

CURRICULUM VITAE FOR PROF: JOPSEPH P. MBUVI

1.0 CONTACTS

University of Nairobi
Department of Land Resource
Management & Agricultural Technology
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2.0 EDUCATION

Doctor of Science in Agriculture, University of Agricultural Sciences, Godollo. Hungary 1972:
Comparing the erodibility of the various soil types.

Master of Science Agriculture; University of Agricultural Sciences, Godollo. Hungary 1970: The
effect of varying degree of erosion on available plant nutrients from different soil types.

3.0 EMPLOYMENT AND WORK EXPERIENCE

3.1 Employment

1973 – 1980: Ministry of Agriculture, Kenya Soil Survey
1980 to date: University of Nairobi

3.2 Teaching Activities

- a) Introduction to Environment (BSc. Agroecosystems & Environment).
- b) Soil Survey and Classification (BSc Agriculture & Agroecosystem).
- c) Utilization and Management of Wetlands (BSc. Agriculture & Agroecosystem).
- d) Soil Genesis (MSc Soil Science).
- e) Soil Survey, Classification and Land Evaluation (MSc Soil Science, MSc. Soil and Water Management).
- f) Soil Genesis and Land evaluation for Agricultural Land Use (MSc Sustainable Soil Management and MSc Agro-Forestry.)
- g) Crop Production and Management of problematic soils (PhD Dryland Resources Management)

3.3 Post-Graduate Supervision

MSc: 14 students in soil genesis, mapping and land evaluation
PhD: 6 students in the area of soil management and land use

3.4 Appointments to Committees (Honours)

1979 – 1983 – Soil Management Support Services, Advisory Panel (United States Dept. of agriculture).

1980 – 1985 – International Committee on the Classification of Andisols

1980 – 1989 – Member of the International Committee on the Classification of Oxisols(U.S.A).

1982 – 1995 – Kenya Soil Survey Programming Committee.

1983 – 1995 – Member of the International Reference Base: classification (ISSS).

1987 – 1995 – National agriculture Research Laboratories Advisory committee.

1991 – 1992 – November – August – Acting Chairman

1992 – 1995 – September – September – Chairman, Dept. of soil Science.

1995 – 1997 – External Examiner Sokoine University
of Agriculture, Tanzania,
Dept. of Soil Science.

1995 - 1997 – External Examiner University of Zimbabwe, Dep. of Soil Science.

1995 – 2002 – Director, Institute of Dryland Research, Development and Utilization.

2003 – Date – Chairman Board of Management Precious Blood Kilungu.

3.5 Professional Membership

Member, International Society of soil Science (ISSS)

Member, Soil Science Society of East Africa (SSSEA)

4.0 PARTICIPATION IN FIELD SOIL SURVEYS AND CONSULTANCY

4.1 Field Soil Surveys

1. Gelens,H.F.,H.C.K.Kinyanjui and R.F.Van de Weg (ed), 1976. Soils of the Kapenguria area. Reconnaissance Soil Survey Report No. R2, Kenya Soil Survey, Nairobi.
2. Kanake,P.J.K. and E.N.K.Mugai, 1977. Detailed Soil Survey of Wema and Hewani Minor Irrigation Schemes (South Tana Division- Tana River District) D8. Kenya Soil Survey, Nairobi.

3. Kanake, P.J.K. and E.N.K.Mugai, 1977. Detailed Soil survey of the Mnazini Irrigation Scheme (South Tana Division – Tana River District) D6. Kenya Soil Survey, Nairobi.
4. Mugai, E.N.K., 1977. Detailed Soil Survey of Malka-Daka Irrigation Scheme (Isiolo District) D9. Kenya Soil Survey, Nairobi.
5. Michieka, D.O.,B.J. van der Pouw and Vleeshouwer, 1978. Soils of the Kwale – Mombasa-Lungalunga area. Reconnaissance Soil Survey No.R3, Kenya Soil Survey.
6. Sombroek, W.G., H.M.H.Braun and B.J. van der Pouw (ed) 1982. The exploratory soil map and Agro-Climatic Zone map of Kenya. 1980 scale 1:1,000,000. EI Kenya Soil Survey, Nairobi.

4.2 Consultancy

1. Mbuvi, J.P., 1983. Soil types and suitabilities in catchment rehabilitation and conservation; in Kerio Valley Region.p.2-1- 2-22. Republic of Kenya; Kerio Valley Development authority.
2. Mbuvi, J.P., 1983. Soil Unit description in Kiambere hydro-electric power project- pre-construction environmental impact study. Vol.11 annex 4. Republic of Kenya; Tana and Athi Rivers Development Authority.
3. Mbuvi, J.P., 1987. Soil characterization on non-terraced and terraced farms in Kangundo-Division, Machakos District, Ministry of Agriculture, Kenya.
4. Mbuvi, J.P., 1988. Soil Survey of Tana Delta Irrigation Scheme. Tana and Athi Rivers Development Authority, Nairobi Kenya.
5. Mbuvi, J.P., 1989. Soils of the Nkondi Irrigation Project; Nkondi irrigation Project Feasibility Study; Republic of Kenya; Ministry of Agriculture.
6. Mbuvi, J.P., 1989. Soils of the Marura Settlement Scheme; Nanyuki, Laikipia District , Ministry of Agriculture, Kenya.
7. Mbuvi, J.P. and P.M. Mainga, 1991. Soils of the proposed Kangocho Irrigation Scheme; Nyeri District, Ministry of Agriculture, Kenya.
8. Mbuvi, J.P. and P.M. Mainga, 1991. Soils of the proposed Ngurumani Irrigation Scheme, Magadi Area Kajiado District, Nairobi, Kenya.
9. Mbuvi, J.P. and P.M. Mainga, 1992. Soils of The Proposed Sampu plains Irrigation Scheme Magadi Area Kajiado District, Nairobi, Kenya.

10. Mbuvi, J.P. and P.M. Mainga, 1992. Soils of the proposed Olkiriamatian Irrigation Scheme, Magadi Area Kajiado District, Kenya.
11. Mbuvi, J.P. 2001. Soils of Ewaso Ngiro North River Catchment. Ewaso Ngiro North River Catchment Conservation and Water Resource Management Study.
12. Mbuvi J.P., T. Wachira and S.K. Tirop, 2002. A Detailed Soil survey – Lokubae Food Security Programme, Turkana District, Kenya.
13. Mbuvi J.P. and S.K. Tirop 2009 Permeability Tests and Sodidity Mapping at Jamii Bora Housing Site, Kaputiei, Kisanju, Kajiado District, Kenya.
14. Mbuvi J.P., S.K. Tirop and M. Kimani 2010. Semi-detailed soil survey for the proposed Lower Kuja Irrigation Development project, Nyatike District, Kenya.
15. Mbuvi J. P. 2012. Settlement Potential in the proposed Kirinyaga area.
16. Mbuvi J.P., S.K. Tirop and M. Kimani 2012. Semi-detailed soil surveys for the proposed:
 - a) Bugwema area Tanzania
 - b) Mara area Tanzania
 - c) Ngono area Tanzania
17. Mbuvi J.P., S.K. Tirop 2013. Soil survey for the proposed Lower Nzoia River irrigation development project I/II
17. Mbuvi J.P. M. Kimani 2014. Semi-detailed soil survey for Kiboko- Uamani irrigation scheme.
18. Mbuvi J.P., S.K. Tirop 2014. Semi-detailed soil survey for Kirumi- Kiamunjari irrigation scheme.
19. Mbuvi J.P., S.K. Tirop and M. Kimani 2014. Semi-detailed soil survey for Sio-Malakisi Irrigation development project.
20. Mbuvi J.P., S.K. Tirop and M. Kimani 2014. Semi-detailed soil survey for the proposed Nyambomite Irrigation development project.

5.0 SCIENTIFIC PUBLICATIONS AND REPORTS

5.1 Soil Survey Technical Reports

1. Mbuvi, J.P., 1970. MSc. Thesis. The effect of varying degree of erosion on available plant nutrients from different soil types. University of Agricultural Sciences, Gödöllő, Hungary.
2. Mbuvi, J.P., 1972. PhD Thesis. Comparing the erodibility of various soil types. University of Agric. Sciences, Gödöllő, Hungary.
3. Sombroek,W.G., J.P.Mbuvi and Okwaro, 1973. A preliminary evaluation of the irrigation suitability of the lands in the pre-delta Tana Flood Plains. Site Evaluation Report No. 15, Kenya Soil Survey, Nairobi.
4. Sombroek,W.G., J.P.Mbuvi, J.M.Kibe and Okwaro, 1974. A preliminary evaluation of the irrigation suitability of the lands in the middle lower Tana Valley (Mbalambala-Garrisa-Bura). Site evaluation Report No 14, Kenya Soil Survey, Nairobi.
5. Mbuvi, J.P., R.F.vande Weg and H.M.H Braun, 1974. A preliminary evaluation of the soils of the North West Machakos District. Site Evaluation Report No. P16, Kenya Soil Survey, Nairobi.
6. Vleeshouwer, J.J. and J.P. Mbuvi, 1974. A preliminary evaluation of the irrigation suitability of the soils and the waters of Katilo Irrigation Scheme (Turkana District). Site Evaluation Report No. P.12, Kenya Soil Survey, Nairobi.
7. Mbuvi J.P. and R,F.vande Weg, 1974. A preliminary evaluation of the soils around Nyangoma mission. (Bondo Division). Site Evaluation Report No. P.19, Kenya soil Survey, Nairobi.
8. Sombroek,W.G., J.P.Mbuvi, and R.A. Leyder, 1975. A preliminary evaluation of soils conditions of the East Bank of the Lower Tana (Bura East Area) for large scale irrigation development. Site Evaluation Report No. P.21, Kenya Soil Survey, Nairobi.
9. Mbuvi J.P. and R,F.van de Weg, 1975. Some preliminary notes on the soils of Katumani, Kampi ya Mawe, Embu, and Murinduko Agricultural Research Stations. Site Evaluation Report No. P.25, Kenay asoils Survey, Nairobi.
10. Mbuvi J.P. and R,F.van de Weg, 1975. Soils of the kindaruma area, reconnaissance Soil Survey Report No R1, Government Printer, Nairobi.
11. Mbuvi, J.P., 1975. A preliminary evaluation on the suitability of the soils in Busia District for sugar cane development. Site Evaluation Report No. P.18, Kenya Soil Survey, Nairobi.
12. Wokabi,S.M., W.G. Sombroek, and J.P. Mbuvi, 1975. Evaluation of Tana Delta soils for large scale irrigation development. Site Evaluation Report No. P.23, Kenya Soil Survey, Nairobi.

13. Sombroek, W.G., J.P. Mbuvi, and H.W. Okwaro, 1975. Soils of the semi-arid savanna zone of the North-Eastern Kenya. Miscellaneous soils Paper No.M.2, Kenya Soil Survey, Nairobi. Also in: ISSS Conference on Savanna soils of the sub-humid semi-arid Regions of Africa and their management, 1975. Soil Research Institute, Kumasi Ghana.
14. Mbuvi, J.P. and E.B. Njeru, 1977. Soil resources of the Melili area, Narok District, an assessment of wheat growing possibilities. Site Evaluation Report No. P.29, Kenya Soil Survey, Nairobi.
15. Mbuvi, J.P., S.M. Wokabi, F.M. Scilley and H.R. Sketchley, 1978. Reconnaissance soil survey of portions of Machakos, Kisii-Embu Area, Soil Conservation Service, U.S.A.
16. Sketchley, H.R., J.P. Mbuvi, F.M. Scilley and S.M. Wokabi, 1979. Reconnaissance soil survey of Baringo-Kerio Valley Area, Soil Conservation Service, U.S.A.
17. Wokabi, S.M. and J.P. Mbuvi, 1982. Soils of the Tharaka area. Reconnaissance Soil Survey Report No. R Kenya Soil Survey, Nairobi.
18. Muchena, F.N., J.P. Mbuvi and S.M. Wokabi, 1988. Report on soils and land use in arid and Semi-Arid Lands of Kenya. Republic of Kenya. Ministry of Environment and Natural Resources. National Environmental Secretariat. 38 pp.
19. Mbuvi, J.P. 1989. Soil types of the Arid and Semi-Arid lands in Relation to Tree Establishment, Nairobi-Kenya.

5.2 Conference/Workshop Proceedings

1. Mbuvi, J.P. and S.M. Wokabi, 1984. The Relationship between soil, geology and relief in part of Tharaka Area, Kenya p. 211-221. In soil related constraints to crop production in E. Africa. Proceedings of the 6th Annual General Meeting of Soil Science in E. Africa. J.N. Quresh and C.M. Njihia, editors.
2. Mbuvi, J.P., 1984. Classification and properties of some soils of Central Narok District, Kenya p.232- 239. In constraints to crop production in E. Africa. Proceedings of the 6th Annual Meeting of Soil Science Society of E. Africa. J.N. Quresh and C.M. Njihia, editors.
3. Muchena, F.N. and J.P. Mbuvi, 1985. A critical evaluation of the placement of the Andepts of Kenya according to the proposed key for the Andisols p.291-300. In Taxonomy and Management of Andisols Proceedings of Sixth International Soil Classification Workshop. Sociedad chilena de la ciencia de suel Santiago, Chile.

4. Kilewe, A.M. and J.P.Mbuvi, 1990. The effect of soil erosion on maize production. In proceedings of the second Annual KARI Scientific Conference, Nairobi Kenya. pp 76-86.
5. Mbuvi, J.P. and S.N.Wanjogu 1993. The Erosion Susceptibility/Hazard of the soils of the Semi-Arid Sirima Catchment, Laikipia District, Kenya. African Mountains Association 3rd Workshop on planning for sustainable use of African Mountain Resources, Nairobi, Kenya 4th – 16th March.
6. Kironchi, G.,H. Liniger and J.P. Mbuvi, 1993. The need to protect Mt. Kenya area soils with permanent cover. African Mountains Association 3rd Workshop on planning for sustainable use of African Mountain Resources, Nairobi, Kenya 4th – 16th March.

5.3 Chapters in Books/other publications

1. Mbuvi,J.P. 1991. Soil Fertility management in parts of Machakos. In: Mortimore, M.,(ed), "Environmental Change and Dryland Management in Machakos District, Kenya, 1930 – 1990: Environmental Profile". London, ODI Working Paper No 53 pp 44-50. ISBN 0 85003 163 ***.
2. Mbuvi, J.P. 1993. Soil Fertility in Longitudinal Perspective. In: Mary Tiffen, M. Mortimore and F. Gichuki. "More People Less Erosion: Environmental Recovery in Kenya". Wiley Publishers pp 114-118***.
3. Mbuvi, J.P. 1994. Soil Fertility. In: John English, M.Tiffen and M.Mortimore."Land Resource Management in Machakos District, Kenya 1930-1990. (World Bank Environmental Paper No. 5). Pp 28-31. ISBN 0-8213-2734-8***.
4. Wanjogu, S.N. and J.P. Mbuvi, 1999. The soils of North East and South West toposequence in Laikipia District, Kenya. Soil Science Society of East Africa(SSSEA) pp 260-266 ISBN 9966-879-27-7.X
5. Mbuvi, J.P., 2000. Makueni District Profile: Soil Fertility Management. Drylands Research Working Paper 6:11p ISBN 1470-9384.***
6. Gachene,C.K.K.,J.P.Mbuvi, H.Linner and N.Jarvis, 2000.Crop response to soil water content under fertilized and non-fertilized conditions. Soil Science Society of East Africa (SSSEA) pp 161-169 ISBN 9966-879-27-7.
7. Gachene,C.K.K., N.Jarvis, H.Linner and J.P. Mbuvi, 2000. Soil erosion effects on productivity of humic Nitosols. Soil Science Society of East Africa pp 233-239. ISBN 9966-8879-27-7.

8. Owino-Gerroh,C.,J.K.Keter and J.P.Mbuvi, 2000. Effects of tea cropping on the structure of some Kenyan soils. Soil Science Society of East Africa. pp 289-298.ISBN 9966-879-27-7.
9. Wanjogu, S.N. and J.P. Mbuvi, 2000. The geochemistry and mineralogy of parent materials and soils in two catchment in Laikipia District, Kenya. Soil Science Society of East Africa. pp 323-328.ISBN 9966-879-27-7.
10. Mainga, P.M., J.P.Mbuvi and P.N. Nduhiu, 2000. The Wetland soils of Central Kenya:Characteristics, Classification and Current use. Soil Science Society of East Africa pp 329-335. ISBN 9966-879-27-7.
11. Mbuvi,J.P., P.M.Mainga and W.O. Omoto, 2000. Soil variability within Ruma National Park Lambwe Valley. Soil Science Society of East Africa. pp 338-344. ISBN 9966-879-27-7.
12. Kironchi,G., H.P. Liniger and J.P.Mbuvi 2000. Degradation of soil physical properties in overgrazed rangelands in Laikipia District. Land and Water Management in Kenya. English Press pp. 5-9 ISBN 9966-9690-0-4.

5.4 Referred Journals

1. Kilewe,A.M. and J.P. Mbuvi, 1989. Evaluation of the soil erodibility factors using natural runoff plots; E.Afri.Agriv.For.J. Vol.53 No.2 pp. 57-63.
2. Kilewe, A.M. and J.P.Mbuivi, 1989. The effects of crop cover and residue management on runoff and soil loss. E.Afri.Agriv.For.J. Vol. 53, No. 4 pp 193-203.
3. Kilewe, A.M. and J.P.Mbuivi, 1992. Evaluation of suitable rainfall erosivity for the semi-arid region of Kenya. KJST/B/Vol.10 pp. 63-74.
4. Kilewe, A.M. and J.P.Mbuivi, 1992. Evaluation of crop cover and residue management factors for cropping systems and management techniques in the semi-arid region of Kenya. KJST/B/Vol 10 pp.74-82.
5. Kironchi,G., S.M.Kinyali and J.P. Mbuvi, 1992. Effects of soils, vegetation and landuse on infiltration in tropical semi-arid catchment. E.Afri.Agriv.For.J. Vol. 57(3), pp177-185.
6. Kironchi,G., S.M.Kinyali and J.P. Mbuvi, 1993.Validity of Philip equation for Infiltration into soils of Sirima and Mukogondo Catchment in Laikipia District. E.Afri.Agric..For.J. 58 (4) pp 155-160.
7. Wanjogu,S.N. and J.P.Mbuvi 1993. The Influence of Parent Material on some Characteristics of the Soils of a Semi-Arid Catchment. E.Afri.Agriv.For.J. Vol. 58, No.4. Pp.331- 337.

8. Kironchi,G., S.M.Kinyali and J.P. Mbuvi, 1995. Environmental Influence on water characteristics of soils in two semi-arid catchment in Laikipia, Kenya. Afr.Crop Sc.J. Vol.3 No. 4 pp. 479-486.
9. Mbuvi,J.P., S.N.Wanjogu and G. Kironchi, 1995. Characteristics of soils crust and their influence on some soil properties in Mukogodo catchment, Kenya. Afr.Crop Sc.J. Vol 3 No. 4 pp. 487-483.
10. Wanjogu,S.N.and J.P. Mbuvi 1995. Influence of Parent Material on Soil Characteristics in Sirima and Mukogondo Catchment, Laikipia, Kenya. ITC.Journal Vol1.pp.29-37.
11. Kironchi, G. and J.P. Mbuvi, 1996. Effects of deforestation on soil fertility on the north western slopes of Mt. Kenya. ITC.Journal Vol.3/4 pp 260-263.
12. Gachene,C.K.K.,N.J.Jarvis, J.Linner and J.P. Mbuvi, 1997. Soil erosion effect on soil properties in a Highland Area of Central Kenya. Soil Sci. Soc.Am.J. Vol. 61 No.2 pp 559-564.
13. Mbuvi,J.P., G. Kironchi and P.M. Mainga,1997. Effect of topography and climate on soils of the northern western slopes of Mt. Kenya. ITC.Journal Vol.2 pp 154-159.
14. Gachene,C.K.K.,J.P.Mbuvi,N.J.Jarvis and H.Linner, 1998. Maize yield reduction due to erosion in high potential area of Central Kenya Highlands. Afr.Crop Sc.J. Vol.6 No. 1 pp 29-37.
15. Gachene,C.K.K.,H.Linner, N.J.Jarvis J.P. Mbuvi 1998. Soil organic carbon, nitrogen and phosphorus losses in eroded sediments from run-off plots on a clay soil in Kenya. Appl. Plant Sc. Vol.12 (3) pp 72-76.
16. Mbuvi, J.P. and S.N.Wanjogu, 1998. Crusts and their influence on soil properties in two semi-arid areas of Kenya. Appl. Plant Sc. Vol. 12(3) pp 83-87.
17. Mbuvi, J.P. and S.N.Wanjogu, 1998. Land degradation in Laikipia District. Appl. Plant Sc. Vol.12 (3) pp88-92.
18. Owino Gerroh C.,J.K.Keter and J.P.Mbuvi, 1998. Phosphate sorption characteristics of soils in a tea growing area in Kenya. Intr. J.Biochem.Phy. Vol.6&7 (1&2) pp 86-89.
19. Owino Gerroh C.,J.K.Keter and J.P.Mbuvi, 1998. Agronomic evaluation of field bean (*phaseolus vulgaris L.*) to unacidulated phosphorus source in an Andosol in Kenya. Jour. of Agric. & Tech. Vol.2 No.1

20. Owino Gerroh C.,J.K.Keter and J.P.Mbuvi, 1999. Agronomic evaluation of acidulated and unacidulated phosphorus sources for tea (*Cammellia spp. L*) in Kenya. Tea Journal Vol. 20 No. 1 pp 21-29.
21. Kirochi,G.,J.P.Mbuvi and F.N.Gichuki, 1999. Hydraulic Properties of Andosols following deforestation in the Northern slopes of Mount Kenya. E.Afri.Agric..For.J. Vol. 65 (2) pp 115 -124.
22. Gachene,C.K.K.,H.Linner, N.J.Jarvis J.P. Mbuvi 2001.Field assessment of the effect of cummilative soil loss on soil productivity. . E.Afri.Agric..For.J. Vol. 67 (2) pp 129-145.
23. Gicheru,P.T.,C.K.K. Gachene,J.P.Mbuvi and E Mare, 2004. Effects of soil management practices and tillage systems on surface soil water conservation and crust formation on a sandy loam in semi-arid Kenya. Soil and Tillage Research 75; 173-184.
24. Gicheru,P.T.,C.K.K.Gachene, J.P.Mbuvi, 2005. Effects of soil management practices and tillage on soil moisture conservation and maize yield on a sandy loam in semi-arid Kenya. Journal Sustainable Agriculture 27 (3) 77-92.
25. Kimingo,J.,J.P.Mbuvi,G.Kironchi and Gicheru P.T 2009. Effects of land use change on soil qualities in Sasumua catchment. E.Afri.Agric..For.J Vol. pp
26. Kirina T.Kitinya, Richard N.Onwonga, Cecilia Onyango,J.P.Mbuvi and G. Kironchi, 2012. Climate change and variability farmers perception, experience and adaptation strategies in Makueni County, Kenya. Asian Journal of Agric. And Rural Dev. Vol. 2 No. 3 pp 411-421.
27. Kirina T.Kitinya, Richard N.Onwonga, G. Kironchi, and J.P.Mbuvi. Modeling potential impact of climate change on sorghum and cow pea yields in semi-arid areas of Kenya. Submitted for 3rd Global climate smart Agriculture conference 2015.
28. Daniel Kyalo Willy,Milu Muyanga, Joseph Mbuvi, Thomas Jayne. The effect of land use change on soil fertility parameters in densely populated areas of Kenya.Geoderma 343 (2019) 254 – 262.

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