

Associate Professor:

Emmanuel F. Nzunda (PhD)



PERSONAL INFORMATION

Sex: Male
Date of birth: 1/12/1971
Marital Status: Married

CONTACT ADDRESSES

Department of Forest Resources Assessment and Management,
College of Forestry, Wildlife and Tourism,
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ACADEMIC QUALIFICATIONS

PhD (Ecological Science), University of KwaZulu-Natal, Pietermaritzburg, South Africa - 2009.
MSc (Forestry), Sokoine University of Agriculture, Morogoro, Tanzania - 2002.
BSc (Forestry), Sokoine University of Agriculture, Morogoro, Tanzania - 1999.

AREA OF SPECIALIZATION

Involved in teaching, research, extension and consultancy services in forest and landscape assessment, GIS, remote sensing, ecology, biometry, applied statistics, biofuels, land use planning, forest and landscape management planning.

WORK EXPERIENCE

September 2015 – to date. Associate Professor, Department of Forest Resources Assessment and Management, Sokoine University of Agriculture, Morogoro, Tanzania.
July 2010 – September 2015. Senior Lecturer/Researcher/Consultant, Department of Forest Mensuration and Management (now Department of Forest Resources Assessment and Management), Sokoine University of Agriculture, Morogoro, Tanzania.
July 2007 – July 2010: Lecturer, Department of Forest Mensuration and Management, Sokoine University of Agriculture, Morogoro, Tanzania
2002 – June 2007: Assistant Lecturer, Department of Forest Mensuration and Management, Sokoine University of Agriculture, Morogoro, Tanzania.
2000 – 2002: Tutorial Assistant, Department of Forest Mensuration and Management, Sokoine University of Agriculture, Morogoro, Tanzania.

1999 – 2000: Research Assistant, Database establishment for hardwood and softwood plantations of Tanzania.

PUBLICATIONS

Books

- (1) **Nzunda, E.**, Griffiths, M. and Lawes, M. 2011. *Resprouting, Multi-stemming and the Persistence Niche: their role in the structure and dynamics of coastal dune forest*. LAP Lambert Academic Publishing, Saarbrücken, Germany. **ISBN-10: 3844399704/ISBN-13: 978-3844399707**.

Chapters in Books

- (2) Mndeme, A.H., **Nzunda, E.F.** and Luoga, E.J. (2012). Effect of land use planning on forest conservation in Kilosa District, Tanzania. In: Cruz, A.C.B. and Correa, R.E.G. (eds.), "Forest Management: Technology, Practices and Impact" Nova Publishers. ISBN: 978-1-62081-359-1 https://www.novapublishers.com/catalog/product_info.php?products_id=29871
- (3) **Nzunda, E.F.** and Mahuve, T.G. 2011. A SWOT analysis of climate change mitigation through REDD. In: Leal Filho, W. (ed.) 2011. *Experiences of Climate Change Adaptation in Africa*. Springer Verlag, Berlin. Pp. 201-216 <http://dx.doi.org/10.1007/978-3-642-22315-0>

Papers in journals

1. Kija, H.K., Ogutu, J.O., Mangewa, L.J., Bukombe, J., Verones, F., Graae, B.J., Kideghesho, J.R., Said, M.Y. and **Nzunda, E.F.** (2020). Land Use and Land Cover Change Within and Around the Greater Serengeti Ecosystem, Tanzania. *American Journal of Remote Sensing*. Vol. 8, No. 1, 2020, pp. 1-19; <https://doi.org/10.11648/j.ajrs.20200801.11>
2. Kija, H.K., Ogutu, J.O.K, Mangewa, L.J., Bukombe, J., Verones, F., Graae, B., Kideghesho, J.R., Said, M.Y. and **Nzunda, E.F.** (2020). Spatio-Temporal Changes in Wildlife Habitat Quality in the Greater Serengeti Ecosystem. *Sustainability* 2020, 12, 2440; <https://doi.org/10.3390/su12062440>
3. Manyanda, J.B., **Nzunda, E.F.**, Mugasha, W.A. and Malimbwi, R.E. (2020). Estimates of Volume and Carbon Stock Removals in Miombo Woodlands of Mainland Tanzania. *International Journal of Forestry Research* Volume 2020, Article ID 4043965, 10 pages <https://doi.org/10.1155/2020/4043965>
4. **Nzunda, E.F.** and Midtgaard, F. (2019). Deforestation and loss of bushland and grassland primarily due to expansion of cultivation in mainland Tanzania (1995-2010). *Journal of Sustainable Forestry*, <https://doi.org/10.1080/10549811.2019.1598437>
5. Manyanda, B.J., Mugasha, W.A., **Nzunda, E.F.** and Malimbwi, R.E. (2019). Biomass and Volume Models Based on Stump Diameter for Assessing Degradation of Miombo Woodlands in Tanzania. *International Journal of Forestry Research*. Volume 2019, Article ID 1876329, 15 pages. <https://doi.org/10.1155/2019/1876329>.
6. **Nzunda, E.F.** and Midtgaard, F. (2017). Spatial relationship between deforestation and protected areas, accessibility, population density, GDP and other factors in mainland Tanzania. *Forests, Trees and Livelihoods*. 26(4): 245-255. Published online at: <https://doi.org/10.1080/14728028.2017.1322921>
7. Augustino, S., Kashaigili, J.J. and **Nzunda, E.F.** (2016). Impact of traditional beekeeping on Mgori Village Land Forest Reserve in Singida District, Tanzania. *Tanzania Journal of Forestry and Nature Conservation*. 86(1): 1-11

8. Nyinondi, R.S. and **Nzunda, E.F.** (2015). *Newtonia buchananii* Abundance and Distribution in Relation to Altitude and Human Disturbance: A study in Uluguru Nature Reserve, Tanzania. *International Journal of Ecological Economics and Statistics*. Available at <http://www.ceser.in/ceserp/index.php/ijeess/issue/archive> or <http://www.ceserp.com/cp-jour/index.php?journal=ijeess&page=issue&op=archive>
9. Charles, R.L., **Nzunda, E.F.** and Munishi, P.K.T. (2014). Agroforestry as a resilient strategy in mitigating climate change in Mwanga District, Kilimanjaro, Tanzania. *Global Journal of Biology, Agriculture and Health Sciences* 3(2):11-17
10. **Nzunda, E.F.**, Griffiths, M.E. and Lawes, M.J. (2014). Resource allocation and storage relative to resprouting ability in wind disturbed coastal forest trees. *Evolutionary Ecology*. (DOI) 10.1007/s10682-014-9698-7.
11. Mwainunu, E. J., Munishi, P.K.T. and **Nzunda, E. F.** (2013). The use of stand structure parameters for estimating carbon stock in Nilo Nature Reserve, East Usambara, Tanzania. *Journal of The Tanzania Association of Foresters* 12: 48-65
12. Charles, R.L., Munishi, P.K.T. and **Nzunda, E.F.** (2013). Agroforestry as Adaptation Strategy under Climate Change in Mwanga District, Kilimanjaro, Tanzania. *International Journal of Environmental Protection* 3 (11):29-38. Available at: <http://www.ij-ep.org/Issue.aspx?Volume=3&Number=11&Abstr=false>
13. Nyenza, O.M., **Nzunda, E.F.** and Katani, J.Z. (2013). Socio-ecological resilience of people evicted for establishment of Uluguru Nature Reserve in Morogoro Region, Tanzania. *Forests, Trees and Livelihoods* 22:3, 190-203, DOI: 10.1080/14728028.2013.810405
14. **Nzunda, E.F.** (2012). Discrepancies between targets and achievements in industrial forest production and export in Tanzania. *Forestry Studies in China* 14:210-215 Available online -DOI: 10.1007/s11632-012-0307-y
15. **Nzunda, E.F.** and Lawes, M. J. (2011). Costs of resprouting are traded off against reproduction in subtropical coastal dune forest trees. *Plant Ecology* 212:1991–2001.
16. **Nzunda, E.F.** (2011). Sprouting, succession and tree species diversity in a South African coastal dune forest. *Journal of Tropical Ecology* 27:195–203.
17. **Nzunda, E.F.**, Griffiths, M.E. and Lawes, M.J. (2008). Sprouting by remobilization of above-ground resources ensures persistence after disturbance of coastal dune forest trees. *Functional Ecology* 22: 577-582.
18. **Nzunda, E.F.**, Griffiths, M.E. and Lawes, M.J. (2008). Resprouting enhances seedling persistence in a subtropical coastal dune forest. *African Journal of Ecology* 46: 32-38.
19. **Nzunda, E.F.**, Griffiths, M.E. and Lawes, M.J. (2007). Multi-stemmed trees in subtropical coastal dune forest: survival strategy in response to chronic disturbance. *Journal of Vegetation Science* 18: 693-700.
20. **Nzunda, E.F.**, Griffiths, M.E. and Lawes, M.J. (2007). Resprouting versus turning up of leaning trees in a subtropical coastal dune forest in South Africa. *Journal of Tropical Ecology* 23: 1-8.
21. **Nzunda, E.F.**, Mbilinyi, B.P., Malimbwi, R.E., Kajembe, G.C. and Nduwamungu, J. (2007) Landscape-level forest structural pattern in the Udzungwa mountains, Iringa region, Tanzania: influence of topography. *Tanzania Journal of Forestry and Nature Conservation* 76: 102-109.
22. Malende, Y.H.M.B., **Nzunda, E.F.**, Malimbwi, R.E. and Shemwetta, D.T.K. (2001). Qualitative and quantitative assessment of the current growing stock of Mtibwa teak plantation, Morogoro, Tanzania. *Tanzania Journal of Forestry and Nature Conservation* 74: 93-99.
23. Sangeda, A.Z., Malende, Y.H.M.B., **Nzunda, E.F.**, Malimbwi, R.E. and Scheer, L. (2001). Determination of suitable plot shape and plot size for estimation of off-forest tree

resources in Machame, Moshi – Tanzania. *Acta Facultatis Forestalis Zvolen - Slovakia* XLIII: 287-294.

Proceedings

1. **Nzunda, E.F.** and Mahuve, T.G. 2010. A SWOT analysis of climate change mitigation through REDD. Pp 228-238 In Oguge, N.O., E. Omolo, and C. Lumosi, eds. 2011. Climate Change and Natural Resource use in Eastern Africa: Impacts, Adaptation and Mitigation. Proceedings of the 3rd Scientific Conference of the Ecological Society for Eastern Africa. Ecological Society for Eastern Africa, Regal Press, Nairobi, Kenya, 421 pp.
2. **Nzunda, E.F.** 2004. Linking forest resources to institutions: theoretical and practical considerations. Pp. 58-68. In Shemwetta, D.T.K., Luoga, E.J., Kajembe, G.C. and Madoffe, S.S. eds. (2004). Institutions, Incentives and Conflicts in Forest Management: a perspective. Proceedings of the East African Regional IFRI Workshop, 12th – 14th, January 2004, Moshi, Tanzania. 148pp.
3. **Nzunda, E.F.** 2003. Integrative forest research in East Africa: opportunities and challenges. Proceedings of the Forest Research for Sustainable Social and Economic Development in Eastern Africa Workshop, 17th – 18th November 2003, Nairobi, Kenya.
4. **Nzunda, E.F.**, Chunga, C.A., Maguo, A. Luoga, E.J., Mung'ong'o, C.G., Liwenga, E.T. and Midtgaard, F. (2014). Deforestation, forest degradation and restoration for Tanzania mainland between 2000 and 2009. Presented at CCIAM Principal Investigators (PI) Workshop, 17th – 19th February 2014 at the Morogoro Hotel, Morogoro and at CCIAM Writers Workshop, 20-21 February at the Morogoro Hotel, Morogoro.
5. Rweyendera, P.R., **Nzunda, E.F.**, Mung'ong'o, C.G., Liwenga, E.T., Luoga, E.J. and Midtgaard, F. (2014). A SWOT analysis of policies for regulation of population, agricultural, woodfuel and settlement dynamics as a means to achieve REDD+ in Tanzania. Presented at CCIAM Principal Investigators (PI) Workshop, 17th – 19th February 2014 at the Morogoro Hotel, Morogoro.
6. **Nzunda, E.F.** and Mlagalila, H. (2013). A SWOT analysis of PFM as a component of REDD+ in Tanzania. Presented at the 14th Global Conference of the International Association for Study of the Commons (IASC), 3rd-7th June 2013, Kitafuji (Mt. Fuji), Japan.
7. **Nzunda, E.F.**, Silayo, D., Andrew, W.D., Kashaigili, J.J. and Augustino, S. 2011. Effect of poverty on equity in Community-Based Forest Management in Mufindi District, Tanzania. Paper presented at REPOA 16th Annual Research Workshop, White Sands Hotel, Dar es Salaam, 30-31 March 2011.
8. Kashaigili, J.J. and **Nzunda, E.F.** 2010. Impact of bio-fuels on human development: a case study of Bagamoyo and Kisarawe districts in Tanzania. Ingeniería Sin Fronteras (ISF) Biofuels Conference, November 2010, Madrid, Spain.
9. **Nzunda, E.F.** 2010. The place of arid and semiarid areas in Tanzania's climate change initiatives. Presented at ICID+18 pre-conference workshop at the Sarova PanAfric Hotel, Nairobi. 9th-10th June 2010.
10. Luoga, E.J. and **Nzunda, E.F.** 2009. Biofuel development and people's rights and access to forest resources in Tanzania: Reflection on the CAPRI proposal. CAPRI Inception Workshop for the research project "Biofuel development and people's rights and access to forest resources in Tanzania", 12th - 13th November 2009, Bogor, Indonesia.

Other Publications

1. **Nzunda, E.F.** 2012. Sampling and Estimation in Advanced Forest Resource Assessment: A Compendium of Theory and Examples. Department of Forest Mensuration and Management, Sokoine University of Agriculture, Morogoro, Tanzania.
2. Mwakalobo, A. B. S.; G. C. Kajembe; D. S. Silayo; **E. Nzunda**; E. Zahabu; S. Maliondo and D. N. Kimaro 2011 REDD Working Papers: REDD and sustainable development – perspective from Tanzania. IIED, London.
3. **Nzunda, E.F.** 2008. Resprouting and multi-stemming and the role of the persistence niche in the structure and dynamics of subtropical coastal dune forest in KwaZulu-Natal province, South Africa. PhD thesis. University of KwaZulu-Natal, Pietermaritzburg, South Africa. Available at: <http://researchspace.ukzn.ac.za/xmlui/bitstream/handle/10413/76/Nzunda%20thesis.pdf?sequence=3>
4. **Nzunda, E. F.** 2002. Landscape-level structural pattern of forest patches in Udzungwa mountains, Iringa region, Tanzania. MSc thesis. Sokoine University of Agriculture, Morogoro, Tanzania.

RESEARCH PROJECTS

1. “Enhancing Forest Restoration of Bunduki Gap in the Uluguru Nature Forest Reserve in Morogoro Region, Tanzania” funded by the Eastern Arc Mountains Conservation Endowment Fund (EAMCEF), 2019-2020-**Team Leader**
2. “Modelling scenarios of REDD+ in response to regulation of population, agricultural, woodfuel and settlement dynamics in Tanzania”. Funded by the CCIAM programme (which is funded jointly by the Government of Tanzania and the Royal Norwegian Embassy in Tanzania). 2012-2014. -**Team Leader**
3. “Dynamics of miombo woodlands in Mvomero district, Tanzania” funded by the International Foundation for Science (IFS) (based in Sweden) 2010- 2012-**Team Leader**
4. “Effect of poverty on equity in community based forest management in Mufindi district, Tanzania” funded by Research on Poverty Alleviation (REPOA) (based in Tanzania) - 2010-2011-**Team Leader**
5. “The influence of land use, land management practices and socio-economic aspects on land degradation in the Lake Victoria Basin” funded by VicRes 2010 - 2012. **Team member**
6. “Biofuels Development, Local Resource Rights and Governance in Africa and Asia” funded by Centre for International Forestry Research (CIFOR). 2009 - 2012. **Team member**
7. Carbon estimation project coordinated by Woods Hole Research Center, USA. April – Dec 2009 **Team member**
8. “Modelling deforestation in Udzungwa Mountains, Tanzania”: 2003-2005. Funded by African Forest Research Network (AFORNET) of the African Academy of Sciences (AAS) **Team Leader.**
9. "Assessment of vegetative diversity and diversity of wood uses in Udzungwa Mountains, Iringa Region, Tanzania": 2001-2002. Funded by MEMA. **Team Leader**
10. Determination of appropriate plot size for assessment of off-forest tree resources in Machame, Moshi, Tanzania: 2000. **Team member**
11. Database establishment for softwood and hardwood plantations of Tanzania: 1999 – 2000. Funded by SUA. **Team member.**
12. Effect of wood residues on performance of subsequent generation of trees, Shume forest plantation: 1998 – 1999. **Team member.**

CONSULTANCIES

1. Kashaigili, J.J., **Nzunda, E.F.** and Kayeye, H. 2017. Makutupora report on GIS training and hydrological map for Makutupora Basin. Submitted to Wami-Ruvu Basin Water Office, Morogoro, Tanzania. January 2017.
2. **Nzunda, E.F.** (2016). Survival and Quality Assessment in Relation to Socio-Economic Status and Attitudes of Beneficiaries of Forest Plantations Supported By PFP in Ludewa, Makete and Njombe Districts, Tanzania
3. Vesa, L. and **Nzunda, E.F.** 2014. NAFORMA support to local level forest management and planning. Report produced for National Forest Monitoring and Assessment (NAFORMA) programme, Tanzania Forest Services Agency (TFS), Ministry of Natural Resources and Tourism, The United Republic of Tanzania.
4. Luoga, E.J. and **Nzunda, E.F.** 2012. Management plan for Sokoine University of Agriculture Training Forest, Olmotonyi, Arusha, Tanzania.
5. **Nzunda, E.F.** 2012. Forest management plan for implementation of a pilot REDD+ project for Masito Community Forest Reserve, Kigoma, Tanzania. Submitted to The Jane Goodall Institute Masito REDD+ Pilot Project, Kigoma, Tanzania.
6. Kashaigili, J.J., **Nzunda, E.F.**, Mwamakimbullah, R., Sirima, A., Shirima, D. and Mr. Peter J. Mkumbo, P.J. 2011. Spatial planning baseline focusing on the coastal forests of Tanzania for the Coastal Forest Project. A consultancy report submitted to WWF-TPO, Dar es Salaam.
7. Kashaigili, J.J. and **Nzunda, E.F.** 2010. Impact of bio-fuels on human development: a case study of Bagamoyo and Kisarawe districts in Tanzania. Submitted to Ingeniería Sin Fronteras (ISF), Madrid, Spain.
8. Rwamugira, S., **Nzunda, E.F.** and others 2008. Uluguru Nature Reserve Management Plan. A management plan prepared for Uluguru Nature Reserve, Forest and Beekeeping Division, Ministry of Natural Resources and Tourism, Dar es Salaam, Tanzania.
9. Kajembe, G.C., Kessy, J.F., Madoffe, S.S., Munishi, P.K.T. Tarimo, M. and **Nzunda, E.F.** 2003. Participatory Forest Management in Tanzania: district baseline studies. A consultancy report prepared for Forestry and Beekeeping Division, Ministry of Natural Resources and Tourism, Dar es Salaam, Tanzania by FORCONSUL, Faculty of Forestry and Nature Conservation, Sokoine University of Agriculture, Morogoro, Tanzania.
10. Kajembe, G.C. and **Nzunda, E.F.** 2002. Nguru South Catchment Forest Reserve profile. A consultancy report submitted to CARE-Tanzania.

SUPERVISION OF STUDENTS' RESEARCH PROJECTS

Degree Programme	Number of students supervised
Undergraduate programmes	60
Masters' programmes	14
PhD programmes	5