
CURRICULUM VITAE (CV) FOR Dr. Philip Mwabe

Personal

Name & Address: **Dr. Philip Mwabe**
Department of Mechanical & Manufacturing Engineering
P.O. Box 30197-00100, Nairobi
Tel 0710 311 861 ; 0722 767 949

Employment

Lecturer, Department of Mechanical & Manufacturing Engineering
Date of Appointment : October 1997

E-mail: mwabe@ecclkenya.com

Married with 6 Children

Date of Birth **December 4, 1959**

Nationality **Kenya**

Profession: **Chemical Engineer- Energy & Hazardous Waste.**

Occupation: **Fuels, Energy & Waste Management Consultant**

Principal Consultant – Environmental & Combustion Consultants Ltd



Educational Background

1993 PhD in Chemical Engineering with minor in Mechanical Engineering. University of Arizona, Tucson, USA

1983 Mechanical Engineering, University of Greenwich, London, UK

Professional Registrations, Memberships and Affiliations:

Registered with NEMA (Cert No.0233) as a Lead Environmental Impact Assessment/ Environmental Audit Expert.

Member, Combustion Institute, PA, USA

Member, Institute of Chemical Engineers (IChemE), Western States Section USA

Member Kenya Institute of Waste Management

Member Air & Waste Management Association, PA, USA, International Chapter

Professional Expertise

Hazardous Waste Management

Use of Waste Derived Fuels in Cement Kilns

Incineration of Hazardous Wastes in Rotary Kilns

In situ Abatement of Industrial Pollutants from Combustion Sources

Work Experience

2009-Present Deputy Team Leader, Mombasa Solid Waste Management Project (Ministry of Local Government), This project involves the construction of the first sanitary landfill in Kenya. My responsibility is for The Detailed Design,

- Environmental Impact Assessment and Supervision for Solid Waste Management.
- 2006-Present Chairman Kenya Institute of Waste Management
- 1997-Present Lecturer, Department of Mechanical Engineering, University of Nairobi
- 1995-Present Director Environmental & Combustion Consultants Ltd.
- 1991-1993.1 Research Assistant, University of Arizona, US Department of Energy Sponsored Combustion Research Project on Abatement of Metal Emissions during Incineration under Contract # DE-FG 2290 PC 90285
- 1983-1996 Field Services (Projects) Engineer, East African Portland Cement Co Ltd, Nairobi, Kenya.

Supervision

I have supervised several undergraduate final year projects which ended in the design and construction of the only state of the Art Rotary Kiln Incinerator Plant in Kenya

Some of MSc Projects Supervised includes

1. *Evaluation and Analysis of Potential combustible Municipal Solid Waste as Delivered at Dandora Dump site for Power Generation.* (Lado, Michael Stanley, 2012)
2. *Nairobi Municipal Waste Composition and Characteristics Relevant to Waste to Energy Disposal Method* (Eyinda, Moffat Khamala, MSc Energy Management 2011)
3. *Optimization and Utilization of Eucalyptus Grandis Tree Species in Tea Factories in Kenya* (Mburu, Peter James, MSc Applied Mechanics 2010) ✓

Professional Consultancy Work

2009- To Date: Deputy Team Leader. *Detailed Design, Environmental Impact Assessment and Supervision for Solid Waste Management Project in Mombasa Town with Waste Characterisation Study for Mombasa Solid Waste.*

2010- To Date *National Safeguarding of highly toxic Agrochemical Wastes in Kenya.*
Client: CleanFarms International, Brussels

2002 -To date *Management of Hazardous Chemical Wastes from Flower farms in Kenya*
Client: Lake Naivasha Growers Group

An on going project on the comprehensive management of hazardous chemical and container wastes from the flower companies surrounding Lake Naivasha. This project has now been extended to a National collection program for Agrochemical waste empty containers and obsolete stocks.

Management of Hazardous Oil industry Waste(1996)

Client: Esso Oil Company Ltd.

Worked as lead consultant on the management of Esso Oil (K) Ltd. hazardous waste oil and waste sludge from the company's facilities countrywide in preparation for the sale of the company to a strategic partner.

Use of High Alumina Waste and Bauxite(1999)

Client: East Africa Portland Cement Company Ltd.

Modelled and tested application of high alumina content wastes for modification of combustion environments in rotary cement Kilns. The project lead to significant reductions in fuel consumptions and the present use of Bauxite and Alumina dust as a combustion environment modifier.

Safe Use Project (2000)

Client: Gifap Brussels and Agrochemical Association of Kenya.

Lead Consultant in the elimination of obsolete and waste pesticides from Kenya.

Environmental Auditor:Reckitt Benckiser (K) Ltd .

Environmental Auditor: Rongai Transport & Workshops Ltd

And over 20 other audits.

Seminars/Workshops Attended

- 1984 Pneumatech 2 Conference on Pneumatic Conveying of Particulate Material in Industry, Canterbury, UK, Sept 1984 .
- 1986 Utility & Industry Energy Conservation Seminar at Tennessee Valley Authority, USA, May 1- June 27, 1986
- 1987 3rd FKE/ILO Senior Management Development Course, Nairobi, Kenya. March 9-27, 1987.
- 1990 Professional Leadership: "Leading High Performance Teams" seminar presented by Management Systems International, Washington DC, July 9-13, 1990
- 1991 "Conference on Environmental Impact on Combustion Systems", Joint American/Japanese Flame Research Institute (AFRI/JFRI), Honolulu, Hawaii, October 7-10, 1991.
- 1992 "Project Management & Evaluation for Top Managers" Workshop presented by Management Training & Development Inc., Orlando, Florida, US. Dec 26 1991-Jan 5, 1992
- 1993 Presented a paper on incineration of Municipal Wastes at "Nairobi We Want" convention, City Hall, Nairobi .
- 1996 Presented a peer reviewed paper at the 26 th Symposium (International) on Combustion, Combustion Institute, Naples, Italy, July 28-Aug 2, 1996.
- 2002 Presented Paper at National Meeting of the Agrochemicals Association of Kenya on Pesticide Waste Management in Kenya, July 2002
- 2006 Presented paper at the National Symposium on Science, Technology & society: African perspectives and Experiences. Kenya National Academy of Science, Lenana House, Nairobi, June 29-30, 2006

Publications

Some of my publications include:

Mwabe,P.O., R.N. Mbuthia, "Air pollution & Clean Technology: A case for Metal emission Abatement." Paper presented at National Symposium on Science, Technology & Society: African

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Perspectives and Experiences". Kenya National Academy of Science, Lenana House, Nairobi, June 29-30, 2006

Mwabe, P.O. "Emissions from Rotary Kiln Incinerator plant: origin, Measurements and Control", Paper presented at the AgroChemicals Association Seminar, Nairobi 2002

Mwabe, P.O., "Hazardous Waste management on the Farms" Paper presented at the Agrochemicals Association of Kenya annual Seminar, Nairobi, July 2005

Mwabe, P.O., J.O.L. Wendt, "Mechanisms Governing Trace Sodium Capture by Kaolinite in a Downflow Combustor", Twenty-Sixth Symposium (International) on Combustion, Combustion Institute, Pittsburgh, 1996. pp 2447-2453

Mwabe P.O., J.O.L. Wendt, "Mechanisms Governing Alkali Metal Capture by Kaolinite in a Downflow Combustor", Paper # 108c, AIChE, 1994 Annual Meeting, San Francisco, CA 1994

Mwabe P.O., W.C. Lin, J.O.L. Wendt, "NOx destruction in a Laminar Opposed Jet Diffusion Flame", Proceedings of the Western States Section, Combustion Institute, Fall Meeting, October 1990, Tucson.

Mwabe P.O., Mechanisms Governing Alkali Metal Capture by Kaolinite in a Downflow Combustor", PhD Dissertation, University of Arizona, Tucson, 1993.

Mwabe P.O., Woodcock, C.R. "An Approach to Computer Aided Design of Dilute Phase Pneumatic Conveying Systems", Proceedings of Pneumatech2 Conference, Canterbury, UK 1984.

Referees

Professor Paul Syagga
Dean, Faculty of Architecture Design and Development
University of Nairobi
P.O. Box 30197
Nairobi
Professor Chacha Nyaigoti Chacha
Inter University Council of East Africa
P.O. Box 16504
Nairobi