

# CURRICULUM VITAE

**PROF. (ENG.) SHITANDA DOUGLAS**

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## PERSONAL INFORMATION



**Date of Birth:** June 29<sup>th</sup> 1966      **Sex:** Male      **Marital Status:** Married  
**Children:** 3      **Religion:** Christian      **Nationality:** Kenyan

**Contact address:** Machakos University;  
P.O Box 136 – 9100,  
MACHAKOS- KENYA.

**Personal address:** P.O Box 62000-00200,  
NAIROBI – KENYA.

**Driving License:** Clean and Valid

**Passport:** Clean and valid

**Current Administrative Position (13<sup>th</sup> March 2017 –To date):** Deputy Vice Chancellor –  
Administration, Planning and Finance; Machakos University.

**Academic Position: (February 2008 – To date):** Associate Professor - *Jomo Kenyatta University  
of Agriculture and Technology (Biomechanical and Environmental Engineering Department)*

## ADMINISTRATIVE EXPERIENCE

1. Development of University Policies
2. Establishment of Internal and External Collaborations and linkages
3. Establishment of Internal Research Fund (MMU/CUCK)
4. Development of Staff Establishment
5. Development of Strategic Plan/Master Plan (MMU/CUCK)
6. Development of Documents Digitization Programme (MMU)
7. Facilitation of Korean ICT/KAIST US\$140 Million Project (MMU)

8. Facilitation of KONZA City initiative (Acquisition of 500 Acres -MMU)
9. Facilitation of Public Private Partnership Initiatives (Hostels Construction)
10. Facilitation of Samsungs Technical Experts Training (MMU)
11. Chairing of Committees
12. Development of *CHOMOKA NA LAPTOP* initiative proposal
13. Facilitation of land acquisition in Meru County (200 Acres-CUCK)
14. Facilitation of KSh 1 Billion (US\$ 10 Million) fund raising for a Learning Resource Centre (CUCK)

## **EDUCATION BACKGROUND**

S/No	AWARD	INSTITUTION	SPECIALIZATION	YEAR
1.	Doctoral degree	Iwate University, Japan	Agricultural Sciences	March 2001
2.	Masters degree	University of Nairobi, Kenya	Agricultural Engineering	December 1994
3.	Undergraduate degree (Upper Second Class Hons)	University of Nairobi	Agricultural Engineering	October 1990
4.	KC.A.E (3P, 1S) 13 points	Kapsabet High School	Math, Physics and Chemistry	December 1985
5.	K.C.E Division 2 (18 Points)	Lubinu Secondary School	Secondary	December 1983
6.	C.P.E (28 Points)	Tande Primary School	Primary	December 1979

## **MEMBERSHIP AND REGISTRATION**

- ✧ American Associations for Science and Technology (2015)
- ✧ International Mind Education Institute (2015)
- ✧ The Institution of Engineers of Kenya (2014)
- ✧ Registered Environmental Impact Assessment/Audit (2006)
- ✧ Registered Engineer (2005)
- ✧ Life Member of Kenya Red Cross Society (Thika Branch-2005)
- ✧ Kenya Horticultural Association (2003)
- ✧ Asian Association for Agricultural Engineers (AAAE- 2002)
- ✧ Japanese Society of Agricultural Machinery (JSAM-1997)
- ✧ Japanese Society of Agricultural Structures (JSAS-1997)

- ❖ The Institution of the Engineers of Kenya (IEK – Graduate Engineer,1990)
- ❖ Kenya Society of Agricultural Engineers (KSAE-1987)
- ❖ Deliverance Church, Kahawa Sukari (2008 to date)
- ❖ Juja Joy Christian Church International (1994 to 2007)

## **SHORT TERM EXPERIENCES**

- ❖ **Visiting Researcher** (October – December 2009): Iwate University (JAPAN). Japanese Student Service Organization (JASSO).
- ❖ **Visiting Lecturer** (February – April 2004): University of Malawi (Bunda College of Agriculture – Agricultural Engineering Department)
- ❖ **Visiting Lecturer** (February – April 2003): University of Malawi (Bunda College of Agriculture – Agricultural Engineering Department)
- ❖ **Course Participant** (30<sup>th</sup> October – 4<sup>th</sup> December 2001): Participated in the International Course on Protected Crop Technologies held at Volcani Centre in Israel as a resource person from institution of high leaning.
- ❖ **Seminar Participant** (20<sup>th</sup> –26<sup>th</sup> August 1994): Participated in the Oil Crop Production, Processing and Utilization Seminar held at Park Villa Hotel - Webuye, Kenya as a Rural Vegetable Oil Processing Engineer.
- ❖ **Field Attachment** (1989): Done at Mumias Sugar Company where I was attached to the Agricultural Engineering Department. Carried out tractor repair, servicing, and maintenance, design and fabrication of tractor-trailers, field preparation, soil conservation, cane planting, cane weeding, and development of cane transportation schedules among others. In the factory, I was involved in the size reduction, juice extraction, sugar crystallization, centrifugation and sugar packaging processes.
- ❖ **National Youth Service** (1987): Pre-University Training, which mainly involved community work for a period of six months. It also involved Para military training.

## **WORK EXPERIENCE**

- **Deputy Vice Chancellor** – Administration, Planning and Finance, Machakos University. I am involved in the day to day administration of the University, strategically planning for its development and the control of its finances since 13<sup>th</sup> of March 2017.
- **Acting Vice Chancellor** – After the award of Charter to The Co-operative University of Kenya on the 7<sup>th</sup> of October 2016, I was appointed the Acting Vice Chancellor of the University. I held the position till the 8<sup>th</sup> of March 2017. During this period I was the head of the University Management and the Senate apart from being the Secretary to Council.
- **Principal** – The Co-operative University College of Kenya. Involved in the leadership of Senior Management to steer the day to day running of the University College. I am the Accounting Officer of the institution (April 2014- May 2015).
- **Acting Deputy Vice Chancellor** – Academic Affairs/Research, Production and Extension, Multimedia University of Kenya. Involved in policy development in academics, research, Extension, Linkages, Intellectual property, Income Generation Unit among others (March 2013

- February 2014).
- **Acting Principal** – Multimedia University of Kenya (November 2012 to January 2013)
- **Deputy Principal** – Research, Production and Extension, Multimedia University College of Kenya (September 2010 - March 2013)
- **Acting Deputy Principal** – Administration and Finance, Multimedia University College of Kenya (May 2011 to September 2012).
- **Incharge** – Accreditation Documents (February 2013). Involved in the development and refining of the accreditation documents.
- **Chairman** – Administrative Staff Shortlisting Committee (2013). Involved Evaluation and shortlisting of ALL applicants for administrative jobs in Grade 15 and below.
- **Chairman** – Tender Committee (2011 - 2012). Involved in the management of the procurement procedures of Multimedia University College.
- **Chairman** – Master Plan Committee (2012). Coordinated the development of the Master Plan for the University College.
- **Chairman** – Strategic Plan and Service Charter (2012). Chaired the committee during the planning, development and actualization of the University College Strategic plan (2011-2016).
- **Chairman** – Staff Establishment Committee (2012). Involved in evaluation of the administrative staff requirements and projecting the same over five (5) year period.
- **Chairman** – Staff Medical Policy (2011). Involved in the development of the Multimedia University College staff medical policy.
- **Deputy Principal** – Multimedia University College of Kenya (September 2010 to date). Involved in the development of effective structure to ensure enhancement of research, efficient production and timely dissemination of information to stakeholders/collaborators.
- **Director** – Kitale CBD (JKUAT – May 2010 – August 2010). Involved in the establishment and operation of a new campus in Kitale town.
- **Chairman** – Research Monitoring and Evaluation Committee (2009). The committee ensured that research funds were used optimally and research outputs were put to use by all the stakeholders.
- **Chairman** – Cost Centres Development Committee (2009). The committee developed a structure to ensure cost effectiveness in the management of academic and administrative activities at the university.
- **Director** – Continuing Education Programme (JKUAT), May 2006 to June 2008
- **Deputy Director** – Continuing Education Programme (JKUAT), April 2005 – May 2006
- **Lecturer/Researcher** – I started working at Jomo Kenyatta University of Agriculture and Technology in the Biomechanical and Environmental Engineering Department as an assistant Lecturer in July 1994. In December 1996 I was promoted to Lecturer positions and in September 2002 to Senior Lecturer position. I was promoted to the Associate Professor position in February 2008. I am involved in Lecturing, Research and extension services.
- **Christian Union Patron** – I was appointed as the patron of Jomo Kenyatta University of Agriculture and Technology Christian Union in May 2003. I was mainly involved in providing leadership, moral, religious and academic advice to the union members and participating in the

union's activities as an overseer.

- **Hall Warden** – I worked as a hall warden at Jomo Kenyatta University of Agriculture and Technology from 1996-1997. I was mainly involved in ensuring the students live comfortable lives in their halls of residence by taking care of their physical, social and academic needs. I also enhance the Student – Lecturer relationship.
- **Head of Bio-resource Laboratory** – I was the head of the Laboratory since 2001 at Jomo Kenyatta University of Agriculture and Technology in the Biomechanical and Environmental Engineering Department. The main task was to ensure we have a clean, well equipped and functioning laboratory that meets the needs of the students and the researchers at both local and international level.
- **Supervision:** Currently involved in Supervision of Bachelors, Masters and Doctoral research at different Universities in my areas of specialization.
- **Vegetable oil Processing Engineer** - Worked as the Vegetable Oil Processing Engineer with the Ministry of Agriculture Livestock and Marketing in the Rural Technology and Development Unit at Katumani, Machakos district from January 1992 - June 1994.
- **Untrained Teacher** – I worked as an untrained teacher at Tande Secondary School and Chebuyusi Secondary School in Western part of Kenya between 1986 and 1987. I was involved in teaching Mathematics, Physics and Chemistry from Form One to Form Four.

## **RESEARCH INTERESTS**

I have been involved in serious research since 1989 as an undergraduate student at the University of Nairobi. My main interest has been in the promotion of adaptable research that offers immediate benefits to the user. My main areas of research include;

- ⊕ Processing of biological materials
- ⊕ Renewable energy resources
- ⊕ Greenhouse Performance
- ⊕ Storage of biological materials

## **RESEARCH PROJECTS/AWARDS (OVER US\$ 6 MILLION)**

1. The Feed the Future Innovation Lab for Food Processing and Post-Harvest Handling Project. Funded by Feed the Future, the U.S. government's Global Hunger and Food Security Initiative led by USAID (2014). **(KSh. 430 Million)**.
2. Energy Efficient Rural Food Processing Utilising Renewable Energy to Improve Rural Livelihoods (2013). Collaborative research between European and African Universities. Funded by the Engineering and Physical Sciences Research Council (EPSRC). **(KSh. 12 Million)**
3. Development of Fruits and Vegetable Processing Plant. Lake Basin Development Authority (2013). Green Energy Consulting Engineer/SAGRICON Consultant. **(KSh. 8 Million)**
4. Processing and Dissemination of Enhanced Nutrition Cassava and Finger Millet-Based Products

- for Kenyan Smallholders Communities. (ICRISAT HOPE PROJECT)/University of Idaho, USA (2013). **(KSh.13 Million)**.
5. Explore the Utility of Low Cost Seed oil as Potential Feedstock for Biodiesel Fuel Production. Kenya-South Africa Collaborative Project. Funded by the National Council for Science and Technology 2010. **(KSh. 3 Million)**.
  6. Development of Sewage Biogas Digester. JKUAT renewable Energy project. Funded by Ministry of Energy Sponsored Project, 2009. **(KSh16 Million)**.
  7. Development of Solar driers for Multi-Purpose use along the Coastal areas of Kenya. Funded by Kenya Marine Fisheries Research Institute Funded project, 2009. **(KSh. 0.2 Million)**.
  8. Optimal Use of Locally Available Trees or Tree Products for Smoking of Africa and Marine Catfish to Prevent Postharvest Losses and Improve Quality as a Measure for Conservation of Aquatic Resources in Kipini and Tana Delta areas of Kenya. Funded by CHE, 2008. **(KSh. 2.4 Million)**.
  9. Biodiesel Characteristics of Oils from Indigenous Oilseeds. Funded by JKUAT, 2005. **(KSh. 5 Million)**.
  10. Promotion of Fish Drying Technology in Lake Victoria Basin. Funded by VicRes, 2005/2006. **(KSh.11.5 Million)**.
  11. Dying Effect on the Quality and Processing Characteristics of African *Mondia Whytei*. Funded by AICAD, 2005/2006. **(KSh. 2 Million)**
  12. Extraction Characteristics and Properties of Yellow Oleander (*Thevetia Peruviana*) Oil. Funded by JKUAT, 2005/2006. **(KSh. 1 Million)**.
  13. Integrated Management of *Prosopis Chilensis* in ASAL Areas of Kenya. Funded by RAPSUD, 2005/2006. **(KSh. 1Million)**
  14. Quality Enhancement of Bananas and Mangoes Grown in Makueni District. Funded by IFS 2006. **(KSh. 0.7 Million)**.
  15. Quality Enhancement of Bananas and Mangoes Grown in Makueni District Survey. Funded by IFS 2005. **(KSh. 0.2 Million)**.
  16. Design, Fabrication and Testing of Fruit Juice Extractor. Funded by JKUAT/KGT, 2005. **(KSh. 0.5 Million)**.
  17. Design, Fabrication and Testing of Solar drier for Fish, Fruits and Vegetables. Funded by KMFRI/JKUAT 2005. **(KSh. 0.5 Million)**.
  18. Development of artificial neem drier. Funded by JKUAT-KGT, 2005. **(KSh. 0.5 Million)**.

## **POSTGRADUATE RESEARCH PROJECTS**

### **Ph.D Supervision**

1. **Oduor-Odote, M.P.** (2014). Solar drying studies with fish and other raw materials. Ph.D. Thesis, University of Surrey **(Ongoing)**.
2. **Wawire, M.M.;** Mathooko, M. and Shitanda, D. (2009). Modeling and Design of Modified Atmosphere Packaging for Passion Fruit. Ph.D. Thesis. **Graduate in June 2013.**

3. **Gichua, M.K.;** Njoroge, G.; Shitanda, D. (2009). Effects of Interaction between species traits and habitat characteristics in the control of *Prosopis Juliflora* on the Lake Baringo Ecosystem. Ph.D. Thesis. Jomo Kenyatta University of Agriculture and Technology. **Submitted 2013.**
4. **Muthike, G.M.;** Shitanda, D.; Kanali, C.L.; Mailutha, J.T. (2009). Development of On-farm Timber Processing Technologies. Ph.D. Thesis. Jomo Kenyatta University of Agriculture and Technology. **Ongoing.**
5. **Kitu, M.M.;** Shitanda, D.; Kanali, C.L.; Mailutha, J.T. (2009). Development of Solar Fish Drier. Ph.D. Thesis. Jomo Kenyatta University of Agriculture and Technology. **Graduated in 2011.**

### **Masters Supervision**

1. **Nandokha, M.T.;** Njuguna, W.J.; Shitanda, D. (2012). Production of Crude Biofuel by Using *Aspergillus Niger Species* to Decay Locally Collected Algae. MSc. Thesis. Jomo Kenyatta University of Agriculture and Technology. **Ongoing.**
2. **Wahome, A. W.;** Ngunjiri, K.M.; Shitandad, D. (2009). Characterization and CI Engine Performance Analysis of Rice Bran Oil as Biodiesel. MSc. Thesis. Egerton University. **Graduated in 2013.**
3. **Mayunzu, O.;** Shitanda, D.; Ogalebo, M. (2008). Characteristics and Products Development of *Mondia Whytei* roots. MSc. Thesis ongoing. Jomo Kenyatta University of Agriculture and Technology. **Graduate in June 2013.**
4. **Rono, K.M.;** Kanali, C.L.; Mailutha, J.T.; Shitanda, D. (2008). Thin layer Solar Drying of Amaranth Seeds. MSc. Thesis. Jomo Kenyatta University of Agriculture and Technology. **Graduated in 2010.**
5. **Makori, S. N.,** Nyanga, D.M., Shitanda, D. (2008). Characterization and Performance of Selected Seed Oil Methyl Esters in a Diesel Engine. MSc. Thesis. Egerton University. **Graduated in 2011.**
6. **Uluko, H.,** Mailutha, J.T., Shitanda, D. and Kanali, C.L. (2004). Simulation of Temperature Distribution in Rice Solar Dryer Using Finite Element Method. MSc. Thesis-Jomo Kenyatta University of Agriculture and Technology. **Graduated in 2004.**
7. **Inzoberi, M.M.;** Shitanda, D.; Mwithiga, G. (2004). Juice Quality and Quantity from Mechanically Extracted Tamarillo (*Cyphomandra bataceae* L.) Fruit. MSc. Thesis. Jomo Kenyatta University of Agriculture and Technology. **Graduated in 2004.**

### **DEVELOPED TECHNOLOGIES**

S/ No.	Technology	Status	Registration
1	Belt-drive Screw Expeller	Registered	XEMPLAR-5-KE/T/2005/058411
2	Vegetable Solar Drier	Registered	AFROTICA12-5/8/2005
3	Sand Base Solar Tunnel Fish Drier	Registered	AFROTICA13-KE/T/2005/058339
4	Plate Type Solar Drier	Project	None
5	Yellow Oleander Seed Husker	Project	None

6	Mondia Whytei peeling Machine	Project	None
7	Mondia Whytei Products	Project	None
10	Prosopis Products	Project	None
12	Charcoal Cooler	Project	None
13	Solar Powered Charcoal Cooler	Project	None
14	Biodiesel	Project	None
15	Oil Base Steam Distiller	Project	None
16	Bicycle Charger	Project	None

### **COMMUNITY SERVICE**

1. Member of the advisory Committee of the International Youth Fellowship helping the youth have a changed mindset and leave a God fearing life.
2. Patron of Youth for Youth Development through Talent NGO which promotes small scale enterprises for youth in Kakamega County.
3. Patron Manyonje Primary School in Kakamega County. Mentoring the children growth academically and spiritually.
4. Patron Tande Primary School in Kakamega County. Mentoring the children growth academically and spiritual
5. Promotion of herbal medicine gardens in Western Kenya. Involved in encouraging farmers and women groups to plant small gardens of well known traditional medicinal plants and training them on their uses at the village level. Done in Collaboration with Mr. Yoshida from Japan
6. Support of AIDS orphans. Involved in supporting the education of AIDS orphans in Western Kenya through provision of school fees in collaboration with Mr. Yoshida from Japan.
7. Promotion of Yellow Oleander. Involved in the campaign to promote Yellow Oleander as a cash crop in the Nyanza region of Kenya. The plant is highly drought resistant and grows naturally throughout the region. It is mainly used as live fence and for shade but has the potential to produce oil for medicinal ointments, soap and even as fuel in diesel engines. Its other medicinal uses are still under investigation.
8. Training of contact groups in solar fish drying technology in Western and Coast province and promotion of solar drier technology in rural areas.
9. Engagements of Schools in Ongata Rongai to enhance their learning environment and enable them develop interest in University education.
10. Support construction of Kahawa Sukari Deliverance new church, Nairobi.
11. Support for electricity connection and purchase of generator for Mukhonje church, Malava.
12. Patron, Youth for Youth Talent Development. Promoting youth enterprises through tapping talents and skills, Malava 2013.



## BOOKS/MANNUALS

1. **Shitanda, D.**; P.M. Odote, and M. Mukolwe. (2008). Sand Base Solar Powered Tunnel Dryer for Fish Drying. Lighthouse Foundation.
2. **Shitanda, D.** (2006). Environment and Sustainable Development: A guide for Tertiary Education in Kenya, Volume 1, **ppg 91-108**. School of Environmental Studies and Human Sciences, Kenyatta University, Downtown Printing works Ltd, Nairobi.

## REFEREED PAPERS (2007-2016)

1. **Makanga, J.T.**; Shitanda, D.; Njoroge, C.; and Ong'era, M.G. (2016). Application of Renewable Energies for Storage of Horticultural Produce in Marginal areas of Kenya: The Performance Evaluation of a Prototype Solar-Charcoal Cooler. *The International Journal of Science and Technology*, Volume 4, No.12
2. **Wawire, M.O.I.**; Mathooko, F.M.; Njoroge, C.K.; Shitanda, D.; Sila, D. and Hendrickx, M. (2012). Kinematics of Thermal Inactivation of Peroxidase and color Degradation of African Cowpea (*vigna unguiculata*) Leaves. *Journal of Food Science*. 81(1)2016, 160-165.
3. **Muthike, G.M.**; Kanali, C.L.; Shitanda, D. (2013). Comparative Analysis of On-farm Timber Conversion Systems in Kenya. *Journal of Horticulture and Forestry*. 5(6), 74 – 89.
4. **Gichua M.**; Njoroge G.; Shitanda D.; Ward D. (2013). Invasive species in East Africa: Current status for informed policy decisions and management. *Journal of Agriculture Science and Technology*. 15 (1) (Accepted).
5. **Kituu, G. M.**; Shitanda, D.; Kanali, C.L.; Mailutha, J.T. and Wainaina, J.K. (2013). Artificial breeding of an optimized solar tunnel dryer using genetic algorithms. *International Journal of Sustainable Energy*, 31(5), 313-325.
6. **Muthike, G.M.**; Kanali, C.L. and Shitanda, D. (2013). The Contribution of Framed Chainsaw System to Improvement of Sawn Timber Quality. *International Journal of Current Research*. 5(01) pp 070-074.
7. **Wawire, M.**; Oey, I.; Mathooko, F.M.; Njoroge, C.K.; Shitanda, D.; Sila, D. and Hendrickx, M. (2012). Effect of Harvest Age and Thermal Processing on Poly-Gama- Glutamate Folates and Minerals in African Cowpea Leaves (*vigna unguiculata*). *Journal of Food Composition and Analysis*. 25(2012) 160-165.
8. **Aliyu, B.**; Shitanda, D.; Walker, S.; Agnew, B.; Masheiti, S. and Atan, R. (2011). Performance and Exhaust Analysis of a Diesel Engine Fuelled with *Crototon Megalocarpus* (Musime) Methyl Ester. Elsevier *Journal of Applied Thermal Engineering*, 31(2011) 36-41).
9. **Aliyu, B.**; Agnew, B. and Shitanda, D. (2011). *Crototon Megalocarpus* (Musime) Seeds as a Potential Source of Bio-diesel. Elsevier *Journal of Biomass and Energy* 34(2010) 1495-1499).
10. **Wawire, M.**; Oey, I.; Mathooko, F.M.; Njoroge, C.K.; Shitanda, D. and Hendrickx, M. (2011). Thermal Stability of Ascorbic Acid and Ascorbic Acid Oxidase in African Cowpea Leaves (*vigna unguiculata*) of different Maturities. *Journal of Agricultural and Food Chemistry*. 59(2011) 1774-1783.
11. **Shoji K.**; Shitanda, D.; Note, M. and Cao, W. (2011). Effects of Mildly heated, slightly acidic electrolyzed water on the disinfection and physicochemical properties of sliced carrot. *Journal of*

12. **Shitanda, D.**; Koide, S.; and Kilaka, E. (2010). Effect of Glass Covers and Air-Passes on the Heat Transfer Coefficient of See-Saw Type Solar Collector. *The Kenya Journal of Mechanical Engineering*. 6(01).
13. **Asudi, G.O.**; Ombwara, F.K.; Rimberia, F.K.; Nyende, A.B., Ateka, E.M.; Wamocho, L.S. Shitanda, D. and Onyango, A. (2010). Morphological Diversity of Kenyan Papaya Germplasm. *African Journal of Biotechnology*. 9(51), 8754-8762.
14. **Oduor-Odote, P.M.**, Shitanda, D., Obiero, M. and Kituu, G.M.D. (2010). Drying Characteristic and some Quality Attributes of *Rastrineobola Argentea* (Omena) and *Stolephorus Delicatulus* (Kimarawali). *AJFAND Online Journal* 10(8).
15. **Muthike, G.M.**; Kanali, C.L. and Shitanda, D. (2010). Chainsaw Milling in Kenya. *ETFRN News*. 52 pp 166-173.
16. **Ronoh E.K.**; Kanali C.L., Mailutha, J.T. and Shitanda, D. (2010). Thin Layer Drying Kinetics of Amaranth (*Amaranthus cruentus*) Grains in a Natural Convection Solar Tent Dryer. *AJFAND Online*. ISSN 16845374. 10(3).
17. **Ronoh, E.K.**; Kanali, C.L.; Mailutha, J.T. and Shitanda D. (2010). Thin layer drying characteristics of amaranth grains in a natural convection solar tent dryer. *The Kenya Journal of Mechanical Engineers*, September 2010, 6(2): 1-12.
18. **Kituu, G. M.**; D. Shitanda; C. L. Kanali; J. T. Mailutha, C. K. Njoroge, J. K. Wainaina, J. S. Bongyereire. (2010). "A Simulation Model for Solar Energy Harnessing by the Tunnel Section of a Solar Tunnel Dryer". *Agricultural Engineering International: the CIGR Ejournal*. Manuscript 1553. Vol. XII
19. **Kituu, G. M.**; Shitanda, D., Kanali, C.L.; J. T. Mailutha, J.T.; Njoroge, C.K.; Wainaiiana, J.K; Silayo, V.K. (2010). Thin layer drying model for simulating the drying of Tilapia fish (*Oreochromis niloticus*) in a solar tunnel dryer. *Journal of Food Engineering*. <http://www.elsevier.com/locate/jfoodeng>.
20. **Kituu, G. M.**; Shitanda, D., Kanali, C.L.; Mailutha, J.T.; Njoroge, C.K.; Wainaiiana, J.K. and Bongyereire, J.S. (2010). A Simulation Model for Solar Energy Harnessing By the Tunnel Section of a Solar tunnel Dryer. *The CIGR Ejournal*. Manuscript No.1553, Vol. XII.
21. **Mayunzu, O.**; Shitanda, D.; Okalebo, F.; Simiyu, L. (2010). Evaluation of the Antimicrobial and Antioxidant Properties of Extracts of *Mondia Whytei* Roots. *Pakistan Journal of Nutrition*. 9(x): xx-xx,
22. **Kituu, G. M.**; Shitanda, D., Kanali, C.L.; J. T. Mailutha, J.T.; Njoroge, C.K.; Wainaiiana, J.K.; Odote, P.M.O. (2009). Influence of Brining on the Drying Parameters of Tilapia (*Oreochromis Niloticus*) in a Glass-Covered Solar Tunnel Dryer. *Agricultural Engineering International: the CIGR Ejournal*. Manuscript number. EE 1349, Vol. XI.
23. **Ronoh E.K.**; Kanali C.L.; Mailutha J.T.; Shitanda D. (2009). Modeling Thin Layer Drying of Amaranth Seeds under Open Sun and Natural Convection Solar Tent Dryer. *Agricultural Engineering International: the CIGR Ejournal*. Manuscript 1420. Vol. XI. November, 2009.
24. **Mwithiga, G.**; M.I. Mukolwe; D. Shitanda; P.N. Karanja. (2007) Evaluation of the effects of ripening on the sensory quality and properties of tamarillo (*Cyphomandra betaceae*) fruits. *Journal*

of Food Engineering, **79(2007) 117-123.**

25. **Uluko H.**; Mailutha, J.T.; Kanali, C.L.; Shitanda D.(2007). A finite element prediction of temperature distribution in a solar grain dryer. The Kenya Journal of Mechanical Engineering, 3(1): 45-53.

### **REFEREED PAPERS (2001-2006)**

1. **Shitanda, D.**; Kithaka, M. M.; Wamai, E. (2006). Development of an alternative binder for baggasse briquettes. Journal of Agriculture, Science and Technology.
2. **Uluko, H.**, Kanali, C.L.; Mailutha, J.T., and Shitanda, D. (2006). A Finite Element Model for the Analysis of temperature and Moisture Distribution in a Solar Grain Dryer. The Kenya Journal of Mechanical Engineering, **2(1):47-56.**
3. **Shitanda, D.** and Wanjala, N.V. (2005). Effect of Different Drying Methods on the Quality of Jute (*Corchorus Olitorius L.*). Drying Technology Journal.
4. **Shitanda, D.** (2004). Rural Vegetable Oil Processing in Kenya. Status and Research Priorities. **Journal of Agricultural Machinery in Asia, Africa and Latin America. 35(2): 36-40**
5. **Fuchaka, W.**, P. Akhaukwa, and D. Shitanda (2004). Analysis of Remuneration Disparities within Public Universities in Kenya. Towards Reversal of Brain Drain and Brains in the Drain. Association of Third World Studies-Kenya Chapter-**ISBN9966-9969-19.**
6. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (2002). Compressive Strength Properties of Rough Rice Considering Variation of Contact Area. **Journal of Food Engineering, 53: 53-58.**
7. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (2001b). Performance Analysis of an Impeller Husker Considering the Physical and Mechanical Properties of Paddy Rice. **Journal of Agricultural Engineering Research, 79(2): 195-203.**
8. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (2001a). Husking Characteristics of Short and Long Grain Rice by Rubber Roll Husker (Part 1). **Journal of the Japanese Society of Agricultural Machinery, 63(1): 55-63.**
9. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (2001). Performance Analysis of Impeller and Rubber Roll Husker Using Different Varieties of Rice. **The CIGR Journal of Scientific Research and Development, FP 01 001. Vol. III ([www.agr.tamu.edu/cigr/](http://www.agr.tamu.edu/cigr/)).**
10. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (2001). Variation of Friction and Normal force in Roll Husker. **International Agricultural Engineering Journal, 11(2&3): 121-131.**

### **REFEREED PAPERS BEFORE 2002**

1. **Shitanda, D.** (2000). Development of a Multi-Drive Screw Expeller. Journal of Agricultural Machinery in Asia, Africa and Latin America (**Submitted**).
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8. **Kituu, G.M.; Shitanda, D.**; Kanali, C.L.; Mailutha, J.T. Effect of Brining on the Drying Rate of Tilapia in a Solar Tunnel Drier. Power and Energy Systems (AfricaPES 2008) Proceedings of the Second IASTED Africa Conference. September 8-10, 2008 Gaborone, Botswana.
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5. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (1999). Husking Long and Short Grain Rice by Rubber Roll and Impeller Husker. **58<sup>th</sup> Proceeding of Japanese Society of Agricultural Machinery**, 517 – 518, 2<sup>nd</sup> to 4<sup>th</sup> April, Saga University – Japan.
6. **Shitanda, D.**, Nishiyama, Y. and Koide, S. (1999). Grain Flow Analysis in Impeller and Rubber Roll Husker. **Proceeding of Japanese Society of Agricultural Structures**, Utsunomiya University – Japan.
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11. **Shitanda, D.** and Nozaka, J. (1996). Maintenance of Agricultural Engineering Facilities at Jomo Kenyatta University of Agriculture and Technology. Paper Presented at the Kenya Society of Agricultural Engineering International Conference, Nairobi – Kenya.
12. **Shitanda, D.** Nozaka, J. and Nindo C.I. (1996). Design and Fabrication of a Multi-Drive Screw Expeller. Paper Presented at the **SEASAE International Conference**, 2<sup>nd</sup> – 4<sup>th</sup> October, Arusha – Tanzania.
13. **Shitanda, D.** and Biketi F. (1995). Performance of Rice Processing Systems. Paper Presented at the Kenya Society of Agricultural Engineering International Conference, Nairobi – Kenya

14. **Shitanda, D.** and Mulamu, L. (1995). Entrepreneurship in Animal Traction: Case Studies. **Proceeding of the Second Kenya Network for Draught Animal Technology Workshop.** KCBIBF, Nairobi – Kenya.
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16. **Shitanda, D.** (1994). Rural Vegetable Oil Processing in Kenya: Status and Research Priorities. Paper Presented at the **Food Science and Technology Conference**, Nairobi – Kenya.
17. **Shitanda, D.**, Karioko, B.M., and Njenga, P. (1994). A field Survey of Animal Drawn Carts Manufacture in Machakos District. **Field Report**, DAO’s Office, Machakos.
18. **Shitanda, D.**, Mutuli, D.A., and Odongo, E. (1994). Properties of Crude Oil from Indigenous Oilseeds in Kenya Compared to those of Petroleum and Conventional vegetable Oils – **Masters Thesis**, University of Nairobi – Kenya.
19. **Shitanda, D.** and Mutuli, D.A. (1994). Renewable Energy Resources for Sustainable Development. The Case for Diesel Fuel Substitutes. Paper Presented at the **All Africa Engineer’s Conference**, Kenyatta International Conference Centre, Nairobi – Kenya.
20. **Shitanda, D.**, and Mutuli, D.A. (1992). Physical properties of Oils from Indigenous Oilseeds. Paper Presented at the **Kenya Society of Agricultural Engineering** Annual Seminar, Jomo Kenyatta University of Agriculture and Technology – Kenya.
21. **Shitanda, D.** (1992). Vegetable Oil Processing, Properties, Uses and Storage. Paper Presented at the **Oilseed Processing Machinery Design Workshop**. Thika – Kenya.
22. **Shitanda, D.** Mwaura, E.N. (1990). Evaluation Performance of Continuous Flow Concurrent Flow Drier. **BSc. Project**, University of Nairobi – Kenya.

## **ACADEMIC RESPONSIBILITIES**

1. Reviewer of Journal of Biosystems Engineering (2001-Date)
2. Reviewer of Journal of Agriculture, Science and Technology (2001-Date)
3. Reviewer of Journal of Cereal Science (2007)
4. External Examiner: Egerton University (2004-2009)
5. External Examiner: University of Nairobi (2009-todate)

## **COMPUTER PROFICIENCY**

Experienced in using, Microsoft Word, Excel, Mathematica, SMA4, AutoCAD, and PowerPoint among other computer softwares.

## **REFEREES**

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