bodies, non-governmental organisations, research institutions, academia and the local people. Most of the institutional stakeholders (55.6%) and household respondents (81.7%) do not have knowledge of EO data application in wetland conditions monitoring. Chi-Square test results further show that the households' knowledge on use of remotely sensed derived products and services does not vary with age ( $p > 0.05$ ), marital status ( $p > 0.05$ ), level of education ( $p > 0.05$ ), except gender in Driefontein ( $p < 0.05$ ). However, the various stakeholder categories recommended wider application of earth observation products and services in the assessment of land use land cover changes, water quantity and quality, flood monitoring, fire outbreaks and the establishment of a wetland inventory to abate wetland degradation. The utilisation of EO data is constrained by lack of knowledge on the use of remotely sensed data in wetland ecological conditions assessment. Investment in capacity building initiatives for both technical and non-technical stakeholders involved in wetland management in Zimbabwe is required so as to enhance their skills in EO data utilisation.

**Keywords:** Earth observation data, Remotely sensed data, Stakeholders' participation, Wetland ecological conditions, Wetland management