

Curriculum Vitae (CV) for Cosmas Nzaka Munga

PERSONAL DETAILS

Full name: Cosmas Nzaka Munga
Date of birth: 7th January 1976
Nationality: Kenyan
Marital status: Married with 2 children
Languages: English, Swahili and Rabai
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ACADEMIC QUALIFICATIONS

September 2013: Doctor in Science (Marine Sciences) from the Department of Biology, Marine Biology Research Group, Gent University, Belgium.

Thesis title: *“Ecological and socio-economic assessment of Kenyan coastal fisheries: The case of Malindi-Ungwana Bay artisanal fisheries versus semi-industrial bottom trawling”.*

September 2008: Master of Science Degree in Ecological Marine Management, Vrije Universiteit Brussel (VUB), Belgium.

Thesis title: *Ecological and Socio-economic assessment of the Mombasa Marine National Park and Reserve, Kenya.*

December 2000: Bachelor of Science Degree in Fisheries and Aquatic Sciences, Moi University, Eldoret, Kenya.

Dissertation title: *“Growth and feeding habits of African catfish (Clarias gariepinus) in the first four weeks post-hatch in selected ponds at Sagana fish farm, Kenya.”*

EMPLOYMENT RECORD

From Oct. 2013 Research Officer (RO) I, Kenya Marine & Fisheries Research Institute. Working under the coastal and marine fisheries and ecology program investigating artisanal fishery catch composition, gear catch diversity, fish and shrimp ecology and fishery socio-economics.

Responsibilities Team Leader in KCDP small and medium pelagic stock assessment.
Ship Manager, RV Mtafiti (Oceanographic research vessel)

Oct. 2009 - Sept 2013 Research Officer (RO) II, Kenya Marine & Fisheries Research Institute. Worked under the coastal and marine fisheries and ecology program. Participated in the South West Indian Ocean

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- Fisheries Project (SWIOFP) experimental trawl surveys off the Malindi-Ungwana Bay, Kenya.
- Jan 2005 – Sept 2009 Assistant Research Officer (ARO), Kenya Marine & Fisheries Research Institute. Worked under the coastal and marine fisheries and ecology, and aquaculture programs.
- April 2001 – Dec 2004 Fisheries Officer, Coast Development Authority (CDA) and Project Assistant in implementation of the Integrated Coastal Area Management (ICAM) Programme along Nyali-Bamburi-Shanzu Area and Diani-Chale Management Area.

PROFESSIONAL TRAININGS ATTENDED

- Feb 10th – 14th 2014 Training on the new version of the Western Indian Ocean Region fisheries StatBase database in Saint Gratien, Paris, France.
- Sept 5th – 9th 2011 Certificate in Benguela Current Commission (BCC) Nansis survey database workshop at Windhoek, Namibia. The course included installation and use of the Nansis program, survey setup and biomass estimation from swept area and acoustic surveys, lectures in survey methodology, as well as limitations and post survey analyses of survey data for assessment purposes.
- Jul 1st – 4th 2009 Certificate of the South West Indian Ocean Fisheries Project (SWIOFP) fisheries training course, Oceanographic Research Institute, Durban, South Africa.
- Oct 28th – 31st 2008 Certificate of National Short Course in Integrated Coastal Zone Management (ICZM), Sai Rock, Mombasa, Kenya.
- May 5th – 9th 2008 Certificate of Artisanal Fisheries Assessment and Management, Free University of Brussels in collaboration with Oceanographic Research Institute of Durban (ORI), South Africa.
- Sept 12th – 22nd 2006 Certificate of Advanced International Follow-up workshop on Sustainable Coastal Development conducted by SSPA Sweden AB under the auspices and sponsorship of Sida, Swedish International Development Cooperation Agency, Dar es Salaam, Tanzania.
- Sept 12th – Oct 14th 2005 Certificate of Advanced International Training Programme on Sustainable Coastal Development, COAST-2005 conducted by SSPA Sweden AB under the auspices and sponsorship of Sida, Swedish International Development Cooperation Agency, Göteborg, Kalmar and Stockholm, Sweden.
- Sept – October 2002 Certificate of East African Wetlands Management Course at Kenya Wildlife Service Training Institute (KWSTI) - Naivasha.

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FIELD AND PROFESSIONAL EXPERIENCES

- Jan-June 2011 Co-investigator onboard FV Vega beam trawler for 30 days off the Malindi-Ungwana bay, Kenya under the World Bank funded South West Indian Ocean Fisheries Project (SWIOFP).
- Jan – June 2009 Participated in the Environmental Impact Assessment (EIA) for the ongoing seaweed farming activity in the south coast Kenya funded by ReCoMap. I was lead scientist in fisheries issues and co-investigated the marine ecology aspects.
- August 2004 Participated in 14 days experimental trawling research under special license coordinated by State Department of Fisheries onboard FV Amboseli beam trawler off the Malindi-Ungwana Bay, Kenya.

CONFERENCES AND WORKSHOPS ATTENDED

- 24th – 28th Mar. 2014 FAO SWIOFC/IOTC Weight of Evidence for Fisheries Management Methodology Workshop, Neptune Beach Hotel, Mombasa, Kenya.
- 25th – 27th Feb. 2014 National Scientific Conference on the Tana River County, North Coast Beach Hotel, Mombasa, Kenya. Oral presentation: Comparing fish bycatch of shrimp trawlers with catches made by artisanal fishers in Malindi-Ungwana Bay, Kenya.
- 11th – 13th Dec. 2013 Regional workshop on the shallow-water shrimp fishery of the Southwest Indian Ocean, Namaacha, Mozambique. Oral presentation: Current status of coastal shrimp fisheries in Kenya: Production trends and management.
- 25th – 29th Nov. 2013 Regional capacity building workshop through advanced data analysis and writing of scientific publications based on recent deep-water crustacean trawl surveys in Kenya, Tanzania, Mozambique and Madagascar, Oceanographic Research Institute, Durban, South Africa.
- 28th Oct – 2nd Nov. 2013 Participant in the 8th Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium in Maputo, Mozambique. Oral presentation: *Vessel-gear-based characterization of artisanal fisheries in the Malindi-Ungwana Bay, Kenya and its use for fisheries management.*
- 27th Feb – 1st March 2012 Participant in the Southwest Indian Ocean Fisheries Commission (SWIOFC) 5th Scientific Session at the “15 on Orange Hotel”, Cape Town, South Africa. Oral presentations: i) Distribution and abundance of the penaeid shrimps from an experimental bottom shrimp survey off the Malindi-Ungwana bay, Kenya. ii) Status of the marine fisheries resources and management actions in Kenya.

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- 05th – 09th Sept 2011 Participant in the SWIOFP trawl survey data analysis/NANSIS workshop in Windhoek, Namibia for the purposes of evaluation and post processing of SWIOFP trawl surveys data.
- 24th – 29th Aug 2009 Participant in the 6th Western Indian Ocean Marine Science Association Symposium. *The Millenium Challenge: How marine science and management meet development goals*. Saint Denis, Universite de La Reunion. Oral presentation on “*ecological and socio-economic assessment of Mombasa marine park and reserve, Kenya.*” Poster presentation on “*marine fisheries resources in Kenya: prospects towards national development and poverty alleviation.*”
- 19th – 23rd April 2009 Participant in the SWIOFP Component 2 (crustacean data gap analysis) at ORI offices, Durban, South Africa.
- 29th – 30th May 2006 Participant in the Coastal Ecology Conference IV: People, Processes and Ecosystems. Organised by Wildlife Conservation Society (WCS) and African Studies Center (ASC) in collaboration with East African Wildlife Society (EAWLS) and Kenya Wildlife Service (KWS). Did oral presentation on a joint research work funded by WIOMSA on ‘Moving with the monsoons: the dynamics of coastal migrant fishers in the Kenya Coast’.

PEER REVIEWED PUBLICATIONS

- Munga, C.N.**, Kimani, E., Vanreusel, A. (2013). Ecological and Socio-economic assessment of Kenyan coastal fisheries: the case of Malindi-Ungwana Bay artisanal fisheries *versus* semi-industrial bottom trawling. *Afrika Focus* 26(2): 151 – 164.
- Munga, C.N.** (2013). Ecological and socio-economic assessment of Kenyan coastal fisheries: the case of Malindi-Ungwana Bay artisanal fisheries *versus* semi-industrial bottom trawling. Ph.D. thesis Gent University, Belgium. 210 pp.
- Munga, C.N.**, Mwangi, S., Ong’anda, H., Ruwa, R., Manyala, J., Groeneveld, J.C., Kimani, E., and Vanreusel, A. (2013). Species composition, distribution patterns and population structure of penaeid shrimps in Malindi-Ungwana Bay, Kenya, based on experimental bottom trawl surveys. *Fisheries Research* 147: 93 - 102 .
- Munga, C.N.**, Mohamed, O.S.M., Amiyo, N., Dahdouh-Guebas, F., Obura, D.O. and Vanreusel, A. Status of coral reef fish communities within the Mombasa Marine Protected Area, Kenya, more than a decade after establishment (2012). *Western Indian Ocean J. Mar. Sci.* 10(2): 169-184.
- Munga, C.**, Ndegwa, S., Fulanda, B., Manyala, J., Kimani, E., Ohtomi, J. and Vanreusel, A. (2012). Bottom shrimp trawling impacts on species distribution and fishery dynamics; Ungwana Bay fishery Kenya before and after the 2006 trawl ban. *Fisheries Science* 78: 209 – 219.

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- Aura, C.M., **Munga, C.N.**, Kimani, E.N., Manyala, J.O. and Musa, S. (2011). Length-weight relationships for nine deep sea fish species off the Kenyan coast. *Pan-American Journal of Aquatic Sciences* 6(2): 188-192.
- Munga, C.N.**, Mohamed, O.S.M., Obura, D.O., Vanreusel, A. and Dahdouh-Guebas, F. (2010). Resource users' perceptions on continued existence of the Mombasa Marine Park and Reserve, Kenya. *Western Indian Ocean J. Mar. Sci.* 9(2): 213-225.
- Fulanda B, **Munga, C.**, Ohtomi J, Osore M, Mugo R, and Hossain Y. (2009). The structure and evolution of the coastal migrant fishery of Kenya. *Ocean & Coastal Management*, 52: 459 – 466.
- Munga, C.N.** (2008). Ecological and Socio-economic assessment of Mombasa Marine Park and Reserve, Kenya. MSc. thesis, Free University of Brussels, Belgium. 91 pp.
- Munga C.N.** (2002). The Riches of Diani-Chale: An Integrated Approach to Coastal Area Management (Swahili Translation). Integrated Coastal Area Management, Coast Development Authority, Mombasa, Kenya. 36 pp.
- Munga, C.N.** (2000). Growth and Feeding Habits of African catfish (*Clarias gariepinus*) in the First Four Weeks Post-hatch in Selected Ponds at Sagana Fish Farm, Kenya. BSc. Dissertation, Moi University, Eldoret, Kenya. 32 pp.

TECHNICAL REPORTS

- Kimani, E., Ochiewo, J., **Munga, C.**, Munyi, F. (2013). Baseline survey on socio-economic benefits of artisanal tuna fishery in the coast of East Africa – Kenya. Unpublished technical report to WWF, Nairobi. 39 pp.
- Kimani, E., **Munga, C.**, Ngoro, C., Thoya, P., Amisi, J. (2012). Malindi-Ungwana Bay shallow-water prawn survey SWIOFP Component 2. SWIOFP2011C201b. Unpublished technical report. 49 pp.
- Kimani, E., Manyala, J., **Munga, C.N.**, Ngoro, C. (2011). Malindi-Ungwana Bay shallow water prawn survey SWIOFP Component 2. SWIOFP2011C201a. Unpublished technical report. 91 pp.
- J.C. Groeneveld, A.C. Cockcroft, N.M. Dias, L. Palha de Sousa, C. Mwakosya, E. Ulotu, E. Kimani, **C. Munga** and T. Rafalimanana. Regional data gap-analysis for Component 2 (Crustaceans) for SWIOFP: Proceedings of the regional workshop for Component 2 of SWIOFP, 20th – 22nd April 2009, Oceanographic Research Institute, Durban, South Africa. 52 pp.
- E.N. Kimani, **C.N. Munga, C.** Aura and S. Agembe. (2009). Malindi-Ungwana bay: status of artisanal fishery. Kenya Marine & Fisheries Research Institute. 2008-2009 unpublished technical report. 39 pp.
- G. Okemwa, E. Kimani, E. Fondo, S. Agembe, **C. Munga** and C. Aura. (2009). Status of artisanal fisheries at the Kenya coast: 2001-2008. Kenya Marine & Fisheries Research Institute. Fisheries Research Programme. Unpublished technical report. 19 pp.

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G. Okemwa, **C. Munga**, E. Fondo, E. Kimani, S. Agembe, C. Aura, B. Orembo, D. Odongo, J. Gonda and R. Anam. (2009). Artisanal gear selectivity impact on species composition and size variation at the south coast of Kenya: Msambweni-Vanga. Kenya Marine & Fisheries Research Institute. Fisheries Research Programme. Unpublished report. 12 pp.

Fulanda, B.M. and **Munga, C.N.** (2006). A preliminary survey of the structure and dynamics of the coastal migrant fishery in Kenya. MARG I final report, contract No. 9/2005. WIOMSA. 44 pp.

S. Mwangi, P. Mathendu, J. Gatagwu, J. Emuria and **C. Munga** (2003). Water Quality and Recreational Activities at Jomo Kenyatta Public Beach and Bamburi-Shanzu Area, Kenya. Kenya Marine & Fisheries Research Institute. Unpublished technical report. 40 pp.

ABSTRACTS FOR POSTER PRESENTATION

Cosmas Nzaka Munga, Edward Ndirui Kimani, Christopher Aura Mulanda and Ann Vanreusel. Biological and socio-economic assessment of ring net fishing off Kipini part of the Malindi-Ungwana bay, Kenya. *Aquatic Resources of Kenya Conference (ARK II)*, 16th – 19th November 2010, Naivasha, Kenya.

Cosmas Nzaka Munga, Dennis Macharia, Edward Ndirui Kimani, and Ann Vanreusel. Spatial and temporal distribution of artisanal fishing effort in the Malindi-Ungwana bay, Kenya. *Aquatic Resources of Kenya Conference (ARK II)*, 16th – 19th November 2010, Naivasha, Kenya.

Edward ndirui Kimani, Miriam Wainaina, Christopher Aura, Esther Fondo, Gladys Okemwa, **Cosmas Munga** and Simon Agembe. Trends in catch-per-unit-effort for marine artisanal fishery in Kenya. *Aquatic Resources of Kenya Conference (ARK II)*, 16th – 19th November 2010, Naivasha, Kenya.

Christopher Mulanda Aura, Edward Ndirui Kimani, **Cosmas Munga**, Gladys Okemwa, Esther Fondo, Simon Agembe and Miriam Wainaina. Standardization of catch-per-unit-effort of Kiunga coastal fishery, Kenya. *Aquatic Resources of Kenya Conference (ARK II)*, 16th – 19th November 2010, Naivasha, Kenya.

Aloo, P.A., **C. Munga** and E. Kimani. (2009). Marine fisheries resources in Kenya: prospects towards national development and poverty alleviation. In 6th WIOMSA scientific symposium, 24th – 29th August 2009. St. Denis, La Reunion.

HONORS AND AWARDS

2012 – 2013 IFS Research Grant Agreement No. A/5106-1 to study the ecological and socio-economic impact of spear fishing in selected areas along the Kenya coast.

2009 – 2013 VLIR PhD ICP Scholarship, Doctor of Science, Marine Sciences, Gent University, Belgium.

2006 – 2008 VLIR UOS Scholarship, MSc. in Ecological Marine Management, Free University of Brussels, Belgium.

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- 2005 – 2006 Marine Research Grant (MARG) I, WIOMSA to study Preliminary Survey of the Structure and Dynamics of the Coastal Migrant Fisheries in Kenya.
- Sept – Oct 2005 WWF-EFN Professional Development Grant for participation in the Advanced International Training on Sustainable Coastal Development organized by SSPA Sweden AB.

ONGOING CONSULTANCY

- Jan – Jul 2014 Contract No. WIOMSA/RSCR-Researcher/2013/2: Consultancy working as a Researcher for chapters in Part IV of the regional state of the coast report (assessment of cross-cutting issue: food security and food safety (US\$ 3 500).

AFFILIATIONS

- 2012 to date South West Indian Ocean Fisheries Commission (SWIOFC)
- 2012 to date Member, National Task Group on the development of the Tuna fishery management and development strategy in Kenya
- 2009 to date Member, National Task Group on the development of the ring net gear management plan in Kenya
- 2002 to date Member of the Western Indian Ocean Marine Science Association (WIOMSA)
- 2001 to date: Member of the Kenya Sea Turtle Conservation Committee (KESCOM).

REFEREES AND ADDRESSES

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