



AQUATIC RESOURCES OF KENYA (ARK II) CONFERENCE

Kenya Marine and Fisheries Research Institute

2nd International Conference on Aquatic Research for Development

16th – 19th November 2010

**Kenya Wildlife Service Training Institute
Naivasha, KENYA**

OUTLINE OF THE CONFERENCE PROGRAMME

16 October 2010			17 October 2010	18 October 2010			19 October 2010		
08:00			09:00	09:00			09:00		
<i>Registration</i>			<i>Keynote Presentations</i>	<i>Keynote Presentations</i>			<i>Keynote Presentations</i>		
09:00				10:20			10:20		
<i>Official Opening Ceremony</i> Chief Guest : Minister for Fisheries Development				ROOM 1 Biodiversity & Ecosystem Functions	ROOM 2 Policy & Management	ROOM 3 Limnology & Oceanography	COFFEE/TEA BREAK		
10:00			10:20	11:20			ROOM 1 Fisheries Research & Management (cont'd)	ROOM 2 Contemporary Socio-economic Issues	ROOM 3 Mikoko Pamoja (Swahili Seas Mangrove Project)
COFFEE/TEA BREAK			COFFEE/TEA BREAK	COFFEE/TEA BREAK					
10:30			10:50	11:40			12:30		
<i>Keynote Presentations</i>			Lake Naivasha Presentations	ROOM 1 Biodiversity & Ecosystem Functions (Cont'd)	ROOM 2 Policy & Management (Cont'd)	ROOM 3 Limnology & Oceanography	Closing Ceremony		
11:50				ROOM 1 Fisheries Research & Management	ROOM 2 Aquaculture Research & Development	ROOM 3 Biodiversity & Ecosystem Functions			
13:30			13:10	13:40					
LUNCH			LUNCH	LUNCH			LUNCH		
14:30			14:00	14:40					
ROOM 1 Fisheries Research & Management (Cont'd)	ROOM 2 Aquaculture Research and Development (Cont'd)	ROOM 3 Biodiversity & Ecosystem Functions	Lake Naivasha Roundtable	ROOM 1 Limnology and Oceanography	ROOM 2 Policy & Management (Cont'd)	ROOM 3 Contemporary Socio-economic Issues	Excursion		
15:30			16:30	16:00					
COFFEE/TEA BREAK			COFFEE/TEA BREAK	COFFEE/TEA BREAK					
15:50			17:00	16:30					
ROOM 1 Fisheries Research & Management (Cont'd)	ROOM 2 Aquaculture Research & Development (Cont'd)	ROOM 3 Biodiversity & Ecosystem Functions (Cont'd)	<i>Poster Session</i>	ROOM 1 Limnology and Oceanography (cont'd)	ROOM 2 Climate Change	ROOM 3 Contemporary Socio-economic Issues cont'd			
18:00				17:30					
Cocktail				<i>Poster Session</i>					

PROGRAMME

16th November 2010

till - 08:30	Registration	
Opening Ceremony - PLENARY		
09:00-10:00	Official Opening Ceremony Chief Guest : Minister for Fisheries Development <i>Full programme to be provided at the Conference venue</i>	Master of Ceremony: Dr. Enock Wakwabi Rapporteur: Dr. Bernard Kirui
10:00 – 10:30	TEA BREAK	
10:30 – 11:10	Keynote Address: <i>Recent theoretical development on the fishing patterns and management of small-scale fisheries</i> – Prof. Jeppe Kolding	Chair: Prof. Boaz Kaunda-Arara. Rapp: Dr. James Kairo
11:10 – 11:50	Keynote Address: <i>Aquaculture Research and Development: Is there a roadmap from Subsistence to Sustainable Aquaculture in Kenya?</i> – Prof. Charles Ngugi	Rapp: Dr. James Kairo
Theme - Fisheries Research and Management: ROOM 1		
11:50-12:10	Trends in catch per unit effort for marine artisanal fishery in Kenya – Edward Kimani	Chair: Director Fisheries Dept. Rapp: Dr. Dorcas Sigana
12:10-12:30	Aspects of the reproductive biology of <i>Labeo cylindricus</i> Peters 1852 (Pisces: Cyprinidae) in River Ragati, at Sagana, Kenya – Dorothy Ogony	
12:30-12:50	Reproductive activity of epinepheline groupers and hinds in coastal Kenya: is there evidence for spawning aggregations? Simon Agembe	
12:50-13:10	Optimal storage conditions for packaged fresh Tilapia (<i>Oreochromis niloticus</i>) fillets – Odoli Cyprian	
13:10-13:30	Quality of <i>Siganus sutor</i> ("tafi") smoked with 6 different tree species – Peter Oduor-Odotte	

13:30-14:30	LUNCH	
14:30-14:50	Cephalopod fishery in the south coast of Kenya – Esther Fondo	Chair: Prof P. Aloo-Obudho Rapp: Elizabeth Mueni
14:50-15:10	Standardization of catch per unit effort of Kiunga coastal fishery, Kenya: implications – Christopher Aura	
15:10-15:30	Fish community structure of a mangrove creek, Tudor, Kenya - Wainaina Miriam	
15:30-15:50	TEA BREAK	
15:50-16:10	The distribution and behavioural effects of the parasite <i>Ligula intestinalis</i> on an intermediate host; the <i>Rastrineobola argentea</i> , (Pellegrin 1904) in Lake Victoria, Kenya – Caleb Ogwai	Chair: Prof. Penina Aloo-Obudho Rapp: Esther Fondo
16:10-16:30	An assessment of the shallow water spiny lobster fishery in Lamu District: Towards sustainable management and marine fisheries certification – Elizabeth Mueni	
16:30-16:50	Acoustic estimation of Nile perch (<i>Lates niloticus</i>) biomass in Lake Victoria through single target detection – A. Munyaho Taabu	
16:50-17:10	Fish lipid contents and classes in commercial fishes of selected Kenyans fresh water lakes and Tana River – Martin Magu.	
17:10-17:30	Species composition and distribution of the mullets (Pisces: Mugilidae) at Kilifi Creek, Kenya – Dorcas Sigana	
17:30-17:50	Reproductive biology of <i>Siganus sutor</i> in inshore waters of southern coast of Kenya Simon Agembe	
17:50-18:10	Economically extinct Lake Victoria Cyprinid fish species, <i>Labeo victorianus</i> Boul. and <i>Barbus altianalis</i> Boul. are alive and well in the adjoining rivers – William O Ojwang	
18:00	Cocktail	
	Theme: Aquaculture Research and Development - ROOM 2	
11:50-12:10	Integrated salt-artemia production and mariculture in a mangrove wetland at the Kenya coast - Agnes Muthumbi.	Chair: Dr. Harrison Charo Rapp: Maurine Ngarari
12:10-12:30	Decomposing mangrove litter supports a microbial biofilm with a selective nutritive value to penaeid shrimps post larvae - Charles Gatune.	
12:30-12:50	The culture and hatching characteristic of artemia <i>Parthenogenetica</i> under laboratory conditions - Betty Nyonje	
12:50-13:10	Economic values for traits of fish under smallholder production in Kenya - Simon K. Omasaki	
13:10-13:30	Evaluation of Stocking Density on the Growth and Survival of Nile Tilapia (<i>Oreochromis niloticus</i> -	

	Linn, 1758) Fry in hapas - Safina Musa.	
13:30-14:30	LUNCH	
14:30-14:50	Towards providing reliable seed for aquaculture development in Kenya - Harrison Charo.	Chair: Prof. Charles Ngugi Rapp: Dr. Johnathan Munguti
14:50-15:10	Effects of using different biological and economic values on genetic responses of Nile tilapia (<i>Oreochromis niloticus</i>) – Simon K. Omasaki.	
15:10-15:30	Experimental studies on cyclical reproduction of the tropical African catfish <i>Paraeutropius buffei</i> - Betty Nyonje	
15:30-15:50	TEA BREAK	
15:30-15:50	The design of an improved technology of fish processing and its impact on the reduction of post harvest losses of Dagaa (<i>Rastrineobola argentea</i>) in Lake Victoria – Mutune Maasai	Chair: Prof. Charles Ngugi Rapp: Dr. Johnathan Munguti
15:50-16:10	Use of tobacco waste to control the gastropod <i>Melanoides tuberculatus</i> (Muller) in fresh water fish – Erick Ochieng	
16:10-16:30	Proximate composition of selected potential feedstuffs for sustainable aquaculture of Nile tilapia (<i>Oreochromis niloticus</i> L.) and African Catfish (<i>Clarias gariepinus</i>) – Johnathan Munguti	
16:30-16:50	Exploring aquaculture prospects of Ngege, <i>Oreochromis esculentus</i> , an indigenous Lake Victoria tilapiine - Harrison Charo-Karisa	
16:50-17:10	Assessing the suitability of small-scale aquaculture in Embu District, Kenya using GIS and remote sensing - Maurine Ngarari.	
17:10-17:30	Cannibalistic interactions in juvenile mud crabs: A laboratory study of shelter and size effects – David Mirera	
18:00	Cocktail	
	Theme: Biodiversity & Ecosystem Functions - ROOM 3	
11:50-12:10	Biodiversity And Ecosystem Functions: A Case Study Of The Changing Characteristics Of Aquatic Biodiversity In The Lake Victoria Ecosystem - Bertha Achieng	Chair: Dr Tim McClanahan Rapp: Dr. George Ogendi
12:10-12:30	Biomonitoring Of Riverine Ecosystems In The Lake Victoria Basin, Kenya: Status, Potential Benefits And Challenges To Scaling Up - Frank Masese	
12:30-12:50	Mangrove Growth Rings: Fact Or Fiction - Judith Okello	
12:50-13:10	Coral Population Structure: An Assessment Of Kenyan Coral Reefs' Health Using Size-Frequency Distribution - Juliet Karisa	
13:10-13:30	Natural And Human-Induced Changes In Mangrove Forests In Maputo Bay – Celia Macamo	

13:30-14:30	LUNCH	
14:30-14:50	Status and ecological roles of aquatic macrophytes of Lake Baringo, Kenya - Nyakwama Robert Ondiba	Chair: Dr Tim McClanahan Rapp: Dr. George Ogendi
14:50-15:10	Plankton community of the Ferguson Gulf of Lake Turkana, Kenya - Reuben Omondi	
15:10-15:30	Using macroinvertebrates in assessing the health and performance of constructed wetlands used for treatment of pre-treated industrial effluent at Chemelil Sugar Company, Lake Victoria Basin, Kenya - Opa Bernard	
15:30-15:50	TEA BREAK	
15:50-16:10	Marine fish and macrofaunal assemblages within Shimoni-Vanga Seagrass Meadows: Relative importance of habitat heterogeneity and structural characteristics - Patrick Gwada	Chair: Dr Nyawira Muthiga Rapp: Dr. James Mwaluma
16:10-16:30	Impacts of point-source pollution on macroinvertebrate biodiversity in an equatorial Marula riverine wetland - Patrick Orwa	
16:30-16:50	Pesticides contamination in lower Nyando/Sondu-Miriu and Yala/Nzoia Rivers In Lake Victoria Basin, Kenya - Safina Musa	
16:50-17:10	Recovery of degraded seagrass habitats in the Diani - Chale Lagoon - Samuel Ndirangu	
17:10-17:30	Malindi-Ungwana Bay: A look at environmental drivers influencing prawn fishery - Stephen Mwangi	
17:30-17:50	Genetic diversity of the Nile tilapia (<i>Oreochromis niloticus</i>) In Eastern Africa - Twesigye Charles K.	
18:00	Cocktail	

17th November 2010

09:00-10:20	Keynote Presentation: <i>Lake Naivasha - can anybody manage nature's uncertainty?</i> - Dr. Harper Keynote Presentation: <i>There is no wealth but life: Biodiversity, ecosystem services and the poor</i> -Dr. Mark Huxham	Chair: Dr Nzula Kitaka Rapp: Dr Agnes Muthumbi
10:20-10:50	TEA BREAK	
	Theme: Lake Naivasha Presentations - PLENARY	
10:50-11:10	Integrated assessment for the governance of the Naivasha basin, Kenya - Pieter R. van Oel.	Chair: Prof. Kenneth

11:10-11:30	Implementation of the Ramsar Convention on wetlands in Kenya: Challenges and opportunities - Judith Nyunja.	Mavuti
11:30-11:50	The seasonal influence on the spatial distribution of dissolved selected metals in Lake Naivasha, Kenya - Joseph Nyingi Kamau	Rapp: Dr. John Gichuki
11:50-12:10	Massive fish kills in Lake Naivasha Ramsar Site in February 2010 was caused by rapid changes in water quality occasioned by <i>El Nino</i> phenomenon - George Morara.	
12:10-12:30	Is fish biomanipulation a suitable management tool in the tropics? - Christopher Aura	
12:30-12:50	Community based natural resource management: A sustainable mechanism for decentralized natural resource management in fresh water ecosystems - Robert Ndetei.	
12:50-13:10	Impact Of Closed Seasons On The Sustainability Of Lake Naivasha Fishery – Jacob Ojuok	
13:10-14:00	LUNCH BREAK	
14:00-16:30	Lake Naivasha Round Table Discussions - PLENARY	
		Moderator: Dr. Jared Bosire Rapp: Patrick Gwada
16:30-17:00	TEA BREAK	
17:00	POSTERS	

18th November 2010

09:00-09:40	Keynote Presentation: <i>Linking science to management: the case of managing marine ecosystems in East Africa</i> – Dr. Nyawira Muthiga	Chair: Dr Mark Huxham Rapp: Juliet Karisa
09:40-10:20	Keynote Presentation: <i>Climate change: Impacts and opportunities</i> – Prof. Laban Ogallo	
	Theme: Biodiversity & Ecosystem Functions – ROOM 1	
10:20-10:40	Diel and lunar periodicity of reef fish larvae in Malindi Marine Park, Kenya - James Mwaluma.	Chair: Prof George Owiti Rapp: Joseph Kamau
10:40-11:00	Mapping of mangrove forest land cover change along the Kenya coastline using Landsat imagery – Kirui Benard	

11:00-11:20	Species mixing boosts the below-ground root production of mangrove trees - Joseph Lang'at.	
11:20-11:40	TEA BREAK	
11:40-12:00	Carbon, nitrogen and phosphorus fluxes between sediment and overlying waters below two mangrove canopies of Gazi Bay - Charles Mitto Kosore	Chair: Prof G. Owiti Rapp: Joseph Kamau
12:00-12:20	Seagrass and sea urchin interactions: Overgrazing and resource use in the WIO Region - Jacqueline Uku.	
12:20-12:40	The study of cetaceans in Kenya has a very recent history, and only a few efforts have been made in assessing coastal populations based on field research in the south coast - Edita Magileviciute	
12:40-13:00	Evaluation of Dugong grazing at Inhaca Island, Mozambique – Stella Fernando.	
13:00-13:20	Water hyacinth <i>Eichhornia crassipes</i> (Mart.) Solms – Laubach dynamics and succession in the Nyanza Gulf of Lake Victoria (East Africa) in 2008: Implications for water quality and biodiversity conservation - John Gichuki	
13:20-13:40	Monitoring of trace elements in Lake Baringo ecosystem: Spatial concentrations in lake water and surficial sediments - Job Mwamburi	
13:40-14:40	LUNCH	
	Theme: Limnology and Oceanography - ROOM 1	
14:40-15:00	Equilibrium studies for the sorption of Cu, Mn, and Fe from complex liquid matrices using C-18 solid phase material and acetylacetone as the complexing ligand – Joseph Kamau.	Chair: Dr John Onyari Rapp: John Malala
15:00-15:20	Application of a suite of sediments extraction procedures to estimate environmental available metals in sediments and their relevance to bioaccumulated metals in seaweeds – Erick O. Okuku.	
15:20-15:40	The role of environmental factors in the distribution of endemic tilapiines in the Lake Victoria basin – Tsuma B. Jembe	
15:40-16:00	Freshwater macrophytes resource as livelihood support for riparian societies in Kenya: The need for conservation and management - Taita Terer.	
16:00-16:30	TEA BREAK	
16:30-16:50	Status of Lake Victoria environment: Trends and impacts to fish stocks – John Gichuki	Chair: Dr. John Onyari

16:50-17:10	Phenology Of Rhizophora Mucronata Lamk. And Sonneratia Alba Sm. In Natural And Reforested Mangrove Forests At Gazi Bay, Kenya – Virginia Wangondu.	Rapp: John Malala
17:10-17:30	Factors influencing heterogeneity in the perceptions of fisheries management options and benefits in an artisanal fisheries and its implications for management – Carolyn Abunge	
17:30-18:15	POSTERS	
	Theme: Policy and Management - ROOM 2	
10:20-10:40	Recovery of tropic cascades in Kenya fisheries closure – Tim R. McClanahan.	Chair: Prof E. Aosa Rapp: Jacob Ochiewo
10:40-11:00	Production of all male tilapia in Uganda; A case of methyl testosterone for sex reversal - Basiita K. R.	
11:00-11:20	Adopting integrated coastal zone management (ICZM) in Kenya: Achievements and challenges - James Kamula.	
11:20-11:40	TEA BREAK	
11:40-12:00	Effectiveness of CBOs in management of fisheries resources - Innocent Wanyonyi.	Chair: Prof E. Aosa Rapp: Jacob Ochiewo
12:00-12:20	ICT as a support tool for managers, policy and decision makers: The case of the Kenya coastal and marine environment clearinghouse - Harrison Ong'anda.	
12:20-12:40	Assessing viability and impacts of Market Information Technology in Lake Victoria fisheries – Richard Abila	
12:40-13:00	Community based natural resource management: A sustainable mechanism for decentralized natural resource management in fresh water ecosystems – Robert Ndeti	
13:00-13:20	The Bounties of a transboundary resource: River Omo wetland, Kenya - William Oweke Ojuang	
13:20-13:40	Bait for the Nile Perch (<i>Lates niloticus</i>) fishery in the Lake Victoria basin, East Africa: Production and marketing of African catfish (<i>Clarias gariepinus</i>) fingerlings – John Okechi	
13:40-14:40	LUNCH	
	Theme: Climate Change - ROOM 2	
14:40-15:00	Mangroves: An ecosystem at the crossroads due to climate change impacts – Jared Bosire	Chair: Prof Laban Ogallo Rapp: Dr. Judith Nyunja
15:00-15:20	Impact of sea level rise on hydrodynamics of estuarine systems: Case study of Mtwapa Creek, Kenya - Charles Magori.	
15:20-15:40	The impact of indirect effects of climate change on mangrove associated biodiversity - Elisha	

	M'rabu.	
15:40-16:00	Assessing coral communities and their bleaching susceptibility in two reserves in Kenya - Jelvas Mwaura.	
16:00-16:20	Cash cow or hot air? Politics of global Carbon trade - James Kairo	
16:00-16:30	TEA BREAK	
17:00-18:15	POSTERS	
	Theme: Limnology and Oceanography - ROOM 3	
10:20-10:40	Diurnal variation in meteorological and oceanographic parameters of equatorial shallow-backwater ecosystems of the Agulhas Somali Current Large Marine Ecosystems (ASCLME) - Nguli Michael	Chair: Dr. John Gichuki Rapp: Dr. Virginia Wangonde
10:40-11:00		
11:00-11:20	Identification and characterisation of the parasites infecting Lake Turkana fish- Werimo Kenneth	
11:20-11:40	TEA BREAK	
11:40-12:00	Kenya fishery oceanography research for management: An overview - Nguli Michael	Chair: Dr. John Gichuki
12:00-12:20	Characterization of Lake Victoria basin small water bodies suitability for fish production using abiotic and biotic factors – Reuben Omondi	Rapp: Dr. Virginia Wangonde
12:20-12:40		
12:40-13:00	Assessment of the fishery and biology of the redeye Labeo, <i>Labeo cylindricus</i> Peters 1852 fishery in Lake Baringo, Kenya – Chispine Nyamweya	
13:00-13:20	Assessing impacts of ice interventions in reduction of fish post-harvest losses and improved livelihoods: The case of Suba District in Kenya - Abila Richard.	
13:20-13:40	Contribution of the Lake Baringo fisheries to the local economy – Carolyn Lwenya	
13:40-14:40	LUNCH	
14:40-15:00	Community perspectives on the conservation status of Kingwal Wetland, Kenya – Philip O. Raburu & S. N. Wanjala	Chair: Dr Richard Abila Rapp: Gladys Okemwa
15:00-15:20	Coping strategies in the declining and conflict prawn artisanal fisheries of Ungwana Bay - Jacob Ochiewo	
15:20-15:40	Socio-ecological implications of the fluctuating tilapia fishery of the Ferguson's Gulf, Lake	

	Turkana, Kenya – John Malala	
15:40-16:00	Effectiveness of CBOs in management of fisheries resources – Susan Mungo.	
16:00-16:30	TEA BREAK	
16:30-16:50	Heavy metal concentrations in three selected fish species from Lake Naivasha, Kenya - George M. Ogendi.	Chair: Dr Richard Abila Rapp: Gladys Okemwa
16:50-17:10	Impacts of climate change, and possible mitigations and adaptation strategies for local communities living in Lake Naivasha watershed - Nancy Njenga	
17:10-17:30	Community perspectives on the impact fluctuating Lake Victoria water levels on consumptive and non- consumptive wetland resources within Nyando River Basin, Kenya – Kevin Obiero.	
17:30-	POSTERS	

19th November 2010

09:00-09:40	Keynote Presentation: Policy and Management - Science for development – Prof. Shaukat Abdulrazak	Chair: Dr. Renison Ruwa Rapp: James Kamula
09:40-10:20	Keynote Presentation: Development of capacity in marine sciences in the region for the last two decades – Dr. Julius Francis	
10:20-10:50	TEA BREAK	
	Theme: Fisheries Research & Development - ROOM 1	
10:50-11:10	The status of marine artisanal fisheries in Kenya – Boaz Kaunda-Arara	Chair: Dr William Ojwang Rapp: Christopher Aura
11:10-11:30	Spawning behaviour in coral reef fishes: Implications for fisheries – Melita Samoily	
11:30-11:50	Meristic and morphometric variation between endangered tilapiine fishes <i>O. esculentus</i> and <i>O. variabilis</i> and the exotic tilapias <i>O. niloticus</i> and <i>O. leucostictus</i> in Lake Kanyaboli, Kenya - Alice Arum	
11:50-12:10	Lake Turkana fish trade dynamics: Price systems and impact on the economy- Yongo Ernest	
12:10-12:30	Benthic status of fished reefs and associated reef fish densities in Kiunga Marine Reserve Kenya - Ali Mwachui.	
12:30- 13:15	Closing Ceremony - PLENARY	Chair: Director KMFRI Rapp: D. Masai

13:15-14:15	LUNCH	
	EXCURSION	
	Theme: Contemporary Socio-economic Issues - ROOM 2	
10:50-11:10	Baseline studies and inventory of socio-economic aspects in the lower Tana Delta – Kaleb A. Mwendwa	Chair: Melita Samoilys Rapp: Carolyn Lwenya
11:10-11:30	Is social capital analysis a possible tool of community fisheries management? A case study of Community-Based Conservation in Ozi - a remote island village in Tana Delta, Kenya – Bernards Okeyo.	
11:30-11:50	Fish production practices of smallholder farmers in western Kenya - Simon K. Omasaki.	
11:50-12:10	Reaching out to the youth for conservation: What works? - Sarah Ater.	
12:10-12:30	Migration among fishers - characteristics and effects in Kenya - Innocent Wanyonyi.	
12:30- 13:15	Closing Ceremony - PLENARY	Chair: Director KMFRI Rapp: D. Masai
13:15-14:15	LUNCH	
	EXCURSION	
	Special Session: Mikoko Pamoja - ROOM 3	
10:50-12:30	Swahili Seas Mangrove Project	Convener: Dr. James Kairo
12:30- 13:15	Closing Ceremony - PLENARY	Chair: Director KMFRI Rapp: D. Masai
13:15-14:15	LUNCH	
	EXCURSION	