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Spatial Variability of Selected Soil Properties in Relation to Different Land Uses in Northern Kgalagadi (Matsheng), Botswana

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ABSTRACT

Spatial variability of selected soil attributes were investigated in the Kgalagadi region. Soil samples were collected along transects at Hukuntsi, Tshane, Lokgwabe and Lehututu at 50 m, 200 m, 500 m, 1000 m, 2000 m and 5000 m from water sources located in areas of different land use types. Sampling depth was 0 - 10 cm, 50 - 70 cm and 100 - 120 cm. Samples were analysed for pH, EC, SOC, and P. Soil pH and EC were relatively high around CGA Pans, while SOC and P were generally low in the whole study area. It was concluded that the assumptions that different land use types existed under various soil environments with different soil properties, and that different land use types influence soil characteristics in various ways in the study area were not true.

KEYWORDS

Kgalagadi Soils; Land-Use Types; Variation of Soil Properties

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References

- [1] O. Totolo and R. Chanda, " Environmental Change and Sustainability Issues in the Kalahari Region," *Journal of Arid Environments*, Vol. 54, No. 2, 2003, pp. 257-259. doi:10.1006/jare.2002.1088
- [2] D. S. G. Thomas and P. A. Shaw, " The Kalahari Environment," Cambridge University Press, Cambridge, 1991.
- [3] L. Wang, P. D' Odorico, S. Ringrose, S. Coetzee and S. A. Macko, " Biogeochemistry of Kalahari Sands," *Journal of Arid Environments*, Vol. 71, No. 3, 2007, pp. 259-279. doi:10.1016/j.jaridenv.2007.03.016
- [4] R. Chanda, O. Totolo, N. Moleele, M. Setshogo and S. Mosweu, " Prospects for Subsistence Livelihood and Environmental Sustainability along the Kalahari Transect: The Case of Matsheng in Botswana' s Kalahari Rangelands," *Journal of Arid Environments*, Vol. 54, No. 2, 2003, pp. 425-445. doi:10.1006/jare.2002.1100
- [5] Y. P. R. Bhalotra, " Rainfall Maps of Botswana," Department of Meteorological Services, Gaborone, 1985.
- [6] L. P. Van Reeuwijk, " Procedures for Soil Analysis," International Soil Reference and Information Centre Technical Paper No.1, 1993.
- [7] A. Walkley and I. A. Black, " An Examination of the Degtjareff Method for Determining Organic Carbon in Soils: Effect of Variations in Digestion Conditions and of Inorganic Soil Constituents," *Soil Science*, Vol. 63, 1934, pp. 251-263. doi:10.1097/00010694-194704000-00001
- [8] S. R. Olsen, C. V. Cole, F. S. Watanabe and L. A. Dean, " Estimation of Available Phosphorus in Soils

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