

# CURRICULUM VITAE

## A: PERSONAL INFORMATION

**Name:** Henry Masinde Barasa    **PF No.** 1284    **Sex:** Male    **ID/No.** 2091661    **Passport No.** A1762258

**Date of birth:** 31<sup>st</sup> August 1962    **Marital Status:** Married

**Profession:** Agricultural Engineer    **Employer:** Masinde Muliro University of Science and Technology (MMUST).

**Education:** PhD (Agricultural Engineering), Egerton University, 2021.

MSc (Industrial Engineering and Management), MMUST, 2011.

BSc (Agricultural Engineering), Egerton University, 2001.

**Member:** Registered Graduate Engineer No. B5388 (Engineers Board of Kenya).

### Address:

- **Office** Department of Mechanical and Industrial Engineering, MMUST, P.O. Box 190 – 50100, **KAKAMEGA**.
- **Home:** P.O. Box 1679 – 50200, **BUNGOMA**.
- **e-mail:** [hmbarasa@mmust.ac.ke](mailto:hmbarasa@mmust.ac.ke), he.masb62@gmail.com

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**Referees:**

<b>Name</b>	Dr. Joel K Chirchir, PhD	Prof. Daudi M Nyaanga, PhD	Mr. Nehemiah K Tuitoek, MSc
<b>Address</b>	Mechanical and Industrial Engineering Department, MMUST, P.O. Box 190, Kakamega.	Agricultural Engineering Department, Egerton University, P.O. Box 536, Njoro.	Directorate of Agricultural Engineering Services, Ministry of Agriculture, Livestock and Fisheries. Box 30028, Nairobi.
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**B: UNIVERSITY WORKING EXPERIENCE****(i) Lecturing**

<b>Institution</b>	<b>Department</b>	<b>Period</b>	<b>Courses Taught</b>
<b>Masinde Muliro University of Science &amp; Technology (MMUST)</b>	Mechanical and Industrial Engineering (MIE)	April 2012 to date	<b>Bachelor of Science</b>  1. Thermodynamics 2. Industrial Engineering Management 3. Refrigeration and Air Conditioning 4. Power Plant Engineering 5. Renewable Energy Resources 6. Internal Combustion Engines

(Lecturer)			<b>Master of Science</b> <ol style="list-style-type: none"> <li>1. Energy Systems and Management</li> <li>2. Applied Heat and Utility Services</li> <li>3. Occupational Health and Safety</li> <li>4. Industrial Ergonomics</li> </ol>
<b>Kibabii University</b>  (Part-time Lecturer)	Agriculture and Veterinary Sciences (AVS)	2016/2017 2 <sup>nd</sup> Semester	<ol style="list-style-type: none"> <li>1. Farm Power and Machinery</li> <li>2. Irrigation and Drainage</li> <li>3. Agricultural Processing and Farm Structures</li> </ol>
		2017/2018 1 <sup>st</sup> Semester	<ol style="list-style-type: none"> <li>1. Engineering Surveying</li> </ol>
	Science, Technology and Engineering (STE)	2017/2018 to date	<ol style="list-style-type: none"> <li>1. Engineering Surveying</li> <li>2. Thermodynamics</li> <li>3. Power Plant Engineering</li> </ol>
<b>University of Eldoret</b>  (Part-time Lecturer)	Mechanical and Production Engineering  (MPE)	2013/2014 2 <sup>nd</sup> Semester	<ol style="list-style-type: none"> <li>1. Thermodynamics</li> </ol>
		2014/2015 1 <sup>st</sup> Semester	<ol style="list-style-type: none"> <li>1. Thermodynamics</li> <li>2. Internal Combustion Engines</li> </ol>
<b>University of Kabianga</b>	Agricultural Biosystems and Economics	2011/2012 1 <sup>st</sup> Semester	<ol style="list-style-type: none"> <li>1. Agricultural Power &amp; Machinery</li> <li>2. Irrigation &amp; Drainage</li> <li>3. Horticultural Structures</li> </ol>

(Part-time Lecturer)		2011/2012 2 <sup>nd</sup> Semester	1. Processing & Storage of Horticultural Produce 2. Farm Structures, Crop Processing & Storage 3. Survey, Soil & Water Conservation
<b>Bukura Agric. College</b>	Agricultural Engineering	2004 May – 2006 May	Agricultural Engineering Courses

**(ii) Supervision of Masters students**

<b>Student</b>	<b>Title of Thesis</b>	<b>Period</b>	<b>Status</b>	<b>University</b>
Emmanuel Ebinga Osore Reg. No. SEI/G/04/11	Effect of emissivity of jacketing materials on the performance of thermal insulation designs in steam pipes.	2012 - 2013	Graduated July 2014 with an MSc in Industrial Engineering and Management	MMUST
Sammy Mugo Reg. No. SEI/G/02/06	Optimization of energy generation in home-made wind mills through simulation to determine the correlation between blade pitch angle and power output.	2017 - 2019	Ongoing	MMUST

**(iii) Other responsibilities**

- Coordinator of postgraduate studies for Mechanical and Industrial Engineering (MIE) Department: August 2019 to date.

- Coordinator of Industrial attachment for MIE in 2013/2014, and 2014/2015 academic years

#### **iv) Experience in Biogas Projects**

- **Project:** Enhancing biogas production and contribution to energy needs in Kenya. Sponsor: Nacosti. Period: 2012-2017. Nature: Implimentation. Role: Collaborator
- **Project:** Consultancy in Bomet
- **PhD Thesis:** Biogas Production

#### **v) On-going research**

- An integrated renewable energy system for sustainable development in Kenya

### **C: EDUCATION**

#### **(i)Academic**

- **PhD** (Agricultural Engineering), Egerton University, 2021.
- **MSc** (Industrial Engineering and Management), MMUST, 2011.
- **BSc** (Agricultural Engineering), Egerton University, 2001.
- **Diploma** (Agricultural Engineering), Egerton University, 1986.
- **'A' Level**, Njoro Boys High School, 1982
- **'O' Level**, Friends' School Kamusinga, 1980
- **CPE**, 1976.

**(ii) Other Courses Attended**

<b>Year</b>	<b>Course</b>	<b>Duration</b>	<b>Venue</b>
2010	Senior Staff Management.	4 Weeks	Embu Agricultural Staff Training (EAST) College, Embu
2009	Induction Course for Station Managers	1 week	Egerton University, Njoro
2004	New Technology Popularizing of Agricultural Machinery.	6 weeks	Chinese Academy of Agricultural Mechanization Sciences (CAAMS) in Beijing, CHINA.

**D: PUBLICATIONS**

- 1. Barasa H. Masinde**, Daudi M. Nyaanga, Musa R. Njue, and Joseph W. Matofari (2020). Optimization of Biogas Production in a Batch Laboratory Digester Using Total Solids, Substrate Retention Time, and Mesophilic Temperature. *International Journal of Power and Energy Research*. Volume 4, Number 2, Page 17-26. <https://dx.doi.10.22606/ijper.2020.42001>

2. **Barasa H. Masinde**, Daudi M. Nyaanga, Musa R. Njue, and Joseph W. Matofari (2020). Effect of Total Solids on Biogas Production in a Fixed Dome Laboratory Digester Under Mesophilic Temperature. *Annals of Advanced Agricultural Sciences*. Volume 4, Number 2, Pages 26-33. <https://dx.doi.org/10.22606/as.2020.42003>
3. J. G. Nyaanga, and **M. H. Barasa (2019)**. Effect of bioslurry utilization and application methods on the African stalk borer (*Buseiola fusca*) and yield of maize. *International Journal of Science and Nature*. Volume 10, Issue 3, Pages 125-131
4. E. A. Osore, C. K. Ndiema, **H. B Masinde**, and D.S. Ndugi (2015). Influence of Emissivity of Jacketing Materials on Energy Conservation in Insulated Steam Pipes. *International Journal of Engineering and Technical Research (IJETR)*. ISSN: 2321-0869 (O) 2454-4698 (P), Volume 3, Issue 7, July 2015
5. E. A. Osore, C. K. Ndiema, **H. B Masinde**, and D.S. Ndugi (2015). Characterisation of Emissivity of Jacketing Materials on Personnel Safety in insulated Steam Pipes. *International Journal of Engineering and Technical Research (IJETR)*. ISSN: 2321-0869 (O) 2454-4698 (P), Volume 3, Issue 7, July 2015
6. **Masinde, B. H.**, D. M. Nyaanga, M. R. Njue, and J. Matofari (2015). Current and Future Biogas Contribution to Energy Needs in Kenya – An Empirical Model. Proceedings of Nacosti Conference. University of Nairobi, Kenya (Awaiting publication).
7. **Masinde, B.H.**, P.K. Rotich and B.T.I. Ong’or. 2011. Performance of a Rock-Bed Solar Energy Storage System. Accepted for publication in the *Eastern Africa Journal of Engineering, Science And Technology (Eajest)*

8. **Masinde, B.H.**, J.K. Korir, and P.K. Rotich. **2010**. Performance of a solar air heater incorporated with a rock-bed energy storage system. A Paper presented in the *“Proceedings of the 1<sup>st</sup> Engineering, Science and Technology Conference (MMUST)”*.

ISBN 9966-779-11-6, Pages 176-183.

9. **Masinde, B. H.**, D. M. Nyaanga, M. R. Njue, and J. Matofari. Influence of Mild Tropical Conditions on Biogas Production and Yield from a 124 m<sup>3</sup> Semi-Continuous Cattle-Manure-Fed Digester – case study of Egerton University Biogas Plant, Kenya (Awaiting publication).

**E: CIVIL SERVICE WORK EXPERIENCE (26 Years)**

Date	Station	Deployment
2011 Nov. to 2012 Apr.	Agricultural Technology Development Centre (ATDC), Katumani.	Manager
2009 July to 2011 Oct.	Eldoret East District, Eldoret.	District Agricultural Engineer
2008 June to 2009 June	Agricultural Mechanization Services (AMS) Marigat in Baringo.	Manager
2006 June to 2008 May	AMS Kisumu.	Design & Survey Engineer.



2004 May to 2006 May	Bukura Agricultural College, Kakamega.	Lecturer, Agricultural Engineering Department.
2003 October to 2004 April	Vihiga	Divisional Agricultural Extension Officer (DAEO), Vihiga Division.
2001 May to 2003 September	ATDC, Bungoma.	Manager
1986 August to 1994 May	Mandera, Nakuru, Kakamega, and Bungoma	Agriculture Officer