

References:

Land Degradation: An overview

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BARROW, C.J. 1991. *Land Degradation: Development and Breakdown of Terrestrial Environments*. Cambridge: Cambridge University Press.

BEINROTH, F.H., ESWARAN, H., REICH, P.F. and VAN DEN BERG, E. 1994. Land related stresses in agroecosystems. In: *Stressed Ecosystems and Sustainable Agriculture*, eds. S.M. Virmani, J.C. Katyal, H. Eswaran, and I.P. Abrol. New Delhi: Oxford and IBH.

BLAIKIE, P. and BROOKFIELD, H. 1987. *Land Degradation and Society*. London: Methuen.

CHARREAU, C. 1972. Problemes poses par l'utilisation agricole des sols tropicaux par des cultures annuelles. *Agronomie Tropicale*, 27, 905–929.

CROSSON, P.R. 1997. The on-farm economic costs of erosion. In: *Methods for Assessment of Land Degradation*, eds. R. Lal, W.E.H. Blum, C. Valentin and B.A. Stewart. Boca Raton: CRC.

DARKOH, M.K. 1995. The deterioration of the environment in Africa's drylands and river basins. *Desertification Control Bulletin*, 24, 35–41.

DREGNE, H.E. 1990. Erosion and soil productivity in Africa. *Journal of Soil and Water Conservation*, 45, 431–436.

DREGNE, H.E., ed. 1992. *Degradation and Restoration of Arid Lands*. Lubbock: Texas Technical University.

DREGNE, H.E. and CHOU, N.T. 1994. Global desertification dimensions and costs. In: *Degradation and Restoration of Arid Lands*, ed. H.E. Dregne. Lubbock: Texas Technical University.

DUMANSKI, J., ESWARAN, H. and LATHAM, M. 1992. A proposal for an international framework for evaluating sustainable land management. In: *Evaluation for Sustainable Land Management in the Developing World*, eds. J. Dumanski, E. Pushparajah, M. Latham, and R. Myers. IBSRAM Proceedings No. 12, Vol. 2, 25–45. Bangkok: IBSRAM.

ERIKSSON, J., HAKANSSON, I. and DANFORS, B. 1974. *The Effect of Soil Compaction on Soil Structure and Crop Yields*. Bulletin 354. Uppsala: Swedish Institute of Agricultural Engineering.

ESWARAN, H. 1993. Soil resilience and sustainable land management in the context of Agenda 21. In: *Soil Resilience and Sustainable Land Use*, eds. D.J. Greenland and I. Szabolcs, 21–32. Wallingford: CABI.

ESWARAN, H. and DUMANSKI, J. 1994. Land degradation and sustainable agriculture: A global perspective. In: *Proceedings of the 8th International Soil Conservation Organization (ISCO) Conference*, eds. L.S. Bhushan, I.P. Abrol, and M.S. Rama Mohan Rao. Vol. 1, 208–226. Dehra Dunn: Indian Association of Soil and Water Conservationists.

- ESWARAN, H., REICH, P.F. and BEINROTH, F.H. 1997a. Global distribution of soils with acidity. In: *Plant-Soil Interactions at Low pH: Sustainable Agriculture and Forestry Production*. eds. A.Z. Moniz, A.M.C. Furlani, R.E. Schaffert, N.K. Fageria, C.A. Rosolem and H. Cantarella, 159–164. (Proceedings of the 4th International Symposium on Plant-Soil Interactions at Low pH, Belo Horizonte, Minas Gerais, Brazil.)
- ESWARAN, H., ALMARAZ, R., VAN DEN BERG, E. and REICH, P.F. 1997b. An assessment of the soil resources of Africa in relation to productivity. *Geoderma*, 77, 1–18.
- ESWARAN, H., ALMARAZ, R., REICH, P.F. and ZDRULI, P.F. 1997c. Soil quality and soil productivity in Africa. *Journal of Sustainable Agriculture*, 10, 75–94.
- ESWARAN, H. and REICH, P.F. 1998. Desertification: a global assessment and risks to sustainability. Proceedings of the 16th International Congress of Soil Science, Montpellier, France.
- ESWARAN, H., ARNOLD, R.W., BEINROTH, F.H. and REICH, P.F. 2000. A global assessment of land quality. In preparation.
- FAHNESTOCK, P., LAL, R. and HALL, G.F. 1995. Land use and erosional effects on two Ohio Alfisols. Crop yields. *Journal of Sustainable Agriculture*, 7, 85–100.
- GILL, W.R. 1971. *Economic Assessment of Soil Compaction*. St. Joseph: ASAE Monograph.
- GIRT, J. 1986. The on-farm economics of sustainability and public intervention. *Canadian Farm Economics*, 20, 3–8.
- GREENLAND, D.J., BOWEN, G., ESWARAN, H., RHOADES, R. and VALENTIN, C. 1994. *Soil, Water, and Nutrient Management Research: A New Agenda*. IBSRAM Position Paper. Bangkok: IBSRAM.
- HARTEMINK, A.E. 1995. Land fertility decline under sisal cultivation in Tanzania. ISRIC Technical Paper 28. Wageningen: ISRIC.
- JOHNSON, D.L. and LEWIS, L.A. 1995. *Land Degradation: Creation and Destruction*. Oxford: Blackwell.
- KAYOMBO, B. and LAL, R. 1994. Response of tropical crops to soil compaction. In: *Soil Compaction in Crop Production*, eds. B.D. Sloane and C. Van Ouwerkerk, 287–315. Amsterdam: Elsevier.
- LAL, R. 1987. Response of maize and cassava to removal of surface soil from an Alfisol in Nigeria. *International Journal of Tropical Agriculture*, 5, 77–92.
- LAL, R. 1994. Tillage effects on soil degradation, soil resilience, soil quality, and sustainability. *Soil Tillage Research*, 27, 1–8.
- LAL, R. 1995. Erosion–crop productivity relationships for soils of Africa. *Soil Science Society of America Journal*, 59, 661–667.
- LAL, R. 1996. Axle load and tillage effects on soil degradation and rehabilitation in Western Nigeria. I. Soil physical and hydrological properties. *Land Degradation Review*, 7, 19–45.
- LAL, R. 1998. Soil erosion impact on agronomic productivity and environment quality. *Critical Reviews in Plant Sciences*, 17, 319–464.

- LAL, R. and STEWART, B.A., eds. 1994. *Land Degradation*. Advances in Soil Science. Vol. 11, New York: Springer.
- LAL, R., BLUM, W.E.H., VALENTIN, C. and STEWART, B.A., eds. 1997. *Methods for Assessment of Land Degradation*. Boca Raton: CRC.
- MABBUTT, J.A. 1992. Degradation of the Australian drylands: a historical approach. In: *Degradation and Restoration of Arid Lands*, ed. H.E. Dregne, 27–98. Lubbock: Texas Technical University.
- MAINGNET, M. ed., 1994. *Desertification: Natural Background and Human Mismanagement*. Berlin: Springer.
- MBAGWU, J.S., LAL, R. and SCOTT, T.W. 1984. Effects of desurfacing of Alfisols and Ultisols in southern Nigeria. I. Crop performance. *Soil Science Society of America Journal*, 48, 828–833.
- MERMUT, A.R. and ESWARAN, H. 1997. Opportunities for soil science in a milieu of reduced funds. *Canadian Journal of Soil Science*, 77, 1–7.
- MIDDLETON, N. and THOMAS, D.S.G. 1997. *World Atlas of Desertification*. 2d ed. 182 pp. Published for UNEP. London: Edward Arnold.
- OLDEMAN, L.R. 1994. The global extent of land degradation. In: *Land Resilience and Sustainable Land Use*, eds. D.J. Greenland and I. Szabolcs, 99–118. Wallingford: CABI.
- OLDEMAN, L.R., HAKKELING, R.T.A. and SOMBROEK, W.G. 1992. *World Map of the Status of Human-induced Soil Degradation: An Explanatory Note*. Wageningen: ISRIC.
- PIMENTEL, D., HARVEY, C., RESOSUDARMO, P., SINCLAIR, K., KURZ, D., MCNAIR, M., CRIST, S., SHPRITZ, L., FITTON, L., SAFFOURI, R. and BLAIR, R. 1995. Environmental and economic costs of soil erosion. *Science*, 267, 1117–1123.
- REICH, P.F., NUMBEM, S.T., ALMARAZ, R.A. and ESWARAN, H. 1999. Land resource stresses and desertification in Africa. (This volume.)
- RUPPENTHAL, M. 1995. *Soil Conservation in Andean Cropping Systems: Soil Erosion and Crop Productivity in Traditional and Forage-Legume Based Cassava Cropping Systems in the South Colombian Andes*. Weikersheim: Verlag Josef Margraf.
- SAJJAPONGSE, A. 1998. *ASIALAND Management of Sloping Lands Network: An Overview of Phase 3*. Network Document No. 23, Bangkok: IBSRAM.
- SANCHEZ, P.A. 1994. Tropical soil fertility research: Towards the second paradigm. Proceedings of the 15th International Congress of Soil Science, Acapulco, Mexico, 1, 65–88.
- SCHUMACHER, T.E., LINDSTROM, M.J., MOKMA, D.L. and NELSON, W.W. 1994. Corn yields: erosion relationships of representative loess and till soils in the North Central United States. *Journal of Soil and Water Conservation*, 49, 77–81.
- STOCKING, M. 1986. The cost of soil erosion in Zimbabwe in terms of the loss of three major nutrients. Consultant's Working Paper No. 3., Soil Conservation Programme. Rome: FAO Land and Water Division.
- STOORVOGEL, J.J., SMALING, E.M.A. and JANSEN, B.J. 1993. Calculating soil nutrient balances in Africa at different scales. I. Supra-national scale. *Fertilizer Research*, 35, 227–235.

UNCED. 1992. United Nations Conference on Environment and Development. Rio de Janeiro: UN.

UNEP. 1992. *World Atlas of Desertification*. London: Edward Arnold.

UNEP. 1993. Good news in the fight against desertification. *Desertification Control Bulletin*, 22, 3.

UNEP. 1994. *Land Degradation in South Asia: Its Severity, Causes and Effects upon the People*. INDP/UNEP/FAO. World Soil Resources Report 78. Rome: FAO.

VIRMANI, S.M., KATYAL, J.C., ESWARAN, H. and ABROL, I., eds. 1994. *Stressed Agroecosystems and Sustainable Agriculture*. New Delhi: Oxford and IBH.

WOODS, L.E. 1983. Land Degradation in Australia. *Department of Home Affairs and Environment*. Canberra: Australian Government Printers.