

CURRICULUM VITAE

March 8, 2016

Name: SILVERY BEDDAR BULUMA OTENG'I, Ph.D.

Nationality: Kenyan

DATE AND PLACE OF BIRTH: 6th June, 1946, Bumadeya Village, Bukani Sub-Location. Bunyala West Location. Budalang'i Division. Bunyala Sub-County, Busia County, Western Province.

MARITAL STATUS: Married, with two (2) daughters and two (2) sons



RELIGION: Repentance and Holiness

<i>Place of work</i>	<i>Centre for Disaster Management and Humanitarian Assistance (CDMHA),</i>	<i>Masinde Muliro University of Science and Technology (MMUST),</i>	<i>Telephone Address</i>
Contact Address:	<i>P.O. Box 190- 50100 Kakamega, Kenya</i>	<i>Mobile:</i>	<i>0722-351039 or 0737474685 or 0775236106.</i>
Permanent Home Address:	<i>Bubango Village, P. O. Box 51, Port Victoria, Budalang'i division, Bunyala district.</i>	<i>Dean's Office Centre office Fax : (056)31444</i>	<i>254-(056)30871 254-(056)31561 254-(056)30153</i>
<i>Email:</i>	<i>sbotengi@yahoo.com sotengi@mmust.ac.ke</i>	<i>cdmha2004@gmail.com</i>	<i>or 254-(056)31444</i>

CONTENTS

1. PERSONAL PROFILE	4
2. QUALIFICATIONS	4
2.1 Academic Qualifications	4
2.2 Statutory Clearance Certificates for Tenureship of Public Office.....	5
2.3. Awards/ Testimonials for short-term professional training.....	5
2.4. Awards / Certificates of Appreciation and Recognition.....	6
3. CONTRIBUTION TO INNOVATION, SCIENCE & TECHNOLOGY	7
3.3 Mushroom as Food Security in MMUST	7
3.4 Micro-Meteorological Research in Root Pruned Grevillea Robusta Trees in Matanya Location, Laikipia District, Laikipia County.....	7
4.0 RESOURCE MOBILIZATION EFFORTS.....	7
4.1 Conferences, Workshops and Symposia	Error! Bookmark not defined.
4.2 Student research funding	Error! Bookmark not defined.
4.3 Donations.....	Error! Bookmark not defined.
4.4. Consultancies.....	Error! Bookmark not defined.
5. PROFESSIONAL EXPERIENCE AT MMUST June 2005 to date	7
5.1 Present Employment and benefits: Conditions of service and Benefits	7
5.2 Role in establishment of MMUST in 2000	8
5.3 First in many efforts in MMUST, nationally and internationally.....	8
6. TENURE AT KENYA AGRICULTURAL RESEARCH INSTITUTE (KARI).....	9
7. UNIVERSITY TEACHING AND RESEARCH.....	10
7.2 Coordinating of teaching and student research: Student research review, supervision and examination	11
7.2.1 <i>Masters graduates</i>	11
7.2.2 <i>Doctoral graduates</i>	12
7.2.3 <i>Student Research currently under supervision</i>	13
7.2.4 <i>Reviewed research articles in a number of journals both locally and internationally</i>	14
8. ON UNIVERSITY –WIDE COMMITTEES AND TASK FORCES	14
9. IN THE UNIVERSITY OF NAIROBI	14
9.1 Conditions of service	14
9.2 Teaching duties.....	15
9.4 Other duties in the University of Nairobi	15
9.5 Developing programmers in the University of Nairobi.....	15
10. IN THE CIVIL SERVICE (1976-1990)	15

11. OTHER PROFESSIONAL INVOLVEMENT	16
11.1 On performance Contract	16
11.2 On Strategic Plan	16
11.3 External Examinations.....	16
11.4 International Engagement and Award	16
12. RESEARCH PROJECTS AND PROGRAMMES	17
13. REGIONAL AND INTER-UNIVERSITY LINKAGES AND COLLABORATIONS	18
14. MEMBERSHIP TO LOCAL AND INTERNATIONAL ORGANISATIONS.....	18
15. LOCAL AND INTERNATIONAL CONFERENCES, SYMPOSIA AND WOKSHOPS	18
16. RESEARCH PUBLICATIONS.....	20
16.1 Books Published	20
16.2 Book chapters	20
16.3 Published in Peer Reviewed Journals	21
16.4 Articles in Conference/Workshop/Seminar Proceedings	25
16.5 Research reports	26
Appendix.....	Error! Bookmark not defined.

1. PERSONAL PROFILE

- (a) Highly motivated and proactive with demonstrated service to the Nation of Kenya having worked in Kenya Meteorological Department (KMD), Department of Research and Development (DRD, Ministry of High Education , Science and Technology), University of Nairobi, and Masinde Muliro University of Science and Technology (MMUST) ;
- (b) Highly flexible, resourceful, results- oriented and has supervised a number of disciplinary and multidisciplinary graduate theses;
- (c) Balanced personality and integrity with over 33 years experience as public servant.
- (d) Highly trained and specialised with wealth of experience in research, academic and international assignments;
- (e) Espouses high moral and ethical standards as a devoted practising christian and a pastor of the Most High God.
- (f) Demonstrated leadership skills; served as Assistant Director of Meteorology (in Kenya Meteorological Department), Principal Research Officer (in the Department of Research Development, Ministry of Science and Technology), Senior Lecturer (in UON), Chairman Department of Research Development and Documentation (in CDMHA, MMUST) and Director of CDMHA (MMUST)
- (g) During my directorship CDMHA enrolled the largest number of graduate students, that is, M. Sc. (60) and Ph. D. (48) for one Faculty in the country (in Kakamega and Nairobi).
- (h) Dedicated team player with aptitude for communicating and negotiating to resolve problems while maintaining high discipline, professionalism and standards at work.

Summary:

Prof. Oteng'i's leadership motivates and inspires others, both senior and junior staff and students alike. He is a visionary leader with high integrity. He has determination, creativity and innovativeness in his approach to leadership and management. He is committed and always available to staff and students.

2. QUALIFICATIONS

2.1 Academic Qualifications

- (a) **1996:** Ph.D. (University of Nairobi) in Applied Meteorology (cert. attached).
- (b) **1980:** M. Sc. (University of Nairobi) in Applied Meteorology (cert. attached).
- (c) **1976:** Bachelor of Science (B.Sc.) in Meteorology, 2nd Class Upper Division, University of Nairobi, Kenya (cert. attached).
- (d) **1971 & 1972:** Nakuru High School for A-Levels (forms 5 and 6).
- (e) **1967-1970:** Kisii High School for O-Levels (forms 1 to form 4)
- (f) **1963-1966:** Sota Primary School (Nyatike Division, Migori District) for Intermediate; Class 5 to class 8.
- (g) **1959-1962:** Port Victoria Primary School for Class 1 to class 4

2.2 Statutory Clearance Certificates for Tenureship of Public Office

Ethics and Anti-corruption Commission

- a) Kenya Revenue Authority
- b) Higher Education Loans Board
- c) National police Service (Certificate of Good Conduct)
- d) Commission for University Education

2.3. Awards/ Testimonials for short-term professional training

Some of the short courses as seen from the testimonials included:

- (a) 2013: 28th – 31st Jan 2013: National Symposium on Disaster Risk Reduction (DRR) – Eldoret
- (b) 2012: 1st International conference on Disaster Risk Reduction and Conflict Resolution for Sustainable Development held from 18th -20th July 2012 at MMUST.
- (c) 2012: University Council Retreat held from 12th -17th February at Mombasa Beach Hotel, Mombasa, Kenya, sponsored by MMUST.
- (d) 2011: Quality Management Systems. Implementation of ISO 9001: 2008 Seminar conducted in Kakamega-Keya 14th -16th March.
- (e) 2011: Field Skills Training held at FisherMan’s Camp (Naivasha) organized by CDMHA staff and sponsored by MMUST from 26th – 30th May.
- (f) 2010: Strategic Leadership and Change Management workshop for Directors of State Corporations, held at the Kenya Institute of Administration 22nd and 23rd October, organized by State Corporations Advisory Committee (SCAC) and Kenya Institute of Administration (KIA).
- (g) 2009: Fire Risk Mitigation and Preparedness Workshops held from 24th-26th June, sponsored by MMUST.
- (h) 2008: Attended five-day training course for Directors at Mombasa Serena Beach Hotel Conducted by the Centre for Corporate Governance (CCG), 10th -14th November.
- (i) 2006: Quality Management Systems: Implementation of ISO 9001: 2000 Seminar. Kakamega, Kenya by Kenya Bureau of Standards, 29th -31st May.
- (j) 2005: 6th International Conference of the Association of Third World Studies Inc. Kenya Chapter on theme, “ The Dawn and Prospects of African Renaissance” held at WUCST, on 22nd -24th, November (**Certificate of Participation**).
- (k) 2000: Training of Trainers Course in Statistics in Agricultural Climatology (SIAC) at Kenya Meteorological Department.
- (l) 1998: Training Course in professional and scientific writing at University of Nairobi, in of Nuclear Science.
- (m) 1987: Modalities and Techniques for Dissemination of Research Results, ICIPE, Nairobi.
- (n) 1987: Earth Observation systems and their usefulness for environment and Forestry in co-operation with RCSSMRSS and NEP/GRID, Regional Remote Sensing Facility and ESA, Nairobi.
- (o) 1984: Operational Applications of Agrometeorology in Semi- Arid Zones, held from 1st – 14th October, Erice, Sicily, Italy.

- (p) 1983: Management Course at Kenya Institute of Administration – Nairobi.
- (q) 1976-1977: operational training course for meteorologists held to kmd 23th august 1976– 28th January, 1977.

Summary administrative and management experiences

The following is a summary of my more than 34 (that is, 2013-1979) years administrative and management positions and experiences in GOK and Universities:

- 2011 - 2014: Dean, of the Centre for Disaster Management and Humanitarian Assistance (CDMHA), MMUST
- 2007 -2011: Director, of the Centre for Disaster Management and Humanitarian Assistance (CDMHA), MMUST
- 2006 – 2007: Chairman, Department of Research Development and Documentation, CDMHA.
- 1995 – 2005: Senior Lecturer and in Charge of workshops and seminars in the Department of Meteorology, University of Nairobi.
- 1992 – 1994: Managed and carried out field research in Laikipia Research Programme at Nanyuki Town.
- 1991 Joined UoN from the Ministry of Science and Technology
- 1988 – 1990: Principal Research Officer in charge of energy research in the Ministry of Science and Technology,
- 1985 – 1988: Assistant Director of Research in the above department.
- 1979 – 1984: Senior Meteorologist in charge of Agrometeorological Services at the Kenya Meteorological Department.

2.4. Awards / Certificates of Appreciation and Recognition

- (a) Certificates of Appreciation by the Association of Disaster Management and Conflict Resolution of Kenya (ADMCRK) for useful contribution towards the success of the 1st International conference on Disaster Risk Reduction and Conflict Resolution for Sustainable Development.
- (b) 2009: Certificates of Appreciation by THE GOVERNMENT OF KENYA to all KARI Board of Management members towards freedom from Rinderpest, issued and signed by His Excellency, H.E. Hon. Mwai Kibaki, C.G.H., M.P.
- (c) 2006: International Award from the International Society of Agrometeorology (INSAM) for the best examples of agrometeorological services in Africa, Bologna, Italy.
- (d) 1988: 10th Anniversary of Nyayo Era and 25th Independence Celebrations issued by His Excellency Hon. Daniel T. arap Moi, C.G. H., M.P.
- (e) 2005: 6th International Conference of the Association of Third World Studies Inc. Kenya Chapter on theme, “ The Dawn and Prospects of African Renaissance” held at WUCST, on 22nd -24th, November (**Certificate of Appreciation**).

3. CONTRIBUTION TO INNOVATION, SCIENCE & TECHNOLOGY

Innovation is a process of application of new or existing knowledge in new ways and context to do something better (or a new technology). It is making changes to something established by introducing something new. This may be in products, processes or services and can be incremental or radical and at various levels. It is a process that transforms ideas into outputs by replacing older established products, processes and services with new ones.

The work done by Prof. Oteng'i and others that are innovations therefore include:

3.3 Mushroom as Food Security in MMUST

(with Prof. Sigot) Food security research with mushroom and spirulina in MMUST and even organized an exhibition of the stakeholders who farm and do value addition in the said biological resources for food security. Research was sponsored by MMUST.

3.4 Micro-Meteorological Research in Root Pruned Grevillea Robusta Trees in Matanya Location, Laikipia District, Laikipia County

Innovation that was recognized internationally and awarded the First Honorary Mention given to it by The International Society for Agricultural Meteorology (INSAM), in the 2006 INSAM contest on the best examples of agrometeorological services, was micro-meteorological research in root pruned Grevillea robusta trees in Matanya location, Laikipia district, Laikipia County. I have received many a claim from his work. This research was sponsored by the Dutch Government (1994-1995).

4.0 RESOURCE MOBILIZATION EFFORTS

During my tenure as the Director/Dean of CDMHA, I have worked hard to mobilize and solicit resources from donors both local and international through organizing conferences, symposia, workshops, helping proposals for students research funding; approaching local and international organization for donations (equipment and books) and writing proposals for consultancies. **Raised through for Conferences, workshops, seminars and symposia, student research funding, Donation and Consultancies a total of 41,321,100.00 for seven years.**

5. PROFESSIONAL EXPERIENCE AT MMUST June 2005 to date

5.1 Present Employment and benefits: Conditions of service and Benefits

- (a) Terms of employment: Contractual.
- (b) **PRESENT POSITION:** 29th June, **2009-date - Full Professor of Applied Meteorology**, and Dean of the Centre for Disaster Management and humanitarian Assistance (CDMHA), MMUST and **Chairman of Research and Technical**

Committee of Kenya Agricultural Research Institute (KARI) Management Board appointed by the Government of Kenya.

- (c) **PREVIOUS POSITION in MMUST: 2005-2009: Associate Professor of Applied Meteorology, and** Chairman, Department of Research Development and documentation (DRDD), in CDNHA.
- (d) **FIELD OF INTEREST:** Applied Meteorology in Disaster management
- (e) *Present Salary or Basic Pay: Ksh.211, 753.00 p.m.*
- (f) *House Allowance: Ksh. 70, 889.00 p.m.*
- (g) *Car allowance: Ksh. 12,500.00 p.m.*
- (h) *Professorial Allowance: Ksh. 10,000.00 p.m.*

5.2 Role in establishment of MMUST in 2000

As a member of the Curriculum Development Committee that established Masinde Muliro University of Science and Technology (MMUST), at Kakamega, Personally developed the following three undergraduate programmes used at the University using my Applied Meteorology background:

- (a) Bachelor of Water Resources Engineering;
- (b) Bachelor of Solar Engineering;
- (c) Bachelor of Sugar Technology (is now a Department of Sugar Technology, at MMUST).

These, and others developed by other members of the committee formed the manifesto presented to the former, the then Head of State (now retired) , His Excellency Daniel Arap Moi, by the University Professors, Associate Professors and Senior Lecturers from Western Province in the year 2000 was used to make a decision on establishing MMUST. The university started as a constituent college of Moi University, now full fledged university, due to the efforts of those of us.

5.3 First in many efforts in MMUST, nationally and internationally

When I joined Western University College of Science and Technology (WUCST), in 2005, which later it became MMUST, I found myself being the first person to make some achievements, as here listed below:

- (a) First from MMUST and Western Province to be appointed by Government of Kenya to Kenya Agricultural Research Institute (KARI) Board of Management (BOM) as a director (2008) and did so well on the Board within, that short time, was nominated to be the **Chairman of Research and Technical Committee** of KARI, BOM, the same year, 2008, and member of **Finance and Administration Committee** of the same Board.
- (b) First to chair and be subscriber to WUCST's, now MMUST's, first journals being published by the University, namely: *International journal of disaster management and risk reduction (Int. j. disaster manag. risk reduct.)* (ISSN: 1992-2744), and *Journal of Science, Technology, Education and Management (J-STEM)* (ISSN: 1991-2889) both of these journals are published quarterly.

- (c) First to help establish MMUST, CDMHA the teaching of Disaster management and Peace Studies in Nairobi for Diploma, Undergraduate, graduate (masters and doctoral) students, in 2006. So far these are the main programmes that are being run in the Nairobi Centre, Kingsway, City Centre.
- (d) During my tenure at CDMHA, we were the first to establish a professional association of disaster managers called *Association of Disaster management and conflict resolution of Kenya (ADMCRK)*.
- (e) First to publish a book (*on guidelines*) with the name of Masinde Muliro University of Science and Technology (MMUST). (see List of publications)
- (f) First to publish extensively in the first few years of my joining WUCST from UON. Already, between 2005 and 2007, I had six (6) articles in peer reviewed local and international journals and a book (see List of publications in this CV for 2005-2007).
- (g) First to publish a paper in a reputable peer reviewed journal with the name of **Masinde Muliro University of Science and Technology (MMUST)**. African Journal of Agricultural Research vol. 2(3), 89-104 <http://www.academicjournals.org/ajar>; ISSN 1991-637X© 2007 Academic journals of New York)
- (h) First to be given an international award “the **First Honorary Mention** on the best examples of agrometeorological services in the 2006 INSAM contest” by The International Society for Agricultural Meteorology, INSAM, headquartered in Bologna, Italy (see the attached certificate).
- (i) First to establish a **telecentre** and a community radio for MMUST at Lirhandanda, Shinyalu Division, Kakamega District (multimedia services) for local communities with the help of CHE sponsorship.
- (j) First to establish RANET Community Radio at Budalang’i Division, Bunyala District (BULALA 107.5 FM) with the help of the Kenya Meteorological Department.
- (k) First to supervise and produce the first M. Sc. graduate (Ms. Veronica Kiluva) in MMUST. No faculty thereto had produced a graduate at the level.
- (l) First in MMUST to be appointed an External Examiner by my former University (UON), barely a year after moving from there to WUCST, now MMUST. This University (UON) showed trust and confidence in my work

6. TENURE AT KENYA AGRICULTURAL RESEARCH INSTITUTE (KARI)

- (a) 2008: Appointed by Government of Kenya, for a period of three years, as a Board member (BOM) of Kenya Agricultural Research Institute (KARI) under section 15(1) (f) of the Science and Technology Act with effect from 22nd August, 2008, (published in Kenya Gazette of September 5, 2008 and Gazette Notice No. 8150).
- (b) 2008: Sent by Ministry of Agriculture to 5-day Corporate Governance Training for Board members of state corporations/ statutory Boards: Serena Beach Hotel, Mombasa-9th -15th November, 2008.
- (c) 2011: Appointed by Government of Kenya as a Board member (BOM) of Kenya Agricultural Research Institute (KARI) under section 15(1) (f) of the Science and Technology Act with effect from 23rd August, 2011 for a period of three years.
- (d) 2008-date: Has served as the **Chairman of Research and Technical Committee** of KARI Board of Management and also member of **Finance and Administration Committee**.
- (e) 2011. Led members of KARI Board of Management and other staff members, 8 in all, on the tour of South Korea. On the tour members visited ten institutions when they learnt a lot on issues pertaining to agricultural research.
- (f) And many other issues, like created and interviewed new positions for holders of senior offices in KARI, for example:
 - i) Deputy Director, Outreach and Partnerships
 - ii) Assistant Director, Biotechnology and Biodiversity Conservation
 - iii) Assistant Director, Technology – Packaging and Transfer

7. UNIVERSITY TEACHING AND RESEARCH

Teach the following courses to post graduate (Ph.D. and M.Sc.) and undergraduate students in CDMHA since joining in May 2005 from University of Nairobi.

7.1 2005-2014: Teaching engagement

A. Programme on M. Sc. in Disaster Management (PhD, M.Sc., & undergraduate)

- (a) DMD 998: Advanced Research Methods and Applications in Disaster Management (Ph. D.)
- (b) DMD 906: Disaster theory and applications
- (c) CDM 905: Role of Weather and climate on disaster management (Ph. D.);
- (d) CDM 904: Synoptic meteorological and climatological systems as prelude of natural hazards (Ph. D.).
- (e) DPE 904: Cyberspace in Disaster Management (Ph. D.)
- (f) DMH 901: Environmental pollution and climate change that result in disasters
- (g) DPE 903: Nutrition, food security and disaster management (Ph. D.)
- (h) DPE 902: Remote sensing and GIS in disaster management (Ph. D.)
- (i) DMD 801: Famine and Food security (M. Sc.)
- (j) CDM 802: Research Methods in Disaster Management (M. Sc. MMUST center and Nairobi)
- (k) CDM 806: Prediction, monitoring and management of disasters (M. Sc)
- (l) CDM 411E: GIS and Remote sensing
- (m) CDM 406: Environmental meteorology

- (n) CDM 402: Disaster preparedness and planning
- (o) CDM 400: Post-Disaster rehabilitation and reconstruction
- (p) CDS 300: Global Warming and climate change
- (q) CDM 304: Environmental pollution and control
- (r) CDM 208: Principles of disaster management
- (s) CDS 207: Food, Agriculture and Environment
- (t) CDM 204: Disasters and society
- (u) CDM 203: Climatological aspects of disaster management
- (v) CDM 200: Natural hazards and disasters

B. Programme on M. Sc. in Climate change, adaptation and sustainable development

DPE 800 Advanced Principles of Disaster Management
 DPM 800 Climate Change Science and global perspective
 DPM 801 Climate Change Impacts and Vulnerability
 DPM 802 Mitigation and Adaptation to Climate Change
 DPM 803 Climate Change and Water Resources

7.2 Student research (Project) supervision and examination

I have supervised the students here listed below in section 7.2.1 & 7.2.2 to completion and graduation.

7.2.1 Masters graduates

- 1) **Chavamnji Jananga Baxton** (Student No. CCA/G/02/2016). *determining potential future climate change impacts and adaptation strategies on water resources in Awach Tende river catchment south western Kenya.*
- 2) **Ogotu James Ochieng** (Student No. CDM/G/14/10), Coping mechanisms and flood related cholera outbreak in Nyando Sub-Count, Kenya. (Co-supervised with Prof China)
- 3) **Gibril Omar (2014)**. Student No. CDS/G/32/06) Emerging conflicts and their effects on adaptation to climate change among pastoral communities in Kenya (Master of Science, co-supervised with Prof. China);
- 4) **Tsuma Ruth Njeri, (2013)**. Effects of consumption of green maize in food security in Kakamega central. (Master of Science, co-supervised with Prof. China.
- 5) **Ouma Maurice, (2013)**. *Climate Change and Food Security Among Vulnerable Mothers And Pre-School Children in Nyando District, Kenya*
- 6) **Sabuni, E.W., (2011)**. (Student No. CDS/G/11/06,): *Inter – institutional channeling options for information transmission of flood early warning systems in Nzoia River Basin.* (Master of Science, co-supervised with Dr. S.S. China).
- 7) **Ageng'o, A.J.O., (2009)**. (Student No. CDS/G/25/04,): *Impact of home-based care to people living with HIV/AIDS and caregivers in Kakamega and Butere-Mumias districts, Kenya* (Master of Science, co-supervised with Dr. China);
- 8) **Achieng' J. O., (2009)**: *The socio-cultural factors predisposing women to HIV and AIDS disaster in Asego Division of Homa bay District* (Master of Science, co-supervised with Dr. E. Neyole);

- 9) **Ochieng' Duncan Onyango: (2009):** The impact of HIV of HIV and AIDS on service delivery in the Kenya Police .(Master of Science, co-supervised with Dr. E. Neyole);
- 10) **Namasaka, D.B., (2009).** (Student No. CDM/G/09/04): Socio-cultural practices and their influence on child development (co-supervised with Dr. J. Achoka);
- 11) **Ndung'u, D.N., (2009).** (Student No. CDS/G/04/04): A comparative study of the indigenous and conventional food banking practices for sustainable food security in Kenya (co-supervised with Prof. A. Sigot);
- 12) **Kiluva, V.M., (2008).** (Student No. CDP/G/08/04,): *Development of a sustainable low-cost non-structural Flood mitigation strategy for Nzoia River Basin* (Master of Science, co-supervised with Prof. S. Makhanu);
- 13) **Musee J.M., (2008).** (Student No. CDS/G/06/04,): *The impact of HIV/AIDS on the girl child education in Western Province of Kenya- near Complete* (Master of Science, co-supervised with Prof. S. Makhanu);
- 14) **Mwenesi, C.S. (2008).** (Student No. CDS/G/09/04,): *The impact of sugarcane based farming systems on food security in Western Kenya* (Master of Science, co-supervised with Prof. M.O. Odhiambo);
- 15) **Nyandiko, N. O., (2008).** (Student No. CDS/G/21/04,): *Integrating indigenous food crops into security and sustainable livelihoods in Kenya* (Master of Science, co-supervised with Prof. A. Sigot);
- 16) **Wesonga M. (1997):** Influence fo weather parameters on sugarcane production by (M.Sc. student University of Nairobi)
- 17) **Mwangi, J. K., (1997).** The influence of planting Density on the microclimate sunflower crop in Kenya by (M.Sc. Student University of Nairobi)
- 18) **Mwangi, C. N. (1996).** some aspects of the anomalous off-season rainfall over East Africa during December – February season by Dept Meterology, University of Nairobi supervised with J. Ininda, Dept. Meteorology (M.Sc. Student University of Nairobi)
- 19) **Moega,O.O., (1996).** Water Balance Approach to Maize yield Forecasting for Katumani Area by (M.Sc. student University of Nairobi)

7.2.2 Doctoral graduates

- a) **Lopodo Paul Mutu, 2018** (Student No. CDM/LH/001/15). Drought Coping and Mitigation Strategies amongst the Turkana Nomadic Pastoralists of Ilemi Triangle Region of Northern Kenya. (Doctor of Philosophy, co-supervised with Prof. Jacob Wakhungu & Dr. Jacob Lolelea Natade).
- b) **Ndegwa William Githungo, 2016** (Student No. CDS/H/209/11). Index based drought characterization, monitoring and forecasting in arid and semi arid Kenya. (*completed*)
- c) **Akali Moses Ngaywa, 2016** (Student No. CDP/H/03/11). Land Use change and sediment yield in the Nzoia Basin, Kenya (Doctor of Philosophy, co-supervised with Dr. Masibayi).
- d) **Barasa, Beatrice M.O. 2016,** (Student No. CDM/H/07/11). Climate change and farmer adaptation strategies in agriculture in Kakamega County, Kenya (Doctor of Philosophy, co-supervised with Prof. J. Wakhungu).
- e) **Sitati, Gladys, 2015** (Student No. CDM/H/08/09). Effect of Climate Change on Small Scale Agricultural Production and Food Security in Kitui District, Kenya. (*Ph.D. continuing*)

- f) **Nyandiko, N. O., 2012** (*Student No. CDS/H/02/09* Predicting food security using agro-climatic data under climate variability and change in Lower Eastern Kenya's arid lands. (*Doctor of Philosophy*, co-supervised with Prof. J. Wakhungu).
- g) **Masibayi, M. N., 2011** (*Student No. CDP/H/03/07*),. Hydrologic and hydraulic flood forecasting for Nzoia River Basin, Western Kenya (Doctor of Philosophy, co-supervised with Prof. J. Wakhungu)
- h) **Mukhobi, A. S. 2009** (Department of Geography, University of Nairobi,): The impact of improved farm technologies on household food security among smallholders in Western Province of Kenya: a gender perspective (*Doctor of Philosophy*, co-supervised with Prof. D. N. Mungai).

7.2.3 Student Research currently under supervision

A. Doctoral students

- 1) **Nganyi, Walter (CDP/H/02/12)**. Dissemination of seasonal forecast for Kakamega county through participatory scenario planning (*Ph.D. continuing*)
- 2) **Macharia, Peter (CDS/H/14/09)**. Small Holder Farmers Adaptation to Climate Variability in Mwingi, Kenya. (*Ph.D. continuing*)
- 3) **Panyako, Omukaga O.**, (*Student No. CDM/H/05/10*). Environmental attitude and home owners participation in flood disaster interventions in peri-urban Nairobi metropolis, Kenya. (*Ph.D. continuing*)
- 4) **Kinyanjui, Geoffrey**, (*Student No. CDM/H/29/09*). A comparative analysis of household food security and coping strategies of high and low agricultural potential areas. (*Ph.D. continuing*)
- 5) **Chilumo, Sara Z.**, (*Student No. CDM/H/02/06*). Factors that influence household food and nutrition security in Kaloleni County. (*continuing*)

B. Masters students: *Continuing research works.*

- 1) **Asiema Onesmas Ayuya** (*Student No. CDS/G/16/05*). Adoption of structures that mitigate water soil erosion hazard agriculture in Luanda district, Kenya. (*M.Sc. continuing*)
- 2) **Kathika Raphael**, (*Student No. CDM/G/18/10*), Impact of the Kakamega forest as a water catchment and carbon sink (*M.Sc. continuing*)
- 3) **Andati Kelvin**, (*Student No. CDS/G/15/09*), The relationship between landcover and cloud-to-ground lightning in Kenya. (*M.Sc. continuing*)
- 4) **Kavere Leazy**, (*Student No. CDS/G/11/11*), Factors influencing conservation of indigenous plant resources in Bungoma County. (*M.Sc. continuing*)
- 5) **Ojwang M. Consolata**, (*Student No. CDM/G/13/12*), The impact of flooding characteristics of Nyando river on cotton cultivation in lower Kano plains -Nyando district (*M.Sc. continuing*)
- 6) **Wanjala Erick**, (*Student No. CDS/G/08/12*). *Households livelihoods and their implications on development and poverty alleviation in Busia County* (*continuing*)
- 7) **Mugai, C.W.**, (*Student No. CDP/G/01/07*). *Effectiveness of flood prone house construction method as a way of coping with flood disaster in Bunyala, Kenya* (*continuing*)
- 8) **Kisiangani, Paul Nyongesa** (*Student No. CDS/G/27/04.*). *Contribution of oyster mushroom (Pleurotus ostreatus) to food security in western Kenya.* (*continuing*)
- 9) **Masinde, Geoffrey B.**, (*Student No. CDP/G/01/04.*). *Spatial and temporal analysis of dam disasters in Kenya* (*continuing*)

10) **Masachi, E.K.**, (Student No. CDP/G/04/04). *Landslide hazards related to rock falls along the Mt. Elgon slopes in Western Kenya (continuing)*

7.2.4 Reviewed research articles in a number of journals both locally and internationally For instance:

- (a) *For Journal of meteorological research:*
Paper title: “ *Increasing Food Production Resilience Through Integrated Agriculture under the Changing Climate in Taita Taveta County, Kenya*”
- (b) **For International: African Journal of Agricultural Research**
(www.academicjournals.org/ajar)
‘Paper title: “Tillage systems and genotype effects on rainfed maize (*Zea mays* L.) Productivity in Semi-arid Zimbabwe”. (author’s name not disclosed)’.
- (c) **Doctoral (Ph.D.) Thesis Examined.**
 - (i) **Gitau, W., 2010.** Diagnosis and predictability of intraseasonal characteristics of wet and dry spells over equatorial East Africa. Ph. D. thesis, University of Nairobi. 264pp.
 - (ii) **Kiluva, V.M. 2010.** A multi-system approach to modeling of floods in the Budalang’i floodplains of western Kenya. Ph. D. thesis, Masinde Muliro University of Science and Technology. 166 pp.
 - (iii) **Nyakwada, W., 2008.** Predictability of East African Rainfall with sea surface temperature Gradient modes. Ph. D. thesis, University of Nairobi. 237 pp.

8. ON UNIVERSITY –WIDE COMMITTEES AND TASK FORCES

I am a member of the following university wide committees and task forces and many more.

- (a) Senate
- (b) Steering committee on the establishment of the proposed MMUST centre for Disaster Management and training at Budalang’i
- (c) Short listing committee for Executive Deans, MMMUST (28/05/2015)
- (d) Short listing committee for professors and Associate professors, MMUST

9. IN THE UNIVERSITY OF NAIROBI

9.1 Conditions of service

- (a) 1990-1992: Assist Lecturer;
- (b) 1992-2001: Lecturer; and
- (c) 2001-2005: Senior Lecturer.
- (d) Permanent terms of service in UON

9.2 Teaching duties

Fourteen (14) years teaching experience in the Department of Meteorology at **University of Nairobi**, having joined it in Nov. 1990 from the Civil Service as assistant lecturer and left in June 2005 as senior lecturer to join WUCST, now MMUST, as associate professor. Taught both undergraduate and postgraduate (Masters) students, and supervised M. Sc. and Ph.D. research works and under-graduate (4th year) project dissertations. Courses taught:

- (a) Applied Meteorology (Agrometeorology and Agroforestry)
- (b) Land Development (Applied Meteorology and Applied Climatology),
- (c) Building Economics (Applied Meteorology and Applied Climatology),
- (d) Zoology (Biology of Conservation, an M.Sc. course),
- (e) Urban and Regional Planning, Building Economics and Land Development (Applied Meteorology and Applied Climatology).

9.4 Other duties in the University of Nairobi

- (a) 1997- 2005: Chairman, Faculty of Science Committee on Environment and Safety in the University of Nairobi.
- (b) 2001-2005: Was in-charge of organizing workshops and seminars in the Department of Meteorology till May,
- (c) 2005: Helped develop a Strategic Plan for the Department of Meteorology.

9.5 Developing programmers in the University of Nairobi

- (a) 2003: Developed post graduate diploma course in **Aviation Meteorology (SMR 521)** in the Department of Meteorology, University of Nairobi. This course was successfully launched in 2004 has a number of students
- (b) 2004: Developed Master of Science in **Agrometeorology Programme** (level 700s courses), that is, **SMR 711-SMR 799 series**. This programme was launched in 2005 and has a number of students.

10. IN THE CIVIL SERVICE (1976-1990)

- (a) **1989-1990:** *In Ministry of Research Technical Training and Applied Technology (Department of Research Development (DRD)). I worked as a Principal Research Officer In- Charge of Energy Management Policy Research for Kenya. The energy management policy that was released by the ministry was developed during my tenure.*
- (b) **1977-1988:** Ministry of Information Transport and Communications now Ministry of Environment and Ministry Resources (Kenya Meteorological Department, KMD). *1985-1988: Assistant Director, Head of Division of Research, KMD (1985-1988)*
- (c) **1979-1985:** *Senior Meteorologist and Head of Agrometeorology Section in Kenya Meteorological Department; with duty to establish agricultural meteorology stations in Kenya.*
- (d) **1976-1988:** Teaching WMO meteorological personnel of WMO class II and class III. for National meteorological Services in Africa and beyond. at Institute Of Meteorological Training and Research (IMTR), KMD. Subjects taught: *Agricultural climatology, Agricultural meteorology, micrometeorology, statistical*

- meteorology, climatology, operational statistics, remote sensing, applied climatology, and others*
- (e) **1979-1981:** Weather forecaster at the Regional Meteorological Centre (forecasting Office). Here we analyzed and used weather forecasts to farmers, aviation industry, water resources, and the general public.
 - (f) **1981 - 1996:** Member of the Inter-ministerial Early Warning Systems of Food and Agriculture for *the ministries of Agriculture and Livestock (now divided into ministries of Agriculture, Livestock, Fisheries Development)*.

11. OTHER PROFESSIONAL INVOLVEMENT

11.1 On performance Contract

- (a) As the **Chairman of Research and Technical Committee** of the KARI BOM, I have participated in formulation of the Performance contract for KARI since joining the KARI BOM and to ensure that contract targets are met.
- (b) As the **Dean of the Centre for Disaster Management and Humanitarian Assistance (CDMHA)**, I participated in formulation of the Performance Contract for MMUST and including the RETREAT at MOMBASA BEACH HOTEL, and to ensure that performance targets are met.
- (c) I have also formulated and signed the performance contract between myself, as Dean, CDMHA, and the Deputy Vice Chancellor (Academic Affairs) after heads of departments in CDMHA had signed with me.

11.2 On Strategic Plan

- (a) Again as the **Chairman of Research and Technical Committee** of the KARI BOM, I have participated in drawing up strategic plan for KARI and presented to the Minister for Agriculture at an open forum at KARI Headquarters Nairobi..
- (b) As the **Dean of the Centre for Disaster Management and Humanitarian Assistance (CDMHA)**, I participated in drawing up several strategic plans in MMUST; University-Wide, School of Graduate Studies, CDMHA, PSSP (Privately Sponsored Students Programme).
- (c) As a member of Executive Committee of the Kenya Meteorological Society (KMS) I am currently participating in drawing up a strategic plan for KMS.

11.3 External Examinations

- (a) **2006-date:** an External Examiner in the Department of Meteorology University of Nairobi.
- (b) **2010-** Appointed an External Examiner in the School of Earth Sciences, South Eastern University College (Constituent college of the University of Nairobi) for a period of four years.

11.4 International Engagement and Award

- (a) **1979-1988:** While working in KMD; Represented Government of Kenya on the WMO Commission for Agricultural Meteorology (CAgM) based in Geneva, Switzerland.

- (b) 2006: The JURY for The International Society for Agricultural Meteorology, INSAM, headquartered in Bologna, Italy awarded me, and research colleagues, the **First Honorary Mention** on the best examples of agrometeorological services in the INSAM contest. As shown in the certificate issued to me the Jury was comprised of renowned scientists from Brazil, India, Korea, Italy, Iran and Cuba (see the attached certificate)

12. RESEARCH PROJECTS AND PROGRAMMES

- (a) **2007 - Date:** *Documenting and validating efficacy of mushroom production techniques & utilization to enhance food security in Kenya.*
- (b) **2009:** Principal researcher in MMUST Funded Research Project, “*Environmental impact of brickmaking in Lake Victoria Basin of Kenya*” fourth and final phase completed successfully and a report written to MMUST.
- (c) **2009:** Principal researcher in MMUST Funded Research Project, “*Environmental impact of brickmaking in Lake Victoria Basin of Kenya*” third phase completed successfully and a report written to MMUST fourth phase to begin soon.
- (d) **2007:** Principal researcher in Commission for Higher Education (CHE) funded research project “*Expanding access to small holder agricultural information through media strategies for sustainable productivity: Toward achieving food security in Kakamega district*”. Report of part one already compiled for CHE. A one year project ending till August 31, 2007.
- (e) **2007-2009:** Principal researcher in MMUST Funded Research Project, “*Environmental impact of brickmaking in Lake Victoria Basin of Kenya*” first phase completed successfully and a report written to MMUST. Second phase to begin latter in the year, 2007.
- (f) **2007:** Principal researcher in MMUST Funded Research Project, “*Environmental impact of brickmaking in Lake Victoria Basin of Kenya*” first phase completed successfully and a report written to MMUST. Second phase to begin soon.
- (g) **2007:** University Research Fund researcher in the project on, “*Documenting and validating efficacy of mushroom production techniques & utilization to enhance food security in Kenya.*”
- (h) **2004:** Capacity building through Partnership and Information and Communication Technology for using indigenous knowledge for nature conservation in Africa project focuses on four African countries (Kenya Tanzania, Swaziland and South Africa. And is sponsored by UNEP and ICPAC – completed and submitted to UNEP.
- (i) **2004:** Chairman of a local NGO by name Environmental Education, Research and Management (ENERMAP). We have recently been secured sponsorships from the Global Funds for HIV/ AIDS patients to study the effect on Aids patients of physical environment (meteorological parameters) and its prevalence in Lake Victoria area targeting the fishermen – completed and submitted to GOK
- (j) **2000-2005:** Established and participated in regional research programme, known as East African Regional Universities programme with the participating universities being: Oxford University, University of Dar es- Salaam, Makerere University, Maseno University (link person, Prof. C. Mango) and University of Nairobi.

- (k) **1992-2004:** Helped establish a research programme known as Traditional Techniques of Microclimate Investigation with participating universities being University of Nairobi, University of Gezira (Sudan), Amedo Bello University (Nigeria), University of Dodoma, Wageningen Agricultural University, (Netherlands).

13. REGIONAL AND INTER-UNIVERSITY LINKAGES AND COLLABORATIONS

I was instrumental in starting the following linkages and collaboration

- (a) 2009: Link between National Museums of Kenya and MMUST is underway
- (b) Similarly a Link between Regional Centre for Mapping of Resources for Development (RCMRD) and MMUST is also underway.
- (c) 2008: Tshwane University of technology (TUT, South Africa) and Masinde Muliro University of Science and Technology (MMUST, Kenya).
- (d) 2007 – Date: Participated in tripartite linkage for training of Disaster Management and related courses by the universities of Coventry (UK), Dar es Salaam (Tanzania), Kiambogo (Uganda) and MMUST (Kenya).
- (e) 2005 – Date: Link between MMUST, Kenya Meteorological Department (KMD) and IGAD Climate Prediction and Applications Centre (ICPAC), Nairobi.

14. MEMBERSHIP TO LOCAL AND INTERNATIONAL ORGANISATIONS

- (a) 2010: Honorary Membership of the Lower Isiukhu Catchment Area Resources Users Association registered 9th April,
 - (b) 2010: Membership Certificate to the Association of Disaster Management and Conflict Resolution of Kenya (Life Member)
 - (c) 2009-date: Member, Institute of Directors of Kenya
 - (d) **2008-date: Government Appointed Board Member of KARI Management Board** w.e.f. August 22, 2008 as published in Kenya Gazette of September 5, 2008 and Gazette Notice No. 8150, and the chairman of Research and Technical Committee of KARI Board.
 - (e) 2007- date: Member of International Society for Agricultural Meteorology (INSAM)
 - (f) 2007- date: Executive member of Kenya Meteorological Society (KMS)
 - (g) 2006- 2009: Member of Nzoia River Basin Development initiative Project
- 2002-2005: Member of the research in applied climatology at ICPAC- IGAD, Nairobi.

15. LOCAL AND INTERNATIONAL CONFERENCES, SYMPOSIA AND WOKSHOPS

Some of the local and international conferences, workshops and symposia that I have organized or participated in include

- (a) 2015: 12th KMS international conference on meteorological research, applications and services Wednesday 11th – Friday, 13th November, 2015, Kisumu, Kenya.
- (b) 2015: 3rd National Symposium for Disaster Risk Reduction held on 12th October in Narok County at Maasai Mara University.

- (c) 2015: New paradigms in National and International Security: the role of national and county governance, education, science technology and media. 9th to 12th June at Bishop Stam, Kakamega.
- (d) 2013: National Symposium on disaster risk reduction in Kenya. Sponsored by UNPD, Government of Japan, Government of Kenya and MMUST, held at Sirikwa Hotel from 29th-31st January.
- (e) 2012. International Conference on Disaster Risk Reduction and Conflict Resolution for Sustainable Development. Organized by Association of Disaster Management and Conflict Resolution of Kenya (ADMCRK) hosted by CDMHA. Held at Main Catering Centre at MMUST 18th-20th, July.
- (f) 2010: Participation in The global week of action against gun violence. MMUST, CDMHA in collaboration with International Network on small arms and light weapons. 10-16th May.
- (g) 2010: Workshop on Role of armed forces in Disaster Management areas. May 13-14 Main Catering Centre at MMUST organized by CDMHA
- (h) 2009: Workshop on fire disasters in urban areas. June 24th at Main Catering Centre at MMUST organized by CDMHA
- (i) 2009: Workshop on fire disasters in institutions. June 25th at Main Catering Centre at MMUST organized by CDMHA
- (j) 2009: Workshop on environmental fire disasters. June 26th at Main Catering Centre at MMUST organized by CDMHA
- (k) 2009: Induction Programme for State Corporations Advisory Committee (SCAC). March 6, 2009 at K.I.A.
- (l) 2009: the workshop for the MMUST University Council, Deans and Directors on Good Governance as a strategy for sustainable Quality University education held on 26th -30th January at Mombasa Beach Hotel, Mombasa-Kenya.
- (m) 2009: Changing Context of University Teaching, Learning and Research Seminar for Academic Staff – January 24, Main Catering Unit (MMUST).
- (n) 2009: The Kenya UNESCO World Heritage Tentative List Workshop, January 20. National Museums of Kenya.
- (o) 2009: MMUST Council, Deans’, Directors’ Retreat, January 29, at Mombasa Beach Hotel.
- (p) 2008: The responsibilities of Civil Societies and Community Organizations in achieving Truth, Justice and Reconciliation in Post-Conflict Kenya at Christi Horn of Africa, September
- (q) 2008: Stakeholders Workshop on Climate Challenges on Health in Kenya, December 8 and 9, at Sarova Pan Africa Hotel, Nairobi.
- (r) 2008: Confronting the Challenges of Food Security through Research, Research Dissemination Workshop sponsored by Commission for Higher Education at Mombasa Beach Hotel, August 26-30,.
- (s) 2008: Inception workshop on “Integrating Indigenous Knowledge in Climate Risk Management to Support Community Based Adaptation Strategies. Sponsored by ICPAC, June 16-19. Sunset Hotel Kisumu.
- (t) 2008: Challenges and Opportunities in Higher Education – MMUST Academic Staff Seminar August 15, MCU.

- (u) 2008: Enhancing capacities of the Meteorological Services in support of Sustainable Development in the East African Community AICC, Tanzania. March 27-28,
- (v) 2008: Kenya/South Africa Joint Committee and Technical Cooperation Meeting on Science and Technology. August 11-14,. Safari Park Hotel, Nairobi.
- (w) 2008: Five-Day Residential Corporate Governance Training Course for Directors of State-owned Enterprises (Corporations) in the Ministry of Agriculture. November 10-14,. Mombasa Serena Beach Hotel, Kenya.
- (x) 2008: Kenya-Japan Exchange Seminar on Marine-Earth Sciences: Cooperating towards a better planet Earth, Japanese Embassy, Nairobi.
- (y) 2007: Kenya-Japan Exchange Seminar on Marine-Earth Sciences: Cooperating towards a better planet Earth, Thursday, January.
- (z) 2007: Root causes of Mt. Elgon Crisis and possible solutions – searching for sustainable Peace, held on 28-29 June at CDMHA, MMUST.
- (aa) 2006: 1st International Conference on Disaster Management and Human Security in Africa 11-13th October, Bishop Nicholas Stam Pastoral Centre Kakamega (Chairman organizing committee of the Conference)
- (bb) 2005: 6th Third Association of Third World Studies Inc (ATWS) International Conference, Kenya Chapter 22-24 November, Bishop Nicholas Stam Pastoral Centre Kakamega.

16. RESEARCH PUBLICATIONS

16.1 Books Published

- 1) **Oteng'i, S.B.B., 2014.** Teach Yourself Weather Instruments and methods of Use: Land Surface platforms- Volume One; Utafiti Foundation (ISBN: 978-9966-26-024-6); xix+ 188 pp.
- 2) **Oteng'i, S.B.B., 2009.** *Application of Climatology in Sustainable Tropical Farming Systems*, MMUST Library with Scholarly Open Press (ISBN: 9966-779-01-9); viii + 220 pp.
- 3) **Oteng'i, S.B.B. and China, S. S., 2007.** Guidelines on writing research proposals and theses; Scholarly Open Press (ISBN: 9966-779-00-0); vi+ 30 pp.
- 4) **Oteng'i, S.B.B. (still in print),** Teach Yourself Weather Instruments and methods of Use: Marine and Upper Air & space platforms- Volume Two.

16.2 Book chapters

- 1) **Oteng'i, S.B.B., New, W., and Ogallo, L.A, 2005.** For the want of water. *Drylands and Arid Habitats (book chapter)*. 242-245.
- 2) **Ogallo, L.A., Oteng'i, S.B., Ambenje, P., Nyakwada, W., and Githui, F., 2005.** Monitoring agricultural drought: The case of Kenya. In: V. K. Boken, A. P. Cracknell, and R. L. Heathcote (eds). *Monitoring and predicting agricultural drought: A global study*. World Meteorological Organization (WMO), publ. Oxford University Press, London.238-251.

16.3 Published in Peer Reviewed Journals

(in descending order of year-from 2016 to 1978)

- 1) Githungo, W., **Oteng'i, S.B.B.**, Whakhungu, J., and Masibayi, E. N., 2016. Multi-criteria based evaluation of user preferences for drought index. In the special issue of the journal of meteorology and related sciences. 9: 2; ISSN 2412-3781. VOLUME 9, Special issue, may 2016. 13-29.
- 2) Githungo, W., **Oteng'i, S.B.B.**, Whakhungu, J., and Masibayi, E. N., 2016. Infilling raingauge missing data gaps with satellite estimates for ASAL of Kenya. Hydrology- 130707.
- 3) Githungo, W., **Oteng'i, S.B.B.**, Whakhungu, J., and Masibayi, E. N. ... Viability of artificial neural network for drought forecasting in ASAL of Kenya. *Journal of Meteorological Research (JMR)*.....ACTA-E-2016-0026.
- 4) Akali, N.M., **Oteng'i, S.B.B.**, Masibayi, E. N., Mokuu, F.A., and Maloba, J., 2015. GIS-Based modeling of land use dynamics in River Nzoia Basin, Kenya. *Global Journal of Engineering Science and Research Management*. ISSN 2349-4506, 2(9): 88-104.
- 5) Githungo, W., **Oteng'i, S.B.B.**, Whakhungu, J., and Masibayi, E. N. (2015b). An artificial neural network model for model for drought forecasting for ASAL of Kenya. *Journal of Meteorological Research (J. Meteo. Res.)*, 28 (x), xxx-xxx, doi: 10.1007/s 13351-014-0xxx-x). ACTA-E-0122.
- 6) Githungo, W., **Oteng'i, S.B.B.**, Whakhungu, J., and Masibayi, E. N. (2015a). Multi – criteria based evaluation of user preferences for drought index. *European Journal of operational research*
- 7) Barasa, B., **Oteng'i, S.B.B.**, and Whakhungu, J. , (2015). Farmer adaptation strategies to the impacts of climate variability in Kakamega County, Kenya. *International Journal of Science and Technology*, ISSN 2321 – 919X
- 8) Barasa, B., **Oteng'i, S.B.B.**, and Whakhungu, J. , (2015). Farmer awareness of climate variability in Kakamega County, Kenya. *International Journal of Science and Technology*, ISSN 2321 – 919X
- 9) Barasa, B. M. O., **Oteng'i, S.B.B.**, and Whakhungu, J. , (2015). Impacts of climate variability in agricultural production in Kakamega County, Kenya. *International Journal of Agricultural and innovation Research (IJAIR)* ISSN 23 – 1473, 3 (6): 1739-1747
- 10) Khisa, G.V., **Oteng'i, S.B.B.**, and Mikalitsa, S.M., (2014). Effect of climate change on small scale agricultural production and food security in Kitui District, Kenya. *The Journal of agriculture and natural resources sciences*. ISSN: 2383-238X, 1(1): 34-44.
- 11) Khisa, G.V., **Oteng'i, S.B.B.**, and Mikalitsa, S.M., (2014). Coping strategies against climate change in agricultural production in Kitui District, Kenya. *The Journal of agriculture and natural resources sciences*. ISSN: 2383-238X, 1(2): 71-86.
- 12) Nyandiko, N.O., Wakhungu, J., **Oteng'i, S.B.B.** (2014). Effect of climate Variability on maize yields in the Arid and Semi-Arid lands of lower eastern Kenya. *Climate and development*. 26(1): 65-69.
- 13) **Oteng'i, S.B.B.**, and Khabamba, I., (2013). Environmental assessment of potential measures for balancing natural resources use and integrity of Nzoia River Basin. *J. Meteorol. Rel. Sci.* (ISSN 1995-9834), 4: 7-11.

- 14) Amukhaya, S.M., **Oteng'i, S.B.B.**, and Opondo, M.M., (2013). Incidences of diseases in Kenya in J.S. Shikwati (editor). The economic burden of health in Kenya. Publ. by inter Regional Economic Network (IREN), Nairobi.
- 15) Nyandiko N.O., **Oteng'i S.B.B.** and Sigot A, (2012): Diversity and Preference of Indigenous Food Crops for Household Food Security in Ikolomani Division, Western Kenya: International Conference on Disaster Risk Reduction and Conflict Resolution for Sustainable Development at MMUST. (ISBN 978-9966-1727-0-9): 314-321
- 16) Masibayi E., Mutua F., **Oteng'i S.B.B.**, (2012): Real-Time River Stage Forecasting Using Upstream Stage Approach for Flood Management, in Nzoia River Basin, Western Kenya: International Conference on Disaster Risk Reduction and Conflict Resolution for Sustainable Development at MMUST. (ISBN 978-9966-1727-0-9): 239-252
- 17) Nyandiko N.O., Wakhungu, J., **Oteng'i, S.B.**, (2012). Analysis of Maize Yield Responses to Climate In The Arid and Semi Arid Lands of Lower Eastern Kenya: International Conference on Disaster Risk Reduction and Conflict Resolution for Sustainable Development at MMUST. (ISBN 978-9966-1727-0-9): 298-304
- 18) Omieno, K., **Oteng'i, S.B.B.**, and Khabamba, I., (2011). Towards negative roles of networking sites on society. *International Journal of disaster management and risk reduction (Int. j. disaster manag. risk reduct.)* (ISSN: 1992-2744); 4(1):1-10.
- 19) **Oteng'i, S.B.B.**, (2009). Understanding Meteorological Aspects of Environmental Fires in Kenya. In: E.M. Neyole, G.W. Waswa and K. Onkware, eds. *Environmental Fires Risk Reduction* (ISBN 9966-779-09-4). Proc. Workshop on Environmental Fires 26th June, 2009, MMUST: 18-28.
- 20) Rwigi, S.K., and **Oteng'i, S.B.B.**, (2009). Influence of Climate on tea yields in Mount Kenya Region. *J. Meteorol. Rel. Sci.* (ISSN 1995-9834), 3: 3-12.
- 21) Kiluva, V.M., **Oteng'i, S.B.B.**, and Miima, J.B., (2009). Application of Linear-Based models in Nzoia River Basin-Kenya. *International Journal of disaster management and risk reduction (Int. j. disaster manag. risk reduct.)* (ISSN: 1992-2744); 2(1): 27-37
- 22) Nyandiko, N.O., **Oteng'i, S.B.B.**, Sigot, A.J. and Palapala, V.A., (2009). Socio-Economic characteristics and food security status of farming households in Ikolomani Division, Western Kenya. *International Journal of disaster management and risk reduction (Int. j. disaster manag. risk reduct.)* (ISSN: 1992-2744); 2(1): 80-88.
- 23) Wambugu, P.W., **Oteng'i, S.B.B.**, and Auma E.O., (2009). Efficacy of traditional maize (*Zea mays* L.) seed storage methods in Western Kenya. *Afric. Journal of Food, Agric and Nutri. Development*, 9 (3): 1109-1127.
- 24) **Oteng'i, S.B.B.**, Sigot, A.J., Kisiangani, P.M. and Mudavadi, L., (2008). Mushroom production techniques and utilizations for enhanced food security in the Lake Victoria Basin. *International Journal of disaster management and risk reduction (Int. j. disaster manag. risk reduct.)* (ISSN: 1992-2744); 1(2): 53-59
- 25) **Oteng'i, S.B.B.**, Shibanda, G.G., and Shiundu, J.O., (2008) Utilization of media strategies for sustainable agricultural productivity and enhanced food security in Kakamega District. *Journal of Science, Technology, Education and Management (J-STEM)*.
- 26) Neyole, E. M., and **Oteng'i, S.B.B.**, (2008). The impact of ergonomics on brick maker health in the Lake Victoria Basin of Kenya. *Journal of Science, Technology, Education and Management (J-STEM), Publ.MMUST .(ISSN 1991-2889), 2 (1 & 2): 18-27.*

- 27) Kiluva, V.M., **Oteng'i, S.B.B.**, and Miima, J.B., (2008). Development of a sustainable low-cost non-structural flood mitigation strategy for Nzoia river Basin in Kenya. *Journal of Science, Technology, Education and Management (J-STEM)*, 1(2): 28-37
- 28) **Oteng'i, S.B.B.**, (2007). Degradation of natural resources in Mt. Elgon. In: P.G. Okoth, S.O. Omuterema, A.S. Kamoet (eds). Proc Mt. Elgon crisis workshop held at Masinde Muliro University of Science and Technology, Kakamega, 28-29 June (ISBN 9966-779-03-5): 67-70.
- 29) **Oteng'i, S.B.B.**, Stigter, C.J., Ng'ang'a, J.K. and Liniger, H.P., (2007): Soil moisture and its consequences under different management in a six year old hedged agroforestry system in semi-arid Kenya, for two successive contrasting seasons. *African Journal of Agricultural Research (AJAR)*, (ISSN: 1991-637X) 2(3): 089-104 .
- 30) **Oteng'i, S. B. B.** and Neyole E. M., (2007). Brick-making activities and their environmental impacts in Busia, Siaya, Bondo and Butere-Mumias districts of the Lake Victoria Basin of Kenya. *Int.j. disaster manag.risk. reduct.*, (ISSN: 1992-2744);1(1): 24-28,
- 31) **Oteng'i, S.B.B.**, Stigter, C.J. and Ng'ang'a, J.K., (2007). Understanding maize/beans intercropping yield distributions from water conservation measures in a hedged agroforestry system in semi-arid Laikipia District, Kenya. *Journal of Science, Technology, Education and Management (J-STEM)*, (ISSN: 1991-2889), 1(1): 1-28.
- 32) **Oteng'i, S. B. B.**, (2006). Soil temperature moderation by crop residue mulch, *Grevillea robusta* trees and tillage mode. *Kenya Journal of Sciences*, (0250-8265 ISSN CODEN KSTSDG); 11(2): 18-26.
- 33) Yonah, I.B.B., **Oteng'i, S.B.B.** and Lukorito, C.B., (2006). Assessment of the growing season over the unimodal rainfall regime region of Tanzania. *Tanzania Journal of Agricultural Sciences*, (ISSN: 0856-666X); 7(1): 113-135.
- 34) Stigter, C.J., **Oteng'i, S.B.B.**, Oluwasemire K.O. Al-amin, N.K.N., Kinama, J.M. and Onyewotu, L.O.Z., (2005). Recent answers to farmland degradation illustrated by case studies from African farming systems. *Annals of Arid Zone*, 44(3&4): 255-297.
- 35) Stigter, C.J., **Oteng'i, S.B.B.**, Al-amin, N.K.N., Onyewotu, L.O.Z and Kainkwa, R.M.R., (2005). Wind protection designs from measurements with simple wind equipment in four African countries in research, education capacity building projects. Paper 4.1 in WMO Instruments and observing methods-Report No. 82 WMO/TD-No. 1265, Geneva, 7pp. {Also available on Google}.
- 36) Stigter, C.J., Mungai, D.N., Ong, C.K., Kinama, J.M. and **Oteng'i, S.B.B.**, (2004). Testing alley cropping (contour hedgerows) in semi-arid areas on flat and sloping land: soil and water conservation, competition, yields and economic factors. In: W. Baier Experts for collection of case studies of economically beneficial agrometeorological applications and services and other success stories in agrometeorology for policy matters. CagM Report No. 93. WMO/TD No. 1202.Geneva Switzerland: 43-47

- 37) **Oteng'i, S.B.B.**, Nganga, J.K. and Stigter, C.J. (2003). Applications of micro-environmental measurements in agroforestry system of semi-arid areas. *Journal of the African Meteorological Society*, 6(3): 37-46 & 5(1): 73-80
- 38) **Oteng'i, S.B.B.**, Stigter, C.J., Al-amin, N.K.N., Kainkwa, R.M.R., Onyewotu, L.O.Z., (2003). Scattered trees and wind protection under African conditions. *Arid Land Research and Management*, 17, 85-97.
- 39) Stigter, C.J., Nawal K. Nasr Al-amin, **Oteng'i, S.B.B.**, Kainkwa, R.M.R., and Onyewotu, L.O.Z., (2003). Scattered trees and wind protection under African Conditions-The TTMI Experiences. In: Ruck et al. (eds). "*Wind Effects on Trees*", University of Karlsruhe, Germany, 73-80.
- 40) **Oteng'i, S.B.**, (2002). The effects of shading with *Grevillea robusta* on the yields of a maize/ beans intercrop in a semi-arid area. *Journal of the African Meteorological Society*, 5(1): 73-80.
- 41) **Oteng'i, S. B. B.**, (2002). Soil temperature moderation by crop residue mulch, *Grevillea robusta* trees and tillage mode. *Journal of the African Meteorological Society*, 5(2): 77-85.
- 42) Stigter C.J., Mohammed A.E., Al-amin N.K.N., Onyewotu L.O.Z., **Oteng'i S.B.B.**, Kainkwa, R.M.R., (2002). Agroforestry solutions to some Africa problems caused by wind. *J. Wind Eng. Ind. Aerodyn.*, 90, 1101-1114.
- 43) Stigter, C.J., Mohammed, A.E., Al-amin N.K.N., Onyewotu, L.O.Z., **Oteng'i, S.B.B.** and Kainkwa, R.M.R., (2001). *Some African case studies of local solutions to problems caused by wind in small holder agroforestry*. In: J. Wisse, K. Kleiman, C. Geurts and M. de Wit. *The 3rd European and African Conference on Wind Engineering*, 12th-16th March, Eindhoven, The Netherlands: 419-426.
- 44) Stigter, C.J., Kainkwa, R.M.R., **Oteng'i, S.B.B.**, Onyewotu L.O.Z., Mohammed, A.E., Ibrahim, A.A., Rashidi, M.G.M., (2000). Measuring wind gradients in agroforestry systems. II. Accuracies obtained in some African case studies. *Int. Agrophysics*, 14, 457-468.
- 45) **Oteng'i, S.B.B.**, Stigter, C.J., Ng'ang'a, J.K., Mungai, D.N., (2000). Wind protection in a hedged agroforestry system in semi-arid Kenya. *Agroforestry Systems*, 50: 137- 156.
- 46) **Oteng'i, S.B.B.**, (1999). Contribution of Kenya's household activities to global warming. In: P. Riemer, B. Eliassom and A. Wokaun eds. *Greenhouse Gas Control Techniques, Elsevier Science Ltd*.
- 47) Stigter, C.J., Kainkwa, R.M.R., **Oteng'i, S.B.B.**, Ibrahim, A.A., Mohammed, A.E., Onyewotu L.O.Z., (1998). The shaded Piche evaporimeter as an ancillary isothermal anemometer. *Instruments and Observing Methods. Report No. 70*, WMO/TD No. 877, 377-380, WMO, Geneva, Switzerland.
- 48) **Oteng'i, S.B.B.**, 1997. Protective role of *Coleus barbatus* live-fence (hedge) and *Grevillea robusta* agroforestry trees against strong seasonal winds in semi-arid environment. *Journal of the African Meteorological Society*, 3 (1) 115 - 126.
- 49) **Oteng'i, S.B.B.**, Ng'ang'a, J.K., Mungai, D.N., Stigter, C.J., and Liniger, H.P., (1995). An investigation of the influence of mulching and agroforestry systems on microclimate conditions affecting soil moisture and yields of a maize/bean intercrop. In: C.J. Stigter, F.J. Wang'ati, J.K. Ng'ang'a and D.N. Mungai (eds). TTMI-Project and 'the Picnic'- model: An internal evaluation of approaches and

- results and of Prospects for TTMI-Units. Wageningen Agricultural University. 124-135.
- 50) **Oteng'i, S.B.B., (1992)**. Micro-meteorological factors limiting crop production in agroforestry systems in Laikipia District of Kenya. In: S.L. Kwaje and J.K. Keter (eds); *On Capacity Building in Soil and Water Management in Africa*; African Academy of Sciences, 9-11.
 - 51) **Oteng'i, S.B.B., (1985)**. Determining sowing dates of cotton through water requirement rainfall model. *Tropical Ecology*, 26, 102-107.
 - 52) **Oteng'i, S.B.B., (1981)**. Pentad rainfall normals and their statistical modelling. *E. Afr. agric. For. J.*, 48(2), 21-31.
 - 53) **Oteng'i, S.B.B., (1978)**. A technique for determining pentad rainfall probabilities. *E. Afr. agric. For. J.*, 44(2), 102-111.

16.4 Articles in Conference/Workshop/Seminar Proceedings

- 1) **Oteng'i, S.B.B., 2016**. Human health impacts from urban heat Islands. Presented at *Consortium of New South African Medical School (CONSAMS)* workshop held at Golf Hotel, Kakamega, Kenya on Tuesday 17th May, 2016.
- 2) **Oteng'i, S.B.B., 2016**. Climate change & traditional crops. For presentation at the launch of the MMUSTMUG project 8th April at mlimani, MMUST.
- 3) **Oteng'i, S.B.B., 2016**. Mystifying the existence of CDMHA in MMUST curricula. Presented on 8th April in MULTIPURPOSE building at MMUST career week.
- 4) **Oteng'i, S.B.B., 2015**. Capacity building for disaster risk reduction through disaster management cycle. 12th KMS international conference on meteorological research, applications and services Wednesday 11th – Friday, 13th November, 2015, Kisumu, Kenya.
- 5) **Oteng'i, S.B.B., 2010**. Weather hazards that affect flight operations during disaster situations. Peer reviewed proc. workshop on the role of uniformed forces in disaster management. May 13-14 at MMUST organized by CDMHA pp. 261-267.
- 6) **Oteng'i, S.B.B., 2010**. Disaster Management cycle and its implications for capacity building. Peer Reviewed proc. workshop on the role of uniformed forces in disaster management. May 13-14 at MMUST organized by CDMHA. pp 1-9
- 7) **Oteng'i, S.B.B., 2009**. Understanding meteorological aspect of environmental fires in Kenya. Workshop on environmental fire disasters. June 26th
- 8) **Oteng'i, S.B.B., and Neyole, E.M., 2006**. Environmental impact of brick-making in the Lake Victoria Basin. 1st Interinational Conference on Disaster Management and Human Security in Africa 11-13th October, Bishop Nicholas Stam Pastoral Centre Kakamega, and Kenya (was Chairman organizing committee of the Conference).
- 9) **Oteng'i, S.B.B., 2006**. Disaster management in flood prone areas of Budalang'i and Nyando: A field Survey. 6th Association of Third World Studies, Inc. (ATWS) International Conference, Kenya Chapter 22-24 November. Bishop Nicholas Stam Pastoral Centre, Kakamega, Kenya.
- 10) **Makhanu, S.K., Oteng'i S.B.B., China, S.S., Waswa, G.W., Masibo, M.N. and Masinde, G.W.B., 2006**. Indigenous construction technologies in flood-prone areas of Western Kenya. Third International i.R. Conference on post-disaster reconstruction. Florence, Italy, May 17-19.

- 11) **Oteng'i, S.B.B., 2000.** Micro-environmental measurements in agroforestry systems. 5th Kenya Meteorological Society Workshop on Meteorological Research, Applications and services, Mombasa – Kenya 4-8 sept.
- 12) **Oteng'i, S.B.B.,** Nganga, J.K., Stigter C.J, 1998. Soil moisture conservation in maize/beans/ tree intercrop systems of a semi arid area. 75-89. Proc. 4th Kenya Meteorological Society Workshop on Meteorological Research, Applications and services, Mombasa – Kenya 7-11 sept.
- 13) **Oteng'i, S.B.B.,** Nganga, J.K., Stigter C.J, 1996. The effect of shading with *Grevillea robusta* on the yields of maize/beans intercrop in a semi-arid area. Proc. 3rd Kenya Meteorological Society Workshop on Meteorological Research, Applications and services, Mombasa – Kenya.
- 14) **Oteng'i, S.B.B.,** Nganga, J.K., Stigter C.J, 1996. Modification of soil temperature regimes by crop residue mulches, tillage mode and *Grevillea robusta* trees in semi arid areas of Laikipia district: experiment and modeling -arid area. 3rd Kenya Meteorological Society Workshop on Meteorological Research, Applications and services, Mombasa – Kenya.
- 15) **Oteng'i, S.B.B.,** Nganga, J.K., Mungai, D.N., Stigter C.J., and Liniger, H.P., 1994. An investigation of the influence of mulching and agroforestry systems on microclimate conditions affecting soil moisture and yields of a maize/bean crop. Proc. TTMI-Workshop Nairobi, April. The TTMI-Project and the 'Picnic' model. An internal evaluation of approaches and results and of Prospects for TTMI-Units 124-135.
- 16) **Oteng'i, S.B.B., 1989.** Agroforestry and greenhouse gas emissions: A case for developing options for reducing agricultural emissions. IPCC – Workshop Grenhouse Gas Emissions from agricultural systems. Dec. 12-14, Washington D.C.
- 17) **Oteng'i, S.B.B.,** and Shyanguya, J., 1987. Was there a change in radiative energy during long Rains of 1984?. Presented at the First Technical Conference on Meteorological Research in Eastern and Southern Africa, Nairobi, Kenya. January 69th. Pp. 327-334.
- 18) **Oteng'i, S.B.B., 1986.** Use of remote sensing application for agricultural expansion into semi-arid areas of Kenya. Proc. ISLSCP Conference, Rome, Italy, 2-6 December 1985, ESA SP-248: 443-448.
- 19) **Oteng'i, S.B.B.,** and Ogallo, L.J., 1985. Persistence of daily rainfall over some parts of Kenya. Session II-8, 52-57.
- 20) **Oteng'i, S.B.B.,** and Asnani, G.C., 1981. Representation of drought index in Kenya through Weibull distribution. Presented at the WMO symposium on tropical droughts, meteorological aspects and application for agriculture, New Dehli. India. Pp 8.

16.5 Research reports

- a) Sigot, A.J., **Oteng'i, S.B.B.,** Kisiangani, P. and Mudavadi, L. 2010. Documenting and validating the efficacy of mushroom production techniques and utilization to enhance food security in Kenya. Research Report for Phase one of the project sponsored by MMUST research fund. pp. 32.

- b) **Oteng'i, S.B.B.**, Neyole, E.M., Miima, J.B., Makhanu, S.K., China, S.S. and Omuterema, S., (2008). Disaster profile for Ijara district, Kenya. Action Aid Kenya, Nairobi, May.
- c) **Oteng'i, S.B.B.**, Shibanda, G.G. and Shiundu, J.O. 2007. Utilization of media strategies for sustainable agricultural productivity and enhanced food security in Kakamega district of Kenya. (Technical Report Made to CHE)
- d) **Oteng'i, S.B.B.**, Shibanda, G.G. and Shiundu, J.O. 2006: Principal researcher in Commission for Higher Education (CHE) funded research project “*Expanding access to small holder agricultural information through media strategies for sustainable productivity: Toward achieving food security in Kakamega.* (Technical Report Made to CHE)
- e) **Oteng'i, S.B.B.** and Neyole, E.M., 2005: Environmental impact of brickmaking in Lake Victoria Basin of Kenya fund by University Research Fund (MMUST); first phase completed successfully. (Technical Report Made to IGSRE board). Second phase to begin soon.
- f) **Oteng'i, S.B.B.**, Stigter, C.J. and Ng'ang'a, J.K., 2005. Understanding maize/beans intercropping yield distributions from water conservation measures in a hedged agroforestry system in semi-arid Laikipia District, Kenya. Agromet Vision Publication 2005/2.
- g) Stigter, K., Oluwasemire, T., Onyewotu, L., Rashidi, A.G.M., **Oteng'i S.B.B.**, Murthy, V.R.K., Van Viet, N., Koesmaryono, Y., Bakheit, N.I., 2005. Agrometeorological Services making a difference for poor farmers. I. Why it does not happen. Paper submitted as background paper for the first Asian Pacific Network (APN) meeting of the project “Climate and crop disease risk management: an international initiative in the Asia-Pacific region” in Hyderabad, India [Also part of the PowerPoint presentations of Roving Seminar “Agrometeorological Services: Theory and Practice”, Lecture 8 (I).]
- h) Stigter, K., Oluwasemire, T., Onyewotu, L., Rashidi, A.G.M., **Oteng'i S.B.B.**, Kinama, J., Zheng Dawei, Z., Caixia, Z., Yingcui, Z., Murthy, V.R.K. Rashidi, A.G.M., Abdalla, A.T. Al-amin, N. K.N., Bakheit, N.I., 2005. Weather Services making a difference for poor farmers. II. How it can be done. Paper submitted as background paper for the first Asian Pacific Network (APN) meeting of the project “Climate and crop disease risk management: an international initiative in the Asia-Pacific region” in Hyderabad, India [Also part of the PowerPoint presentations of Roving Seminar “Agrometeorological Services: Theory and Practice”, Lecture 8 (II).]
- i) **Oteng'i, S.B.B.**, 1994. *Grevillea robusta* canopy shade on solar radiation intercepted by crop in agroforestry plot at Matanya Laikipia district. Ph. D. progress report 4, pp88
- j) **Oteng'i, S.B.B.**, 1993. Wind protection of agroforestry systems in arid and semi-arid lands (ASALs) at Matanya Laikipia district. Ph. D. progress report 3, 189 pp.
- k) **Oteng'i, S.B.B.**, 1992. Soil temperature analysis for Matanya Laikipia district during Long Rains 1992. Ph. D. progress report 2, 185 pp.
- l) **Oteng'i, S.B.B.**, 1992. Soil moisture at Matanya Laikipia district. Ph. D. progress report 1, 95 pp.
- m) **Oteng'i, S.B.B.**, Kinuthia, J.H., Macodras, M.W., Odak, J.O., Gachara, S.G., and Munah, P.D., 1988. Towards the forecasting of seasonal rains in Kenya. Institute Research Report No. 1/88 pp.

- n) **Oteng'i, S.B.B., 1982.** The reliability of pentad rainfall in Kenya. Institute Research Report No. 2/82
- o) **Oteng'i, S.B.B., 1981.** Use of Weibull distribution in modeling pentad rainfall. Institute Research Report No. 1/81