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Assessing the Hydrological Conditions of the Usangu Wetlands in Tanzania

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ABSTRACT

Although wetlands make up less than 10% of Tanzania, their "critical, life support, ecosystem services" sustain over 95% of lives, of wildlife and of livestock. They provide security as sources of food, water, energy, economy and livelihoods, therefore, the aim of this paper is to address the current hydrologic conditions of Usangu wetlands. Several approaches were used in the collection of data for analysis. Both primary and sec- ondary data was collected and analysed. The key finding shows that, the overall area of the Usangu Wetlands is divided into two main portions, the Eastern Wetland and the Western Wetland, the core wetland, the Ihefu Swamp varies between 30 and 65 km^2, whereas the seasonally wetted areas varies between 260 and 1800 km^2. Major perennial rivers which feed the Ihefu swamp in Usangu wetlands include Kimani, Mbalali, Ndembera and the Great Ruaha River. The contribution from Mbalali River ranges between 69.17% and 47.78%; from Ndembera River ranges between 25% and 13.83%; from Kimani River ranges between 25% and 8.33% and from Great Ruaha River contribution ranges 24.0% and 2.96%. The irrigated agriculture is most important as a user of water and impacts most heavily on wetlands. Abstraction of water for agriculture is leading to dried up rivers, falling ground water tables, salinated soil and polluted waterways.

KEYWORDS

River Flows, Usangu Wetlands, Irrigation, Great Ruaha River

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References

[1] Kakakuona, "Wetlands Not Wastelands," Tanzania Wild- life Magazine, No. 21. April-June 2001, p. 68.

[2] K. de Voogt, G. Kite, P. Droogers and H. Murray-Rust, "Modeling Water Allocation between Wetlands and Irri- gated Agriculture: Case Study of the Gediz Basin, Turkey," International Water Management Institute, Colombo, 2000.

[3] S. S. Mwakalila, "Opportunities and Challenges for Sustain- able Water Resources Management in Tanzania," Geogra- phical Journal, Vol. 174, No. 2, 2008, pp. 149-175. doi:10.1111/j.1475-4959.2008.00286.x

[4] L. J. Chapman, C. A. Chapman, P. J. Schofield, J. P. Olo- wo, L. Kaufman, O. Seehausen and R. Ogutu-Ohwayo, "Fish Faunal Resurgence in Lake Nabugabo, East Africa," The Journal of the Society for Conservation Biology, Vol. 17, No. 2, 2003, pp. 500-511. doi:10.1046/j.1523-1739.2003.01519.x

[5] United Republic of Tanzania, "Sustainable Irrigation Ma- nagement in Wetlands," Final Report, Ministry of Natu- ral Resources and Tourism, Wetlands Unit, 2010.

[6] S. Mwakalila and N. Madulu, "Indigenous Knowledge and Institutional Setup in Wetlands Management in the Lake Victoria Basin, Tanzania," OSSREA, Addis Ababa, 2009.

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[7] S. S. Mwakalila, "Water Resource Use in the Great Ruaha Basin of Tanzania," Journal of Physics and Chemistry of the Earth, Vol. 30, No. 11-16, 2005, pp. 903-912.

[8] K. Rajabu, "Water Abstraction and Use Patterns and Their Implications on Downstream River Flows," Pro- ceedings of the East Africa Integrated River Basin Management Conference, Sokoine University of Agriculture, Morogoro, 2005, pp. 233-232.

[9] SMUWC, "Sustainable Management of the Usangu Wetland and its Catchment," Final Report, United republic of Tanzania, 2001.

[10] B. Lankford, "Irrigation, livelihoods and River Basins," In: F. Ellis and H. Freeman, Eds., Rural Livelihoods and Poverty Reduction Policies, London and Routledge, New York, 2005, pp. 274-293.

[11] C. S. Sokile, J. J. Kaishigili and R. M. Kadigi, "Towards an Integrated Water Resource Management in Tanzania: The Role of Appropriate Institutional Framework in Ru- fiji Basin," Physics and Chemistry of the Earth, Vol. 28, No. 20-27, 2003, pp. 1015-1023.