CURRICULUM VITAE (August 2024)

Eric Marc Alexander SMALING

Born: Amsterdam, 18 August 1957
Address: Oudegracht 21, 1381 CG Weesp, The Netherlands
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Education

1982 Wageningen University (MSc.): tropical soil science, soil fertility management, farming systems research, development economics
1993 Wageningen University (PhD): An agro-ecological framework for integrated nutrient management, with special reference to Kenya

Employment record

2022 – present
Consultant – projects related to soil fertility management **(East and West Africa)**, and water resources and irrigation (**Egypt)**

- Soil fertility evaluations, project proposal writing **Ethiopia** (for GIZ, IFDC)
- Project proposal writing for **East and West Africa** (Soil Values, SNV)
- Report on Digital Advisory Services for Soil Fertility Management (Neth Space Office)
- Manager of JCAR-A4I water management project in **Egypt** (Wageningen UR)

2019 – 2021
Member of Provincial Parliament, Noord-Holland. Leader of the Socialist Party (SP) faction

2017 – 2021
Senior scientist / project manager, Wageningen Environmental Research (formerly Alterra), Wageningen University & Research (WUR) Leading Wageningen team to co-drafting IFAD Rural Development Report 2021

- Management of CASCAPE food security program in **Ethiopia**
- Sustainable agriculture project development with OCP **Morocco**
- Co-writing Rural Development Report 2021, IFAD, Rome

2013-2017
Member of Dutch National Parliament (Lower House; "Tweede Kamer") for the Socialist Party (SP) – topics: education, climate, energy, environment, agriculture, traffic, water, spatial planning, development cooperation

2007–2013
Member of Dutch National Parliament (Senator; "Eerste Kamer") for the Socialist Party (SP) – topics: foreign affairs, development cooperation, agriculture, spatial planning, education

2011-2012
Director, Department of Development Policy & Practice; Royal Tropical Institute (KIT), Amsterdam, The Netherlands

2004-2013
Professor of Sustainable Agriculture, University of Twente, Faculty of Geo-information Science and Earth Observation (ITC), Enschede, The Netherlands - Department of Natural Resources

- Lecturing MSc. level; supervision of PhD projects in **India, Pakistan, Vietnam, Rwanda, Zimbabwe, Mozambique.**

2003-2008
Free-lance consultant
- Soil Fertility Investment Programme (AGRA), Bill and Melinda Gates Foundation – **Kenya, Ghana**
- International Center for Soil Fertility and Agricultural Development (IFDC) - **Nigeria**
- UN Food and Agriculture Organization (FAO) – **Burkina Faso, Nepal, Brazil**
- UN Environment Programme (UNEP) – **Brazil, Indonesia, Kenya**
- Global Environmental Facility (GEF and UNDP) – **Burkina Faso**
- The World Bank – **Moldova**
- The Africa Rice Center (WARDA, member of CGIAR) – **Ghana, Ivory Coast**
- The Rockefeller Foundation

1997-2002
Professor of Soil Science, Wageningen University (60%)

- Lecturing BSc./MSc. level; supervision of PhD projects in **Ethiopia, Kenya, Burkina Faso, Mali and Cameroon**; managing staff of chairgroup

North-South Coordinator, Wageningen University and Research Centre (40%)

- Initiator of interdisciplinary university program INREF, management of DLO North-South programme, Wageningen contact person for FAO, World Bank and CGIAR

1988-96
Researcher, Department of International Cooperation, Winand Staring Centre for Integrated

Land, Soil and Water Research (SC-DLO), Wageningen (currently: Alterra)

- Research leader of multidisciplinary group "Nutrient Monitoring in sub-Saharan African farming systems (NUTMON)" (with KARI, **Kenya**)
- Writing inventories of land resources and soil productivity research for ICRAF African Highlands Initiative (in collaboration with NARS in **Ethiopia, Kenya, Madagascar, Uganda**)
- Backstopping DGIS-supported soil survey organizations (**Kenya, Mali, Tanzania, Mozambique)**
- Formulation and evaluation missions to **Mali**, **Burkina Faso**, **Zambia**, **South Africa** and **Vietnam**; project visits to **China, Philippines, Niger**, **Guinea Bissao**, **Mexico**, **Nicaragua** and **Costa Rica**

1985-87
Running fertilizer research trials throughout rainfed agricultural **Kenya**.
Fertilizer Use Recommendation Project (FURP), Kenya Agricultural Research Institute.

1984-85
Studies of soils and landuse in inland valleys systems of **Sierra Leone** (Makeni), **Nigeria** (Bida), **Benin** (Parakou) and **Burkina Faso**. Wetland Utilization Research Project

1983
Reconnaissance soil survey and land evaluation of the district Aceh Utara and Aceh Tengah, **Indonesia** (ITC Enschede)

PhD theses supervision

1998 O. Husson (France): Spatio-temporal variability of acid sulphate soils in the Plain of Reeds, Vietnam.
2000 T. Defoer (Belgium): Moving methodologies. Learning about integrated soil fertility management in sub-saharan Africa.
2001 S. Kanté (Mali): Gestion de la fertilité des sols par classe d'exploitation au Mali-Sud.
2002 L. Sédogo (Burkina Faso): Integration of local participatory and regional planning for resources management using remote sensing and GIS.
2003 P.F. Okoth (Kenya): A landscape-hierarchical approach towards erosion risk assessment, Kiambu District, Kenya
2003 O. Samaké (Mali): Integrated crop management strategies in Sahelian land use systems to improve agricultural productivity and sustainability: a case study in Mali
2004 J. Kanmegne (Cameroon): Slash and burn agriculture in the humid forest zone of Southern Cameroon
2011 M.R. Khan (Pakistan): Crops from space: Improved earth observation capacity to map crop areas and to quantify production
2011 R. Dutta (India): A spatio-temporal analysis of tea productivity and quality in North-East India
2011 C. Murungweni (Zimbabwe): Vulnerability and resilience of competing land-based livelihoods in south eastern Zimbabwe
2013 Nguyen Thi Thu Ha (Vietnam): Earth observation for rice crop monitoring and yield estimation: application of satellite data and physically based models to the Mekong area
2013 A. Cambule (Mozambique): Assessment of soil organic carbon stocks in the Limpopo National Park, Mozambique: from legacy data to digital soil mapping
2013 J. Wasige (Uganda): A spatially explicit approach to determine hydrology, erosion and nutrients dynamics in an upstream catchment of Lake Victoria basin

Other activities

- Volunteer at Vluchtelingenwerk Nederland – supporting refugees in Amsterdam (2017-present)
- Member to the Parliamentary Assembly of Organization for Security and Cooperation in Europe (OSCE); election observer for EU and OSCE in Kenya (2007), Albania (2009), Ukraine (2010), Azerbeidjan (2010), Tunesia (2011), Georgia (2013)
- Chairman, Nutrient Platform NL, part of Netherlands Water Platform (2012-2013)
- Chairman, Max Euwe Centrum (chess), Amsterdam (2010-2013)
- Chairman, Technical Advisory Committee of the Soil Health Program of the Alliance for a Green Revolution for Africa (AGRA)(2010-2012)
- Board Member, Netherlands Organisation for Scientific Research in the Tropics (NWO-WOTRO) (2009-2012)
- Member of Subcommittee 'Agricultural Sciences' of the Royal Netherlands Academy of Arts and Sciences (KNAW) (2006–2010)
- Editorial Board Member of the Springer journal 'Nutrient Cycling in Agro-Ecosystems' (2006-2013)
- Member of the Scientific and Technical Council of Conseil Ouest et Centre Africain pour la Recherche et le Développement agricole (CORAF/WECARD; 2004-2010)
- Advisory Board member of Centre for World Food Studies, Free University, Amsterdam, (SOW-VU; 1999-2013)
- Editorial Board Member of the Elsevier journal 'Agriculture, Ecosystems & Environment' (1995-2003)

Languages

Dutch – mother tongue
English – excellent
French, German – good
Spanish, Swahili - somewhat

Journal Papers

Janssen, B.H., F.C.T. Guiking, D. van der Eyk, E.M.A. Smaling, J. Wolf and H. van Reuler, 1990. Quantitative evaluation of the fertility of tropical soils (QUEFTS). *Geoderma* 46: 299-318.

Smaling, E.M.A. and R.F. van de Weg, 1990. Using soil and climate maps and associated data sets to select sites for fertilizer trials in Kenya. *Agriculture, Ecosystems and Environment* 31: 263-274.

Smaling, E.M.A., A. Stein and P.L.G. Sloot, 1991. A statistical analysis of the influence of Striga hermonthica on maize yields in fertilizer trials in southwestern Kenya. *Plant and Soil* 138: 1-8.

Smaling, E.M.A. and J. Bouma, 1992. Bypass flow and leaching of nitrogen in a Kenyan Vertisol at the onset of the growing season. *Soil Use and Management* 8: 44-48.

Smaling, E.M.A., S.M. Nandwa, H. Prestele, R. Roetter and F.N. Muchena, 1992. Yield response of maize to fertilizers and manure under different agro-ecological conditions in Kenya. *Agriculture, Ecosystems and Environment* 41: 241-252.

Hakkeling, R.T.A., S. Diatta, and E.M.A. Smaling, 1993. Response of upland rice to soil and hydrological conditions on a footslope in Central Ivory Coast. *Geoderma* 59: 45-56.

Smaling, E.M.A. and B.H. Janssen, 1993. Calibration of QUEFTS, a model predicting nutrient uptake and yields from chemical soil fertility indices. *Geoderma* 59: 21-44.

Stoorvogel, J.J., E.M.A. Smaling and B.H. Janssen, 1993. Calculating soil nutrient balances in Africa at different scales. I. Supra-national scale. *Fertilizer Research* 35: 227-235.

Smaling, E.M.A., J.J. Stoorvogel and P.N. Windmeijer, 1993. Calculating soil nutrient balances in Africa at different scales. II. District scale. *Fertilizer Research* 35: 237-250.

Smaling, E.M.A. and L.O. Fresco, 1993. A decision-support model for monitoring nutrient balances under agricultural land use (NUTMON). *Geoderma* 60: 235-256.

Smaling, E.M.A. and A.R. Braun, 1996. Soil fertility research in sub-Saharan Africa: new dimensions, new challenges. *Commun. Soil Sci. Plant Anal.* 27: 365-386.

Smaling, E.M.A., L.O. Fresco and A. de Jager, 1996. Classifying, monitoring and improving soil nutrient stocks and flows in African agriculture. *Ambio* 25 (8): 492-496.

Smaling, E.M.A., S.M. Nandwa and B.H.Janssen, 1997. Soil Fertility in Africa Is at Stake. Page 47-61 in: Buresh, R.J., P.A. Sanchez, and F. Calhoun (Eds). Replenishing Soil Fertility in Africa. *SSSA Special Publication Number 51*, Madison, Wisonsin, USA.

Stoorvogel, J.J. and E.M.A. Smaling, 1998. Research on soil fertility decline in tropical environments: integration of spatial scales. *Nutrient Cycling in Agro-Ecosystems 50: 151-158*.

Smaling, E.M.A. and O. Oenema, 1998. Estimating nutrient balances in agro-ecosystems at different spatial scales. In: Lal, R., Blum, W.H., Valentin, C., and Stewart, B.A. (Eds.). Methods for assessment of soil degradation. *Advances in Soil Science:* 229-252.

Smaling, E.M.A. (Ed.), 1998. Nutrient balances as indicators of productivity and sustainability in sub-Saharan African agriculture. *Agric. Ecosyst. Envir.71 (1,2,3)* 283 pp.

Deugd, M., N. Röling, and E.M.A. Smaling, 1998. A new praxeology for integrated nutrient management, facilitating innovation with and by farmers. *Agric. Ecosyst. Envir.*71: 269-283.

Smaling, E.M.A.and C. Toulmin, 2000. The itinerary of soil nutrients in Africa: destination anywhere? *Outlook on agriculture* 29: 193-200.

Koning, N. and E. Smaling, 2005. Environmental crisis or 'lie of the land'? The debate on soil degradation in Africa. *Land Use Policy* 22, 3-11.

Samaké, O., Smaling, E.M.A., Kropff, M.J., Stomph, T.J., and Kodio, A., 2005. Effects of cultivation practices on soil fertility and millet yields *Agric. Ecosyst. Envir.* 109, 335-345.

Samaké, O., Stomph, T.J., Kropff, M.J., and Smaling, E.M.A., 2006. Integrated pearl millet management in the Sahel: Effects of legume rotation and fallow management on productivity and *Striga hermonthica* infestation. *Plant Soil* 286, 245-257.

Oenema, O., Janssen, B.H., Smaling, E.M.A., and Hoffland, E. (Eds.), 2006. Nutrient management in tropical agroecosystems. *Agric. Ecosyst. Envir.* 116, Nos. 1-2. (Special Issue)

Smaling, E.M.A., Dixon, J., 2006. Adding a soil fertility dimension to the global farming systems approach, with cases from Africa. *Agric. Ecosyst. Envir.* 116, 15-26.

Kanmegne, J., Smaling, E.M.A., Brussaard, L., Gansop-Kouomegne, and Boukong, 2006. Nutrient flows in smallholder production systems in the humid forest zone of Southern Cameroon. *Nutrient Cycling in Agro-Ecosystems* 76, 233-248.

Lesschen, J.P., Stoorvogel, J.J., Smaling, E.M.A., Heuvelink G.B.M. and Veldkamp, A. 2007. A spatially explicit methodology to quantify soil nutrient balances and their uncertainties at the national level. *Nutrient Cycling in Agroecosystems*, 78, 111-131.

Reij, C.P. and Smaling, E.M.A., 2008. Analyzing successes in agriculture and land management in Sub-Saharan Africa: Is macro-level gloom obscuring positive micro-level change? *Land use policy* 25, 410-420.

Smaling, E.M.A., Roscoe, R., Lesschen, J.P., Bouwman, A.F., and Comunello, E., 2008. From forest to waste: Assessment of the Brazilian soybean chain, using N as a marker. *Agric. Ecosyst. Envir.* 128, 185-197.

Khan, M.R., de Bie, C.A.J.M., van Keulen, H., Smaling, E.M.A. and Real, R., 2010. Disaggregating and mapping crop statistics using hypertemporal remote sensing. Internat. *J. Applied Earth Observ. Geoinformation* 12, 36-46.

Vanlauwe, B., Bationo, A., Chianu, J., Giller, K.E., Merckx, R., Mokwunye, U., Ohiokpehai, O., Pypers, P., Tabo, R., Shepherd, K.D., Smaling, E.M.A., Woomer, P.L., Sanginga, N., 2010. Integrated soil fertility management. Operation definition and consequences for implementation and dissemination. *Outlook on Agriculture* 39, 17-24.

Dutta, R., Stein, A., Smaling, E.M.A., Bhagat, R., and Hazarika, M., 2010. Effects of plant age and environmental and management factors on tea yield in Northeast India. *Agron. J.* 102, 1-12.

De Bie, C.A.J.M.**,** Khan, M.R**.**, Smakhtin, V.U., Venus, V.**,** Weir, M.J.C. and Smaling, E.M.A., 2011. Analysis of multi - temporal SPOT NDVI images for small-scale landuse mapping. *Internat. J. Remote Sensing 32: 6673-6693.*

Murungweni, C., Van Wijk, M., Andersson, J., Smaling, E.M.A., and Giller, K., 2011. Application of fuzzy cognitive mapping in livelihood vulnerability analysis. *Ecology and Society 16(4), 8.*

Thi Thu Ha Nguyen, De Bie, C.A.J.M., Amjad Ali, Smaling, E.M.A., and Thai Hoanh Chu, 2011. Mapping the irrigated rice cropping patterns of the Mekong delta, Vietnam, through hyper-temporal SPOT NDVI image analysis. *Internat. J.Remote Sensing*

Smaling, E.M.A., Lesschen, J.P., Van Beek, C.L., De Jager, A., Stoorvogel, J.J., Batjes, N.H., Fresco, L.O., 2012. Where do we stand 20 years after the assessment of soil nutrient balances in sub-Sharan Africa? In: Lal, R., and Stewart B.A. (Eds.). World Soil Resources and Food Security. *Advances in Soil* Science: 499-537.

Dutta, R., Smaling, E.M.A., Bhagat, R.M., Tolpekin, V.A., and Stein, A., 2012. Analysis of factors that determine tea productivity in northeastern India: a combined statistical and modeling approach. *Expl. Agric. 48, 64-84.*

Laborte, A.G., De Bie, C.A.J.M., Smaling, E.M.A., Moya, P.F., Boling, A.A, and Van Ittersum, M.K., 2012. Rice yields and yield gaps in Southeast Asia: past trends and future outlook. *Eur. J. Agron. 36, 9-20.*

Cambule, A.H., Rossiter, D.G., Stoorvogel, J.J., and Smaling, E.M.A., 2012. Building a near infrared spectral library for soil organic carbon estimation in the Limpopo National Park, Mozambique. *Geoderma 183-184, 41-48.*

Wasige, J.E., Groen, T.A., Smaling, E.M.A., and Jetten, V., 2013. Monitoring basin-scale land cover changes in Kagera Basin of Lake Victoria using ancillary data and remote sensing. *Internat. J. Applied Earth Observ. And Geoinformation 21, 32-42.*

Venus, V., Asare-Kyei, D.K., Tijskens, P., Weir, M., de Bie, C.A.J.M., Ouedraogo, S., Nieuwenhuis, W., Cappelli, G.A., Wesselman, S., and Smaling, E.M.A., 2013. Development and Validation of a Model to Predict Postharvest Losses during the Transport of Tomatoes in West Africa. *Computers and Electronics in Agriculture 92, 32-47.*

Cambule, A.H., Rossiter, D.G., Stoorvogel, J.J., and Smaling, E.M.A., 2014. Soil organic carbon stocks in the Limpopo National Park, Mozambique: Amount, spatial distribution and uncertainty. *Geoderma 213, 46-56.*

Murungweni, C., van Wijk, M.T., Giller, K.E., Andersson, J.A., and Smaling, E.M.A., 2014. Adaptive livelihood strategies employed by farmers to close the food gap in semi-arid south eastern Zimbabwe. *Food Security 6 (3), 313-326.*

Wasige, E.J., Groen, T.A., Rwamukwaya, B.M., Smaling, E.M.A., and Jetten, V.G., 2014. Contemporary land use/land cover types determine soil organic carbon stocks in south-west Rwanda. *Nutrient Cycl Agro Ecos 100 (1), 19-33.*

Cambule, A.H., Rossiter, D.G., Stoorvogel, J.J., and Smaling, E.M.A., 2015. Rescue and renewal of legacy soil resource inventories: A case study of the Limpopo National Park, Mozambique. *Catena 125, 169-182.*

Murungweni, C., van Wijk, M.T., Smaling, E.M.A., and Giller, K.E., 2016. Climate-smart crop production in semi-arid areas through increased knowledge of varieties, environment and management factors. *Nutrient Cycling in Agroecosystems 105, 183-197.*

Elias, E., Okoth, P.F., and Smaling, E.M.A., 2019. Explaining bread wheat (*Triticum aestivum*) yield differences by soil properties and fertilizer rates in the highlands of Ethiopia. *Geoderma 339, 126-133.*

Ruben, R., Cavatassi, R., Lipper, L., Smaling E., and Winters P., 2021. Towards food systems transformation—five paradigm shifts for healthy, inclusive and sustainable food systems. *Food Sec. 13, 1423–1430* https://doi.org/10.1007/s12571-021-01221-4

Alho, C.F.B.V., da Silva, A.F., Hendriks, C.M.J., Stoorvogel J.J., Oosterveer, P.J.M., and Smaling, E.M.A., 2021. Analysis of banana and cocoa export commodities in food system transformation, with special reference to certification schemes as drivers of change. *Food Sec. 13, 1555–1575* https://doi.org/10.1007/s12571-021-01219-y

Terwisscha van Scheltinga, C., de Miguel Garcia, A., Wilbers, G.J., Heesmans, H., Dankers, R., and Smaling, E.M.A., 2021. Unravelling the interplay between water and food systems in arid and semi-arid environments: the case of Egypt. *Food Sec. 13* https://doi.org/10.1007/s12571-021-01208-1

Workineh Ejigu, Yihenew G. Selassie, Eyasu Elias, and E.M.A. Smaling, 2022. Effect of integrated fertilizer application on soil properties and tef (Eragrostis tef [Zucc] Trotter) yield on Vertisols of Northwestern Ethiopia. *J Plant Nutrition* 45, 761-774.

Eyasu Elias, Gizachew Kebede Biratu, and Eric M.A. Smaling, 2022. Vertisols in the Ethiopian Highlands: Interaction between Land Use Systems, Soil Properties, and Different Types of Fertilizer Applied to Teff and Wheat. *Sustainability* 14, 7370. https://doi.org/10.3390/su14127370

Okoth, P.F., Stoorvogel, J.J., Heesmans, H., Amha Besufkad, Mekonnen Tolla, Malkamu Mamuye, Yemane Gebremeskel, Eyasu Elias., Van Beek, C., and Smaling, E.M.A., 2022. An analysis of net farm income to guide agricultural policies in the Ethiopian Highlands. *Agriculture & Food Security, 11:63 https://doi.org/10.1186/s40066-022-00404-2*

Eyasu Elias, Okoth, P.F., Stoorvogel, J.J., Gezahegn Berecha, Beyene Teklu Mellisse, Abate Mekuriaw, Girmay Gebresamuel, Yihenew G. Selassie, Gizachew Kebede Biratu, and Smaling, E.M.A., 2023. Cereal yields in Ethiopia relate to soil properties and N and P fertilizers. *Nutrient Cycling in Agro-Ecosystems, https://doi.org/10.1007/s10705-023-10291-z*

Other publications

ITC, 1984. Land evaluation for agricultural use of Aceh Utara and Aceh Tengah (DPA III), Sumatra, Indonesia. International Institute for Aerospace Survey and Earth Sciences, Enschede, The Netherlands.

Boxem, H.W., T. de Meester and E.M.A. Smaling, 1987. Soils of the Kilifi Area, Kenya. LH Training Project in Pedology, PUDOC Agric. Res. Reports 737.

Touber, L., E.M.A. Smaling, W. Andriesse en R.T.A. Hakkeling, 1989. Inventory and evaluation of tropical forest land. Guidelines for a common methodology. Technical Series 4. The TROPENBOS Foundation, Ede, The Netherlands.

Stoorvogel, J.J. and E.M.A. Smaling, 1990. Assessment of soil nutrient depletion in sub-Saharan Africa, 1983-2000. Report 28, Winand Staring Centre, Wageningen, The Netherlands.

Smaling, E.M.A., 1993. An agro-ecological framework for integrated nutrient management, with special reference to Kenya. PhD. thesis. Wageningen Agricultural University, The Netherlands. 250 pp.

Mokwunye, A.U., A. de Jager and E.M.A. Smaling (Eds.), 1996. Restoring soil fertility in West Africa: key to sustainable development. IFDC Miscell. Fertilizer Studies No. 14, Lomé, Togo.

Braun, A.R., E.M.A. Smaling, E. Muchugu, K.D. Shepherd, and J. Corbett, 1997. Maintenance and improvement of soil productivity in the highlands of Ethiopia, Kenya, Madagascar and Uganda. African Highlands Initiative, ICRAF/SC-DLO, Nairobi, Kenya.

Smaling, E.M.A., 1998. Begane grond. Inaugural address, 1 October 1998 (in Dutch).

Smaling, E.M.A., O. Oenema and L.O. Fresco (Eds.), 1999. Nutrient disequilibria in agro-ecosystems. Concepts and case studies. CABI Wallingford, UK.

Roy, R.N., R.V. Misra, J.P. Lesschen and E.M.A. Smaling, 2003. Assessment of soil nutrient balance. Approaches and methodologies. FAO Fertilizer and Plant Nutrition Bulletin 14. FAO, Rome.

Smaling, E.M.A., Touré, M., De Ridder, N., Sanginga, N., and Breman, H., 2006. Fertilizer use and the environment: friends or foes? Background paper for the Africa Fertilizer Summit, Abuja, 9-13 June 2006.

Kanté, S., Smaling, E.M.A., Van Keulen, H., 2007. Nutrient balances for different farm types in Southern Mali. In: A. Bationo et al. (Eds). Advances in Integrated Soil Fertility Management in sub-Saharan Africa: Challenges and Opportunities. pp. 557-566. Springer, The Netherlands.

Smaling, E.M.A., 2018. 'Dutch Solutions for Global Challenges' in het agro-food domein. Wageningen Environmental Research, Report 2874, Wageningen University & Research.