

CURRICULUM VITAE

I. PERSONAL DETAILS

Name: DAVID NGUATHA MUNGAI – Payroll number: EI1211
Nationality: Kenyan
Date of Birth: 16 November 1950
Present Appointment: Associate Professor
Present Address: Department of Geography & Environmental Studies
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II. ACADEMIC QUALIFICATIONS

Ph.D. (Agro-forestry Meteorology - University of Nairobi, 1993)

III. PROFESSIONAL EXPERIENCE

2005- **Director**, EnviroCare
2005-2006 Consultant to develop Environmental (Impact Assessment and Audit) Administration and Review Manual for NEMA under the FORREMS Project funded by USAID
2004- Registered **Lead EIA/EA Expert** – Reg. No. 117
2004- **Member**, DFID's Pathways to Environmental Action in Kenya (PEAK) Advisory Committee
2004- **Coordinator**, EIA/EA Training at the Kenya National Cleaner Production Centre
2003- **Visiting Research Professor**, Kenya National Cleaner Production Centre
2003-2004 **Chairman**, NEMA Taskforces on Regulations, Guidelines and Environmental Standards
2002-2004 **Chairman**, Technical Advisory Committee on Environmental Impact Assessment. This is a statutory committee appointed by the Director-General, National Environment Management Authority (NEMA). The Committee was responsible for the completion of the EIA/EA Regulations, which have now been gazetted as Environmental (Impact Assessment and Audit) Regulations 2003, Kenya Gazette Supplement No. 56 of 13th June 2003. The Committee also provides advice on Environmental Impact Assessments for decision-making.
2001-2002 **Visiting Research Scientist**, International Center for Research in Agroforestry (ICRAF)
2000- **Associate Professor** of Geography
1998 **Visiting Research Scientist**, International Center for Research in Agroforestry (ICRAF)
1997 **Visiting Research Scientist**, CSIRO, Division of Plant Industry (Perth Laboratories), Western Australia, for six months (March - September).
1977-1985 **Agricultural Research Officer**, Kenya Soil Survey.

IV. RESEARCH INTERESTS

Eco-hydrology; Agro-forestry; Integrated Watershed Management; Environmental Impact Assessment; Environmental Audit; Cleaner Production (CP) Audit; Training in Environmental Assessment Tools & Methodologies; Waste Management; Environmental Policy Development & Environmental Measurement.

V. SELECTED LAND USE PLANNING/NATURAL RESOURCES MANAGEMENT WORK

- 2000-2005 Assessment of eco-hydrological impacts of land use change/land management in Nyando watershed.
- 2004 Project Report for the Western Kenya Integrated Ecosystem Management Project (WKIEMP).**
- 2003 A pre-assessment of the status of afforestation in the tobacco-growing areas of Kuria, Migori and Rachuonyo Districts (Nyanza Province).**
- 2002-2003 Assessment of eco-hydrological impacts of land use change/land management in Mara and South Ewaso Ng'iro Watersheds**
- 1993-1999 Natural Resources Monitoring, Modelling and Management, Mt Kenya and Aberdare areas
- 1997 Assessment of eco-hydrological impacts of cropping systems for the management of salinity in the Western Australian wheat belt.
- 1994 Assessment of eco-hydrological impacts of the Tana Delta Irrigation Project.

V. TEACHING AND EXAMINING (Since 1985)

(a) Teaching

M.A. (Environmental Planning & Management) – Environmental Impact Assessment and Environmental Audit (University of Nairobi, Department of Geography)

M.Phil. (Environmental Studies) - Planning and management of water resources; coastal and marine environments; arid and semi-arid lands and mountain ecosystems (School of Environmental Studies, Moi University).

M.Sc. (Agricultural Engineering) - Social and physical ecology (University of Nairobi)

M.A. (Geography) – Agroclimatology; marine environments and resources (Faculty of Arts and Social Sciences, Egerton University)

M.A. and M.Sc. (Geography) – Climatology; hydrology; soil geography; research methods (University of Nairobi)

B.Sc. (Agriculture) - Ecology and agrometeorology (Faculty of Agriculture, University of Nairobi)

B.A. and B.Sc. (Geography Majors and Minors) - Climatology and hydrology; practical geography and fieldwork; quantitative methods; biogeography; research methods (University of Nairobi)

B.A. and B.Sc. (various groups) – Environmental studies; climatology; soil geography (Department of Geography, McGill University, Canada)

(b) Research Thesis Supervision

- (a) Management of local erosion hotspots for improved natural resource management in the Lake Victoria Basin, Kenya (Systems Ecology, Stockholm University, Ph.D., 1999-).
- (b) Soil changes under different land use systems, Kibwezi (Botany, Ph.D., 1998-)
- (c) Micrometeorology of agroforestry systems, Laikipia district (Meteorology, Ph.D., 1996).
- (d) Plant water use and primary production, Laikipia district (Geography, Ph.D., 1996-)

- (e) Effect of land use on soil physical properties and stream flow, Kiambu district (Geography, M.Sc., 1998-)
- (f) Effect of climate and soil management on wheat yield, Nakuru district (Geography, M.Sc. 1998-)
- (g) Land degradation, Laikipia district (Geography, M.Sc., 1996)
- (h) Agricultural drought, Kisumu district (Geography, M.Sc., 1996).
- (i) Water balance along an ecological gradient, Laikipia district (Geography, M.Sc., 1995)

(c) Research Thesis Examining

- (a) Some environmental effects of small dams on vegetation dynamics: an assessment of Maomokeani reservoir in Kitui West, Kenya (M.Sc. Geography, University of Nairobi, 2004).
- (b) Impact of agro-forestry on crop performance and water resources in semi-arid Central Kenya (Ph.D., Botany, Jomo Kenyatta University of Agriculture and Technology, 2004)
- (a) The effects of vegetative barrier strips on surface runoff and soil erosion in Machakos, Kenya: a statistical versus a spatial modelling approach (Ph.D., Geography, University of Utrecht, The Netherlands, 2000)
- (b) Rangeland productivity and nutrient flows (Ph.D., Botany, 1999)
- (c) Influence of soil, climate and land use on soil water balance (Ph.D., Soil Science, 1999)
- (d) Environmental impact of rainfall variability in semi-arid Baringo district (Ph.D., Geography, 1999)
- (e) Agro-forestry tree mulches and their effect on run-off, soil loss, soil physical properties and maize performance at Machakos (Ph.D., Agricultural Engineering, 1998)
- (f) Land use/Land cover modelling in relation to soil degradation and crop yield (Geography, M.Sc., 1998)
- (g) Tree root architecture and below ground resource competition (Botany, M.Sc., 1998)
- (h) Geo-informatics in natural resource management (Surveying, M.Sc., 1997)
- (i) Sustainable rural water supply (Anthropology, M.A., 1996)
- (j) Effects of agricultural technology (Sociology, M.A., 1995)
- (k) Infiltration modelling (Agricultural Engineering, M.Sc., 1995)
- (l) Soil erosion (Agricultural Engineering, M.Sc., 1994)
- (m) Evaluation of actual evapotranspiration (Agricultural Engineering, M.Sc., 1994)
- (n) Urban agriculture (Geography, M.A., 1993)
- (o) Water quality determination (Geography, M.Sc., 1993)
- (p) Soil erosion (Agricultural Engineering, M.Sc., 1992)
- (q) Orange production (Geography, M.A., 1992).

VI. SELECTED UNIVERSITY SERVICE

1993-99	Chairman, Department of Geography
1996-99	External Examiner, (Department of Geography, Makerere University, Uganda)
1997-1999	Chairman – CHSS Technical Committee on implementation of Module II Programmes
1997	Member, CHSS IGA Steering Committee
1996-1997	Acting Coordinating Warden – Lower Statehouse
1992-1996	Warden Hall 6
1992-1993	Member – Departmental Postgraduate Studies Committee
1992-1993	Departmental Representative – Time-tabling Committee (Arts & Science)
1990-1992	Departmental Representative – University Library Sub-Committee
1990-1991	Coordinator – Departmental Computer Laboratory

VII. MEMBERSHIP OF PROFESSIONAL ORGANISATIONS AND SELECTED ACTIVITIES

I am (or have been) a member of the following:

1. The International Association of Hydrological Sciences (IAHS) - IAHS membership number 1359
2. International Society of Soil Science (ISSS)

3. World Association of Soil and Water Conservation (WASWC)
4. East African Soil Science Society
5. The Kenya Meteorological Society
6. Geographical Society of Kenya
7. The National Environment Impact Assessment Plan (NEAP, Ministry of Environment & Natural Resources) and Chairman of the Sub-Committee on Agriculture (1994-1997)
8. Kenya Agricultural Research Institute (KARI) Specialist Committee on National Soil and Water Management Research Program.

VIII. CONFERENCES, WORKSHOPS AND SEMINARS ATTENDED

In the last twenty years, I have attended several conferences, workshops and seminars relevant to my professional training and research activities in *Kenya, Tanzania, Ethiopia, Zimbabwe, Swaziland, Cameroon, Sudan, Canada, Great Britain, Netherlands, Australia, Thailand and Morocco*.

IX. PUBLICATIONS

1. **Mungai, D.N.** and Nyakang'o, J.B., 2004. Capacity Building for the implementation of the Framework Environmental Law in Kenya. Paper presented at the Third African Roundtable on Sustainable Consumption and Production (ARSCP-3), 17-20 May 2004, Casablanca, Morocco.
 2. **Mungai, D. N.**, C.K. Ong, B. Kiteme, W. Elkaduwa, R. Sakthivadivel, 2004. Lessons from two long-term hydrological studies in Kenya and Sri Lanka. *Agriculture, Ecosystems and Environment* 104 (2004) 135–143
 3. **Mungai, D.N.**, B. Swallow, J. Mburu, L. Onyango and A. N. Njui (Eds.), 2004. Reversing Environmental and Agricultural Decline in the Nyando River Basin. *Proceedings of a Workshop*, Kisumu, Kenya, December 2002.
 4. **Mungai, D.N.**, Stigter, C.J., Coulson, C.L., Ng'ang'a, J.K. and Umay, G.O., 2001. Understanding yields in alley cropping maize (*Zea mays L.*) and *Cassia siamea Lam.* under semi-arid conditions in Machakos, Eastern Kenya. *Journal of Environmental Sciences*, Vol. 13, No.3, pp. 291-298
 5. **Mungai, D.N.**, Coulson, C.L., Stigter, C.J., Ng'ang'a, J.K. and Mugendi, D.N., 2001. Phenotypic nutrient uptake differences in an alley cropping system in semi-arid Machakos, Kenya. *Journal of Environmental Sciences*, Vol. 13, No. 2.¹
 6. Hai, M.T., **Mungai, D.N.** and Ong, C.K., 2000. The impact of land use and rainfall on runoff and sedimentation in the Lake Victoria Basin, Kenya. Poster presented at the Symposium/Workshop on *Forest-Water-People in the Humid Tropics: Past, Present and Future hydrological Research for Integrated Land and Water Management*. Symposium/Workshop held on 30 July-4 August, 2000, Equatorial Hotel Bangi, Malaysia, organized by the International Union of Forest Research Organisation (IUFRO) and the International Hydrological Programme (IHP).
 7. Gichuki, F.N., **Mungai, D.N.**, Gachene, C.K.K. and Thomas, D.B. (Eds.), 2000. Land and water management: Towards sustainable land use in Kenya. *Proceedings of the Fourth National Land and Water Management Workshop: Towards Sustainable Land Use*, Nairobi, Kenya: 15-19th February 1993. ISBN 9966-9690-0-4
 8. Njeru, J.L., **Mungai, D.N.**, Liniger, H.P., and Ongwenyi, G.S., 2000. The influence of vegetation on the water resources of the Naro Moru river catchment. Part III (pp. 181-190), In: Gichuki, F.N. **Mungai, D.N.**, Gachene, C.K.K. and Thomas, D.B. (Eds.), *Proceedings of the Fourth National Land and Water Management Workshop: Towards Sustainable Land Use*, Nairobi, Kenya: 15-19th February 1993.
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9. **Mungai, D.N.**, Kiteme, B. and Ong, C.K., 1999. Reflections on the Upper Ewaso Ng'iro River Basin Studies in Kenya. Poster on watershed functions (pp. 103-106). In: Tomich, T.P., Thomas, D.E. and Noordwijk van M. (Eds.), *Research Abstracts and Key Policy Questions – Methodology Workshop on Environmental Services and Land Use Change. Bridging the Gap between Policy and Research in Southeast Asia*. Workshop held on 31 May – 2 June 1999, in Chiang Mai University, Chiang Mai, Thailand. ASB-Indonesia Report Number 10. Bogor, Indonesia.
10. Republic of Kenya, 2003. *Environmental (Impact Assessment and Audit) Regulations 2003, Kenya Gazette Supplement No. 56 of 13th June 2003*. I was one of the **Editors and contributors** to the Draft Report submitted to the Government of the Republic of Kenya.
11. Obara, D.A. and **Mungai, D.N.**, 1998. Socio-economic implications of soil conservation in the highland and mountain ecosystems in Murang'a district, Kenya. Section IV (pp. 132-150), In: F.F. Ojany (Ed.), *African Mountains and Highlands: Planning for Sustainable Use of Mountain Resources*. United Nations University, Tokyo, Japan.
12. **Mungai, D.N.**, Coulson, C.L. and Stigter, C.J., 1990. Economic considerations of alley cropping for food production in semi-arid areas. In: R.T. Princely, (Ed.), *Agroforestry for sustainable development - Economic Implications*. Commonwealth Science Council, London, pp. 311-321.
13. Downing, T.E., Akong'a J., **Mungai, D.N.**, Muturi, H.R. and Porter, H.L., 1988. Introduction to the Kenya case study. Part II (pp. 129-148), In: Parry, M.L., Carter, T.R. and Konijn, N.T. (Eds.) 1988. *The Impact of Climatic Variations on Agriculture, Vol. 2: Assessments in Semi-Arid Regions*. Kluwer Academic Publishers, Dordrecht etc. ISBN 90-277-271-8 (Vol.2).
14. Downing, T.E., **Mungai, D.N.** and Muturi, H.R., 1988. Drought climatology and development of the climatic scenarios. Part II (pp. 149-173), In: Parry, M.L., Carter, T.R. and Konijn, N.T. (Eds.) 1988. *The Impact of Climatic Variations on Agriculture, Vol. 2: Assessments in Semi-Arid Regions*. Kluwer Academic Publishers, Dordrecht etc. ISBN 90-277-271-8 (Vol.2).
15. **Mungai, D.N.** and Muturi, H.R., 1988. The effects on agroclimatic zones and agricultural production. Part II (pp. 175-190), In: Parry, M.L., Carter, T.R. and Konijn, N.T. (Eds.) 1988. *The Impact of Climatic Variations on Agriculture, Vol. 2: Assessments in Semi-Arid Regions*. Kluwer Academic Publishers, Dordrecht etc. ISBN 90-277-271-8 (Vol.2).
16. Porter, H.L., Akong'a, A., Downing, T.E., **Mungai, D.N.** and Muturi, H.R., 1988. Implications for policy. Part II (pp. 249-270), In: Parry, M.L., Carter, T.R. and Konijn, N.T. (Eds.) 1988. *The Impact of Climatic Variations on Agriculture, Vol. 2: Assessments in Semi-Arid Regions*. Kluwer Academic Publishers, Dordrecht etc. ISBN 90-277-271-8 (Vol.2).

X. REVIEW OF SCIENTIFIC ARTICLES

I have reviewed articles for the following journals:

1. Agricultural and Forest Journal
2. East African Agricultural and Forestry Journal
3. Journal of the African Meteorological Society
4. Eastern and South African Geographical Journal
5. Hekima Journal

