**REFERENCES**

Agunwam, L. (2010). *“*Study of soil waste quality for all dumpsites in Enugu State”, *Seminar on problems of solid waste management* in Enugu State, November, Ministry of Environment, Enugu State, Nigeria.

Aghamelu H., Ameztegui, Aitor; Coll, Lluis; Brotons, Lluis; Ninot, JM (2011). Land-use legacies rather than climate change are driving the recent upward shift of the mountain tree line in the Pyrenees. *Global Ecology and Biogeography,* 25 (3): 263–273.

Anderson, J.M. and Ingram, J.S.C. (1993). *Tropical Soil Biology and Fertility: A handbook of Methods of Soil Analysis,* 2nd edition. CAB International Wallingford, UK. Pp. 95-97.

Baiamonte, G.; Minacapilli, M.; Novara, A.; Gristina, L. (2019). Time Scale Eﬀects and Interactions of Rainfall Erosivity and Cover Management Factors on Vineyard Soil Loss Erosion in the Semi-Arid Area of Southern Sicily. *Water*, 11: 978.

Balasubramanian A. (2017). Chemical Properties of Soils Centre for Advanced Studies in Earth Science, University of Mysore, Mysore.

Balasubramanian, A. (2015). *Categories of Landuse*, University of Mysore

Bates, B.C., Kundzewicz, Z.W., Wu, S. and Palutikof, J.P. (eds) (2008). *Climate Change and Water.* IPPC Technical Paper VI. IPCC (Intergovernmental Panel on Climate Change) Secretariat, Geneva, Switzerland.

Nielsen, D.R. (1976) Spatial variability of leaching characteristics of a field soil. *Water Resources Research,* 12, 78–84.

Bormann, H.; Klaassen, K. (2008). Seasonal and land use dependent variability of soil hydraulic and soil hydrological properties of two Northern German soils. *Geoderma* 145, 295–302.

Brady, N.C. and Weil, R.R. (2002) *The Nature and Properties of Soils.* 13th Edition. Pearson Education (Singapore), Delhi.

Bruinsma, J. (2003) *World Agriculture*: Towards 2015/2030. An FAO Perspective. Earthscan, London.

Castellini, M.; Fornaro, F.; Garofalo, P.; Giglio, L.; Rinaldi, M.; Ventrella, D.; Vitti, C.; Vonella, A.V. (2019). Eﬀects of No-Tillage and Conventional Tillage on Physical and Hydraulic Properties of Fine Textured Soils under Winter Wheat. *Water*, 11: 484.

Duffera, M., White, J.G. and Wesz, R. (2007) Spatial variability of southern U.S. coastal plain soil physical properties: implications for site specific management. *Geoderma,* 137: 327–339.

Edem, E. (2007) “Soil pollution and its management in Enugu urban, Enugu State*”, Seminar on Tropical Environment, Enugu State University of Technology, Enugu.*

Essien O. and Hanson R. (2013). Municipal Solid Waste Dumpsite Pollution on Physo-chemical Properties of Dumpsite and Surrounding Soils. *Int. Journal of Env. Res. & Tech. (IJERT). Volume* ***2*** *issues 4.*

FAO (2016). A framework for Soil Evaluation. *FAO Bulletin* 32, FAO/UNESCO. France.

Friedman Farajollahi, A., Asgari, H.R., Ownagh, M. and Mahboubi, M.R., Salman Mahini A. (2001). Monitoring and prediction of spatial and temporal changes of land-use/ cover (Case study: maraveh Tappeh region, Golestan). *J RS & GIS Nature Resour*., 6(4): 1-4.

Francis I., Benjamin E. (2020). Metallic contaminant levels of borehole water sources within metal scrap dumpsites in Aboh Mbaise, Imo State, Nigeria. *World Scientific News,* 144: 226-242

Gee, G.W. and J.W. Bauder. (2002). *Particle Size Analysis*. Part 1. Physical and mineralogical methods, Madison, Wisconsin. USA, pp. 404- 408.

Hall G. and Olson C. (1991), Predicting Variability of Soils from Landscape Models. Spatial variabilities of soils and landforms. Madison, WI: *Soil Science Society of America,* 9

Hamson G., Hamza A., Anderson K. (2004). Soil compaction in cropping systems: A review of the nature, causes and possible solutions. *Soil Tillage Resource*, 82: 121–145.

Haws, N.W., Liu, B., Boast, C.W., Rao, P.C., Kladivko, E.J. and Franzmeier, D.P. (2004) Spatial variability and measurement scale of infiltration rate on an agricultural landscape. *Soil Science Society of America Journal,* 68: 1818–1826.

Hendeicks G. and Flurry H. (2001). Inﬂuence of Abandoning Agricultural Land Use on Hydrophysical Properties of Sandy Soil. *Water,* 11, 525.

Ikemura Y., Shukla, M. K., Tahboub, M. and Leinauer, B. (2008) Physical and chemical properties of soil in an age chronosequence of organic farms for a semi-arid ecosystem of New Mexico. *Journal of Sustainable Agriculture,* 31: 149–170.

Iqbal J., Thomasson, J.A., Jenkins, J.N., Owens, P.R. and Whisler, F.D. (2005) Spatial variability analysis of soil physical properties of alluvial soils. *Soil Science Society of America Journal* 69: 1338–1350.

Isirimah, N. (2000). “Soil and Environmental Pollution Management”*, Nichadano Publishers,* Owerri, Nigeria, pp. 14.

Katal H., Kimetu J.M., Lehmann J., Ngoze S.O., Mugendi D.N., Kinyangi J.M., Riha S. (2012). Reversibility of soil productivity decline with organic matter of differing quality along a degradation gradient. *Ecosystems*,11: 726–739.

Lal, K. (2005) Assessing the size dependency of measured hydraulic conductivity using double ring infiltrometers and numerical simulations. *Soil Science Society of America Journal,* 71, 1667–1675.

Lal, R., and Shukla, M.K. (2004). *Principles of Soil Physics.* Marcel Dekker, New York.

Lee K.E. (2010). Earthworms: Their Ecology and Relationships with Soils and land Use. *Academic Press. New York, New York*. 411 p.

MacDonald D., Crabtree J.R., Wiesinger G., Dax T., Stamou N., Fleury P. (2000). Agricultural abandonment in mountain areas of Europe: Environmental consequences and policy response. *J. Environ.Manage.,*59,47–69.

Magdoff, F. and H. Van E. (2000). Building Soils for Better Crops, 2nd Edition. Jarboe Printing. Washington, D. C. 240 p. *A Sustainable Agriculture Network publication.*

Manici, L.M.; Castellini, M.; Caputo, F. (2019). Soil-inhabiting fungi can integrate soil physical indicators in multivariate analysis of Mediterranean agroecosystem dominated by old olive groves. *Ecol. Indic.,* 106: 105-490.

Mohammadi, M., Mehrabi, A.A., Ghorbani, M. and Khorasani, M.A. (2012). Human forces affecting land use changes in marginal rural areas (Case study: Alkeleh and Sibon villages- Tanekabon city). *Geography*, 10 (35): 279-298.

**National Bureau of Statistics,** (2002). Nigeria demographic and Health survey. MD: National Population Commission and ORE/Macro

Nemecek, T. and Poore, J. (2018). "Reducing food's environmental impacts through producers and consumers". *Science*. 360 (6392): 987–992.

Nichols, K.A., S.F. Wright, M.A. Liebig, and J.L. Pikul J. (2004). Functional Significance of Glomalin to Soil Fertility. *Proceedings from the Great Plains Soil Fertility Conference Proceedings. Denver, CO,* March 2-4.

Niedda, M.; Pirastru, M.; Castellini, M.; Giadrossich, F. (2014) Simulating the hydrological response of a closed catchment-lake system to recent climate and land-use changes in semi-arid Mediterranean environment. *J. Hydrol.,* 517, 732–745.

NRC (2015). *Spatial and Temporal Statistics – Sampling Field Soils and their Vegetation.* Catena Verlag, Reiskirchen, Germany.

Obasi, N.A., Akubugwo, E.I., Ugboguand, O.C. Otuchristian, G. (2013). Assessment of physicochemical properties and heavy metals availability in dumpsites along Enugu-Port-Harcourt expressways, South-East, Nigeria. *Asian Journal of Applied Sciences*, 5 342-356

Reubens B., Poesen J., Danjon F., Geudens G., and Muys B., (2007). The role of fine and coarse roots in shallow slope stability and soil erosion control with a focus on root system architecture: a review. *Trees,* 21: 385–402.

Reynolds, W.D., and D.E. Elrick. (1990). *Constant head well permeameter (vadose zone).* 73 Section 3.4-3.3. In Methods of Soil Analysis, Part 4, Physical Methods. Dane JH and Topp G.C. (eds). Soil Science Society of America: Madison, WI: 844-858 Soil taxonomy, Second Edition.

Reynolds, W.D., Bowman, B.T., Brunke, R.R., Drury, C.F. and Tan, C.S. (2000) Comparison of tension infiltrometer, pressure infiltrometer, and soil core estimates of saturated hydraulic conductivity. *Soil Science Society of America Journal,* 64, 478–484.

Rosenzweig, S. and Hillel, D. (1995) Potential impacts of climate change on agriculture and foodsupply. Consequences 1(2).

Savin, M. C., J. H. Görres, and J.A. Amador. (2012). Microbial and microfaunal community dynamics in artificial and *Lumbricus terrestris* (L.) burrows. *Soil Sci. Soc. Am.,* 68: 116-124.

Shiklomanov, S. (1994) Temporal variability of selected properties of loessial soil as affected by cropping. *Soil Science Society of America Journal,* 58, 1531–1538.

Shukla, M. (2011) Introduction to Soil Hydrology. In: Shukla, M. (ed.) Soil Hydrology, Land Use and Agriculture: Measurement and Modelling. MPG Books Group, United Kingdom, pp 1-23.

Shukla, M.K., Lal, R. and Ebinger, M. (2003) Tillage effects on physical and hydrological properties of a typic Argiaquoll in central Ohio. *Soil Science,* 168, 802–811.

Shukla, M.K., Slater, B., Lal, R. and Cepuder, P. (2004) Spatial variability of soil properties and potential management classification of a chernozemic field in Lower Austria. Soil Science 169, 852–860.

Skopp, J.; Jawson, M. D.; Doran, J. W. (1990) Steady state aerobic microbial activity as a function of soil water content. *Soil Sci. Soc. Am. J.*, 54, 1619–1625.

SSS (2014) Soil Survey Staff: Keys to Soil Taxonomy. 12th Edition. USDA-NRCS, Washington, DC.

Stolte J., van Venrooij B., Zhang G., Trouwborst K.O., Liu G., Ritsema C.J., and Hessel R., (2006). Land-use induced spatial heterogeneity of soil hydraulic properties on the Loess Plateau in China. *Catena*, 54: 59–75.

Stolte J., Zhang G., Trouwborst K.O., Liu G., Ritsema C.J. (2000). Soil hydrological properties of the Loess Plateau in China. *Catena*, 45: 69–105.

Suresh, R. (2008). “Land and Water Management Principles”*, Standard Publishers Distributors, New Delhi*– 110006, pp. 153 – 175.

Tapas B. and Pal K. (2016). The Soil: A Natural Resource. Available at: *https://www.researchgate.net/publication/304057204*

Tripathi, A., and Misra, D. R., (2010). *“*A study of physiochemical properties and heavy metals in contaminated soils of municipal waste dumpsites of Allahabad, India”, *International Journal of Environmental Sciences,* 2(4): 2024 – 2033.

UNESCO (2006) Water: A Shared Responsibility. The United Nations World Water Development Report 2 No. 3, Paris, France.

Uzoigwe C.I., Agwa O.K. (2012). Microbiological Quality of Water Collected from Boreholes Sited Near Dumpsites in Port Harcourt, Nigeria. *African Journal of Biotech.,* 11**(**13) :3135-3139.

Van, H. (2002) Soil variability. In: Dane, J. and Topp, C. (eds) Methods of Soil Analysis, Part 4: Physical Properties. SSSA Publication 5. Soil Science Society of America, Madison, *Wisconsin*, pp. 1–13.

Williamson, T. (2004) Quantifying variability of soil physical properties within soil series to address modern land-use issues on the Canterbury Plains, New Zealand. *Australian Journal of Soil Research*, 38, 1115–1129.

Zaibon, H., Zhou X., Lin H.S., White E.A. (2017). Surface soil hydraulic properties in four soil series under different land uses and their temporal changes. *Catena*, 73,180–188.

Ziadat, F M. and Taimeh, A. Y. (2013). Effect of rainfall intensity, slope and land use and antecedent soil moisture on soil erosion in an arid environment. *Land Degrad. Develop.,* 24: 582–590