Final Program Details
IIFET 2012 Tanzania Conference
July 16-20, 2012, Hyatt Regency Kilimanjaro Hotel, Dar es Salaam Tanzania

00 Opening Ceremony
Date: Tuesday, July 17, 2012
Time: 9:00 AM - 10:00 AM
Location: Kibo Ballroom
Welcome Remarks from Host: Prof. Rwekaza Mukandala, Vice Chancellor University of Dar es Salaam
IIFET President Remarks: Dr. Rebecca Metzner, IIFET President
FAO Representative Remarks: Ms. Diana E. Templeman
Remarks by the Permanent Secretary: Dr. Charles Nyamurunda, Permanent Secretary, Ministry of Livestock and Fishery Development, Tanzania
Guest of Honor Remarks: Hon. Dr. David Mathayo David, Minister, Ministry of Livestock and Fishery Development

01A Markets and Value Chains for Small Aquaculture Enterprises
Value Chains for Small Aquaculture Enterprises: Structures, Processes, and Interventions to Augment Producer Income and Food Security Objectives of the Session: To discuss the breadth and complexity of value chains for aquaculture products; To identify barriers and constraints to the addition of value to farm-raised products that increased producer incomes and food security; To highlight producer efforts to broaden access and participation in value chains. In the agri-food sector, a value chain network consists of different processes and activities in order to bring food products and services to the market to satisfy customer demands. A value chain in sectors with perishable products such as fish adds additional dimensions because of the limited shelf life and the importance of food quality and food safety issues. These factors make such value chains complex, especially when other factors like variability in demand and price, and environmental factors are considered. The management of agri-food value chains and networks is considered a method to increase productivity and the performance of the agriculture sector in developing countries. This is based on the presupposition that the flow of goods and services, capital, technology, ideas, and labor offers opportunities for developing nations to enhance economic growth and reduce poverty by increasing productivity and efficiency, providing access to new markets and ideas, and expanding the range of consumer choice. International development organizations are increasingly focusing attention on entrepreneurship and agricultural trade via linkages with better rewarding markets, promoting exports of agricultural products, and fostering competitiveness in the agricultural sector. Value chain analysis therefore provides a reference point for improvements in products and services, and for consequent improvements in the economic welfare of the poor by linking small householder farmers and their families with the market. At present, in most developing nations, there appears to be limited distinction in the marketing of wild-caught fish and farmed fish and the two often share the same marketing chain. The value chain typically follows two forms - a short chain that is usually localized and a long chain that extends to distant markets and includes export markets. Internal domestic markets are typically characterized by simple short value chains with little value added. Limited processing or packaging separates producers from consumers. In Africa, where people use more income to purchase food than other continents, most consumers obtain most food items through short, simple, largely local value chains. With increased international trade, value chains become more complex, and longer value chains entail efficiency at each stage of the chain to minimize cost and also meet demand requirements. Linkages improve information flow and learning capacities and also help to reduce transaction costs, increase productivity in terms of value, and increase profitability. Value chain collaboration then becomes very important for smallholder producers in developing countries to ensure access to new and profitable markets. Collaboration also allows participation in network governance to enable timely responses to end-user demands for capacity development and knowledge dissemination. Market access and value chain governance are commonly recognized as the key dimensions for creating opportunities for smallholder producers in developing countries. Addressing value chain issues in international development work involves efforts
toward making local producers cost-competitive and also building capacity to enable them to comply with quality requirements, ensure consistent and reliable supply, and meet quality and safety standards. Opportunities for poor smallholder enterprises include cost-efficient market intermediate activities such as product aggregation, storage, processing, and distribution. Access to market information and the nature of information flow has become a main dimension for maintaining competitiveness. With increasing access to and use of the Internet and mobile communication devices, individuals in developing countries have the opportunity to effectively participate in value chains to be competitive. Supply chains for agri-food products also being driven by delivery and procurement conditions requiring timeliness, consistency and reliability, and the development of relationships. Value chains are dynamic and vary in terms of composition, relationships, information flow, market positioning, etc. There is the need for an understanding of market dynamics and a thorough analysis of actual and potential market segments and competition. Transactions costs analysis can be used to assess barriers to market participation by resource-poor smallholders by defining characteristic of smallholders and the factors responsible for market failures. In developing countries, some markets do not exist, and where markets exist, there are high transactions costs associated with accessing those markets. With limited quantities of products, high exchange costs are associated with longer distance to the market, poor infrastructure network and poor access to assets and information. Differences in transactions costs and access to assets and services are possible factors underlying the various levels of market participation among smallholders. While value chain analysis is extremely useful, its weaknesses highlight the fact that many other important considerations are necessary to increase value for the entire chain or some of its participants. This session’s focus on markets and value chains is an attempt to better understand the intricate linkages between the chain elements, performance, and value added distribution to allow a determination of optimal institutional arrangements and policy approaches to smallholder participation.

Date: Tuesday, July 17, 2012
Time: 10:30 AM - 12:30 PM
Location: Zanzibar
Chair: Hillary Egna

**Value Chain Development for Tilapia and Catfish Products: Opportunities for Female Participation in Kenya** (ID: 290)  
*Kwamena Quagrainie*, Purdue University

**Value Chain of Snakehead Fish in the Lower Mekong Basin of Cambodia and Vietnam** (ID: 385)  
*Robert Pomeroy*, University of Connecticut-Avery Point (United States)
*Sinh Le Xuan*, Cantho University (Viet Nam)

**Improving the Supply Chain of Tilapia Industry of the Philippines** (ID: 394)  
*Wilfred Jamandre*, Central Luzon State University (Philippines)
*Upton Hatch*, North Carolina State University (United States)
*Remedios Bolivar*, Central Luzon State University (Philippines)
*Russel Borski*, North Carolina State University (United States)

**Prospects for Improving Value Chain of Aquaculture Fish (Tilapia and African Catfish) in Central Uganda** (ID: 395)  
*Theodora Hyuha*, Makerere University
*Gertrude Atukunda*, Kajjansi Aquaculture Research and Development Centre (Uganda)

**Management and Value Chain of Nile Tilapia Cultured in Ponds of Small-Scale Farmers in Morogoro Region, Tanzania** (ID: 403)  
*Sebastian Chenyambuga*, Sokoine University of Agriculture (Tanzania)
*Nazael Madalla*, Sokoine University of Agriculture (Tanzania)
*Berno Mnembuka*, Sokoine University of Agriculture (Tanzania)

**Developing Aquashops in Kenya** (ID: 455)  
*Sammy Macaria*, Ministry of Fisheries development Kenya (Kenya)
*Judith Amadiva*, Ministry of Fisheries Development (Kenya)
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<th>01B Governance: Co-management, Community Management, Coops and Catch Shares, Part I</th>
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<td>Time: 10:30 AM - 12:30 PM</td>
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<td>Location: Kibo 1</td>
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<td>Moderator: Erik Lindebo</td>
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<td>Michele Barnes-Mauthe, University of Hawaii at Manoa (United States)</td>
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<td>Shawn Arita, Joint Institute for Marine and Atmospheric Research (United States)</td>
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<td>Stewart Allen, NOAA Pacific Islands Fisheries Science Center (United States)</td>
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<td>PingSun Leung, University of Hawaii at Manoa (United States)</td>
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<td>Steven Gray, University of Hawaii at Manoa (United States)</td>
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<th>A Case Study in Successful Fishery Management: The Atlantic Deep Sea Red Crab Fishery (ID: 211)</th>
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<td>Barbara Rountree, DOC/NMFS/NEFSC (United States)</td>
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<th>Community Based Fisheries Management (CBFM) is a Tool of Socio Economic Development Measuring Livelihoods Changes of People involve: an Experience from Bangladesh (ID: 340)</th>
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<tr>
<td>A K M Firoz Khan, The WorldFish Center (Bangladesh)</td>
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<td>Sk.Md. Mohsin, Local Government Engineering Department (LGED), (Bangladesh)</td>
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<th>Do All Answers Lie Within (The Community)? Fishing Rights and Marine Conservation (ID: 381)</th>
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<td>Maria Gasalla, University of Sao Paulo (Brazil)</td>
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<th>01C Managing Development of Fisheries and Aquaculture Sectors Part I</th>
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<td>Moderator: Dan Holland</td>
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<th>Reservoir Water Re-Allocation and Community Welfare (ID: 68)</th>
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<td>Mohottala Gedara Kularatne, University of Kelaniya (Sri Lanka)</td>
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<td>Sean Pascoe, CSIRO Marine and Atmospheric Research (Australia)</td>
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<td>Clevo Wilson, QUT Business School (Australia)</td>
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<td>Tim Robinson, QUT Business School (Australia)</td>
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<th>Techno-Transfer of Mud Crab Nursery in Ponds: Its Socio-Economic Impact on Small-Scale Mud Crab Producers in Northern Samar, Philippines (ID: 83)</th>
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<tr>
<td>Didi Baticados, Southeast Asian Fisheries Development Center/Aquaculture Department (Philippines)</td>
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<td>Renato Agbayani, Southeast Asian Fisheries Development Center/Aquaculture Department (Philippines)</td>
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Poverty and Inequality in Seasonal Floodplain Areas of Bangladesh: The Role of Fish Income from Community Based Aquaculture  (ID: 89)
Md. Akhtaruzzaman Khan, Norwegian University of Life Sciences (Norway)
A. B. M. Mahfuzul Haque (Bangladesh)

Diego Valderrama, University of Florida (United States)

Development of Aquaculture in the Gulf States  (ID: 166)
Bruce Shallard, Bruce Shallard and associates (New Zealand)

Historical Development of Indonesia’s Industrial Tuna Fisheries, 1900 - 2012  (ID: 450)
Seamus McElroy, The BOSS Company (Indonesia)

01D Bioeconomic Modeling Part I
Date: Tuesday, July 17, 2012
Time: 10:30 AM - 12:30 PM
Location: Lake Victoria
Moderator: Sarah Jennings

Modelling Capital Stuffing and Fleet Redundancy in a Limited Entry Fishery  (ID: 147)
Kelly Neill (Australia)
Aki Asano, Sophia University (Japan)
Satoshi Yamazaki, University of Tasmania (Australia)

Modelling the Economic and Ecological Co-Viability of the Northern Prawn Fishery in Australia  (ID: 149)
Sophie Gourguet, CSIRO-UTAS-IFREMER-MNHN (Australia)
Olivier Thébaud, CSIRO - CMAR (Australia)
Cathy Dichmont, CSIRO - CMAR (Australia)
Roy Deng, CSIRO - CMAR (Australia)
Sean Pascoe, CSIRO Marine and Atmospheric Research (Australia)
Rich Little, CSIRO Marine and Atmospheric Research (Australia)
Sarah Jennings, University of Tasmania (Australia)
Luc Doyen, CNRS (France)

Bioeconomic Modelling for the Evaluation of Fishery Resources Based on the Gordon-Schaefer Model  (ID: 175)
Taro Oishi, The University of Tokyo (Japan)
Nobuyuki Yagi, The University of Tokyo (Japan)
Masahiko Arijii (Japan)
Yutaro Sakai, University of Calgary (Canada)

Search and Destroy: A Bioeconomic Model of Orange Roughy Fisheries in New Zealand  (ID: 182)
Viktoria Kahui, University of Otago
Claire Armstrong (Norway)

Bio-Economic Model of Eastern Baltic Cod Under the Influence of Nutrient Enrichment  (ID: 302)
Thanh Viet Nguyen, University of Southern Denmark (Viet Nam)
01E Markets: Value Chains Part I
Date: Tuesday, July 17, 2012
Time: 10:30 AM - 12:30 PM
Location: Lake Tanganyika
Moderator: Taiwo Mafimisebi

Value Chain Analysis of the Egyptian Aquaculture Sector (ID: 20)
Ahmed Nasr Allah, WorldFish Center (Egypt)
Graeme Macfadyen, Poseidon (France)
Malcolm Dickson, WorldFish Center (Egypt)

Structural Performance of Artisanal Fish Marketing in Nigeria (ID: 34)
Lawrence Oparinde, Dept of Agricultural & Resource Economics (Nigeria)
Oluwadare Ojo, Federal University of Technology (Nigeria)

The Value Chain of Farmed African Catfish in Uganda (ID: 65)
Maurice Ssebisubi, Aquaculture Management Consultants (Uganda)

Comparative Analysis of Fresh and Dried Fish Consumption in Ondo State, Nigeria (ID: 122)
Taiwo Mafimisebi, The Federal Univ. of Technology (Nigeria)

Marketing, Distribution and Consumption of Sea Food in Anyigba, North Central Nigeria (ID: 234)
Ogbe Friday, Kogi State University (Nigeria)
Onuche Unekwu, Kogi State University (United States)

01F Understanding and Modeling Fishing/Sector Behavior Part I
Date: Tuesday, July 17, 2012
Time: 10:30 AM - 12:30 PM
Location: Bagamoyo
Moderator: Stella Williams

Unravelling the Multiple Margins of Rent Generation from Individual Transferable Quotas (ID: 314)
Matthew Reimer, University of California, Davis (United States)
Joshua Abbott, Arizona State University (United States)
James Wilen, University of California, Davis (United States)

Sector Allocation Catch Share System: Game Theoretic Approach for Sector Behavior Analysis (ID: 372)
Hirotugu Uchida, University of Rhode Island (United States)
Andrew Scheld, University of Washington (United States)

Modeling Fishing Decisions with Spatially Explicit Agent-Based Models (ID: 409)
Steven Saul, University of Miami (United States)
David Die, University of Miami (United States)
02A Looking at Fish Supply Chains with a Gender Lens

Gender, as well as other cultural, class, religious and ethnic factors, affects how fish supply chains function and where value is created and captured along the supply chain. Using studies from Africa (Nigeria, Kenya, Tanzania and Uganda) and South Asia (Sri Lanka and India), researchers explore divisions of labour, including especially those due to gender, and the economic and social dimensions of fish supply chains and markets. Relationships between actors in different parts of the chain, especially between fishers and traders are also covered.

Date: Tuesday, July 17, 2012
Time: 2:00 PM - 4:00 PM
Location: Zanzibar
Chair: Hillary Egna
Chair: Meryl Williams

- **Appraisal of Fresh Fish Marketing in Ondo State, Nigeria** (ID: 40)
  - Adeleke Lydia, Federal University of Technology Akure, Nigeria (Nigeria)

- **Contribution of Lake Victoria Dagaa Fishery in East and Central African Fish Trade** (ID: 90)
  - Mwanahamis Salehe, Tanzania Fisheries Research Institute (Tanzania)
  - Paul Onyango, University of Dar es Salaam (Tanzania)
  - Hillary Mrosso, Tanzania Fisheries Research Institute (Tanzania)
  - Enock Mlaponi, Tanzania Fisheries Research Institute (Tanzania)

- **Role of Gender in Global Fishery Value Chains: A Feminist Perspective on Activity, Access and Control Profile** (ID: 143)
  - Devarahandhi De Silva, Sabaragamuwa University of Sri Lanka (Sri Lanka)
  - Trond Bjorndal, Center for Economics and Management of Aquatic Resources (CEMARE) (United Kingdom)
  - Audun Lem, United Nations Food and Agriculture Organization (Italy)

- **Sun-Dried Mukene (Rastrineobola argentea) Value-Chain Analysis in Uganda** (ID: 240)
  - Margaret Masette, National Agricultural Research Organization (Food Biosciences Research centre) (Uganda)

- **Invisible Actors on a Male Dominated Arena: Female Fish Mongers’ Roles, Strategies and Needs in the Fisheries Sector** (ID: 247)
  - Sara Frocklin, Stockholm University (Sweden)
  - Maricela de la Torre-Castro, Department of Systems Ecology (Sweden)
  - Lars Lindström, Department of Political Science (Sweden)
  - Narriman Jiddawi, Institute of Marine Science

- **Role of Gender in Value Chain from Production and Marketing of Fish** (ID: 353)
  - Debabrata Lahiri, Rural Development Centre, Indian Institute of Technology, Kharagpur (India)

- **Women In Fish Value Chain In Nigeria** (ID: 405)
  - Abiodun Oritsejemine Cheke, Federal Dept. of Fisheries (Nigeria)

02B: Governance: Co-management, Community Management, Coops, and Catch Shares Part II

Date: Tuesday, July 17, 2012
Time: 2:00 PM - 4:00 PM
Location: Kibo 1
Moderator: Bruce Shallard

- **Analysis of Power in Fisheries Co-management: Experiences from Lake Chilwa, Malawi** (ID: 36)
  - Friday Njaya, Fisheries Department (Malawi)
02C Managing Development of Fisheries and Aquaculture sectors Part II

Date: Tuesday, July 17, 2012
Time: 2:00 PM - 4:00 PM
Location: Kibo 3
Moderator: Maribec Campos

Can Marine Protected Areas Improve the Livelihoods of Local Communities: A Review and Analysis of the Current Literature (ID: 53)
Michael Verdone, International Organization for Conservation of Nature (IUCN) (Switzerland)

Fisheries Co-Management and its Benefits: The Case of Small Scale Fisheries in Malawi (ID: 69)
Steve Donda, Department of Fisheries (Malawi)

Recent Experience with Regard to Introduction of Fisheries Co-management in Tanzania Mainland (ID: 164)
Yahya Mgawe, Fisheries Education and Training Agency (Tanzania)

Community Participation in Fisheries Management in Tanzania (ID: 268)
Fatma Sobo, Fisheries Development Division (Tanzania)
Rashid Hoza, Fisheries Development Division (Tanzania)

Will Lower Interest Rates Trap Households as Unskilled Labor in Small-scale Fisheries? (ID: 172)
Marie-Catherine Riekhof, CAU-Institut für Regionalforschung (Germany)
Frederik Noack, CAU Kiel (Germany)

The Role of Inequality and Resource Productivity for Economic Development (ID: 202)
Frederik Noack, CAU Kiel (Germany)
Marie-Catherine Riekhof, CAU-Institut für Regionalforschung (Germany)
Martin F. Quaas, Department of Economics, University of Kiel (Germany)

Fisheries and Aquaculture Sector: Is it just another Food Production System? (ID: 221)
Arpita Sharma, Central Institute of Fisheries Education (CIFE) (India)

Unlocking South Africa’s Inland Fisheries Potential; The Need for a Developmental Approach and Revision of Property and Access Rights (ID: 361)
Mafaniso Hara, PLAAS University of Western Cape (South Africa)

Pete Britz, Rhodes University, Department of Ichthyology and Fisheries Science (South Africa)
Qurban Rouhani, Rhodes University Dept Ichthyology and Fisheries Science (South Africa)

The Potential for Small-Scale Shellfish Aquaculture in Coastal East Africa (ID: 412)
Hauke Kite-Powell, Woods Hole Oceanographic Institution
### 02D: Compliance, Enforcement, and the Lack Thereof Part I

**Date:** Tuesday, July 17, 2012  
**Time:** 2:00 PM - 4:00 PM  
**Location:** Lake Victoria  
**Moderator:** Curtis Jolly

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<tr>
<td>Inspection, Compliance &amp; Violation: A Case of Fisheries</td>
<td>Kofi Otumawu-Apreku, School of Economics, The University of Adelaide (Australia)</td>
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</table>
| Quota Enforcement in Resource Industries: Self-Reporting and Differentiated Inspections | Lars Gårn Hansen, University of Copenhagen (Denmark)  
Frank Jensen, University of Copenhagen (Denmark) |
| Understanding Non-Compliance Behavior with U.S. Protected Species Regulations | Linda Nøstbakken, University of Alberta (Canada) |
| The Role of Capacity Regulations in Compliance                      | Itziar Lazkano, University of Wisconsin-Milwaukee (United States)  
Linda Nøstbakken, University of Alberta (Canada) |

### 02E Climate Change Impacts on the Economics of World Fisheries

Global marine fisheries are underperforming economically because of overfishing, pollution and habitat degradation. Added to these threats is the looming challenge of climate change. Observations, experiments and simulation models show that climate change would result in changes in primary productivity, shifts in distribution and changes in the potential yield of exploited marine species, resulting in impacts on the economics of fisheries worldwide. The panel will illustrate how projected climate changes will ultimately lead to global shifts in productivity of fish stocks and in catches, from nation to regional and global scales. We will also address the likely consequences of these changes on the economics and management of world fisheries at different scales.

**Date:** Tuesday, July 17, 2012  
**Time:** 2:00 PM - 4:00 PM  
**Location:** Lake Tanganyika  
**Chair:** Rashid Sumaila

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<td>Climate Change and The Economics of Fisheries in Australia</td>
<td>Ana Norman-López, CSIRO (Australia)</td>
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| The Relationship between Climate Change, Sardine Abundance and Commercial Fisheries Production in the California Current Large Marine Ecosystem | Ngaio Hotte (Canada)  
Sam Herrick, Southwest Fisheries Science Center (United States)  
Jerrold Norton, Southwest Fisheries Science Center (United States) |
| Climate Change Effects on the Economics and Management of World Fisheries | Rashid Sumaila |
02F Understanding and Modeling Fishing/Sector Behavior Part II

Date:      Tuesday, July 17, 2012
Time:      2:00 PM - 4:00 PM
Location:  Bagamoyo
Moderator: Mialy Andriamahefazafy

  Thuy Pham Thi Thanh, Nha Trang University (Vietnam)
  Ola Flaaten, Norwegian College of Fishery Science (Norway)
  Kim Anh Nguyen, Nha Trang University (Vietnam)
- Micro-Economic Drivers of Profitability in an ITQ-Managed Fishery: A Preliminary Analysis of the Queensland Coral Reef Fin-Fish Fishery. (ID: 304)
  Olivier Thébaud, CSIRO - CMAR (Australia)
  James Innes, CSIRO Marine and Atmospheric Research (Australia)
  Ana Norman-López, CSIRO (Australia)
  Darren Cameron, Great Barrier Reef Marine Park Authority (Australia)
  Toni Cannard, CSIRO Marine and Atmospheric Research (Australia)
  Sharon Tickell (Australia)
  Stephanie Slade (Australia)
  John Kung, Fisheries Queensland Queensland Department of Agriculture, Fisheries and Forestry (Australia)
  Brigid Kerrigan, Fisheries Queensland Queensland Department of Agriculture, Fisheries and Forestry (Australia)
  Rich Little, CSIRO Marine and Atmospheric Research (Australia)
- Fishing Vessel Affiliations: Where Does One End and Another Begin? (ID: 212)
  Barbara Rountree, DOC/NMFS/NEFSC (United States)
  Andrew Kitts, NOAA/NMFS/NEFSC/SSB (United States)
  Peter Christman (United States)
- WHEN, Where and What to Fish? On Fishermen's Behaviour When Choosing Between Optional Seasonal Profiles. (ID: 319)
  Oystein Hermansen (Norway)
  Arne Eide, Norwegian School of Fisheries Science (Norway)

03A Overcoming Gender Inequalities in Fish Supply Chains to Inform Policy and Action

This panel discussion draws on the wealth of information presented in Sessions 1A (Markets and Value Chains for Small Aquaculture Enterprises) and 2A (Looking at Fish Supply Chains with a Gender Lens) and challenges the panelists to present their views on how gender inequalities in fish supply chains can be overcome. A wealth of information is building to inform action to improve gender equity in supply chains, especially from studies on gender divisions of labour, economic relations and women’s empowerment. In addition to research-based knowledge, innovative art-science coalitions are also being tested to stimulate change to greater equity. The output of the Session will be a synthesis of suggestions for policy making and action.

Panelists are:
Hilary Egna, Meryl Williams, Co-chairs (Opening Remarks)
Shyam S Salim, Central Marine Fisheries Research Institute (India)
Funmilola Agbebi, Ekiti State University (Nigeria)
Stella Williams, Mundus maris - Sciences and Arts for Sustainability (Belgium)
Sara Fröcklin, Stockholm University (Sweden)
**Gender Mainstreaming and Women Empowerment – Reflections and Upshots from Fishing Industry of Kerala, India**  (ID: 42)
*Shyam S Salim*, Central Marine Fisheries Research Institute (India)

*Gender roles, Rural household food security and Entrepreneurship among Women in selected Fishing communities in South Western Nigeria.*  (ID: 55)
*Funmilola Agbebi*, Ekiti State University (Nigeria)

*New Socio-Economic Role Models for Women in Fisheries and Aquaculture*  (ID: 75)
*Stella Williams*, Mundus maris - Sciences and Arts for Sustainability (Belgium)

*New Socio-Economic Role Models for Women in Fisheries and Aquaculture*  (ID: 75)
Cornelia Nauen, Mundus maris - Sciences and Arts for Sustainability (Belgium)
Stella Williams, Mundus maris - Sciences and Arts for Sustainability (Belgium)

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**03B Aquaculture/Fisheries Interactions**

*Modeling of Interactions between Aquaculture and Capture Fisheries*  (ID: 245)
*Esther Regnier*, University Paris1-Sorbonne (France)

*Kathline Schubert*, Paris School of Economics and Universite de Paris 1 Pantheon-Sorbonne (France)

*Bluefin Tuna Fisheries and Capture Based Culture: Review and Prospects Over the Next Thirty Years*  (ID: 408)
*Seamus McElroy*, The BOSS Company (Indonesia)

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**03C Markets: Value Chains Part II**

*An Investigation of the Open Innovation in the Fish and Seafood Export Processing Industry in Sri Lanka: external insights to boost internal R&D efforts*  (ID: 133)
*Devarahandhi De Silva*, Sabaragamuwa University of Sri Lanka (Sri Lanka)

*Trond Bjornstad*, Center for Economics and Management of Aquatic Resources (CEMARE) (United Kingdom)
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<td>Sherry Larkin, University of Florida (United States)</td>
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<td>Glen Gold, University of Florida (United States)</td>
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<td>Legal Regional Fish Trade in the Horn of Africa: Experience from a FAO-IGAD project</td>
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<td>Eshete Dejen (Italy)</td>
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<td>Informality and its Linkages with IUU Fishing Activities in the Port of Progreso, Yucatan, Mexico</td>
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<td>Tuesday, July 17, 2012</td>
<td>4:30 PM - 5:30 PM</td>
<td>Philile Mbatha</td>
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<td>Carmen Pedroza, UNAM (Mexico)</td>
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<td>Illegal Fishing and Catch Potentials Among Small Scale Fishers: Application of Endogenous Switching Regression Model</td>
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<td>Optimal Liability Rules: The Case of Renewable Resources</td>
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<td>Frank Jensen, University of Copenhagen (Denmark)</td>
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<td>Linda Nøstbakken, University of Alberta (Canada)</td>
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<td>Lars Hansen, University of Copenhagen (Denmark)</td>
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<td>Analyzing Risk of Stock Collapse in a Fishery under Stochastic Growth Model</td>
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<td>Tuesday, July 17, 2012</td>
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<td>Diwakar Poudel, NHH (Norway)</td>
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<td>Modeling the Stochastic Dynamics of the Aggregate Stock in Collapsed Fisheries: The Case of the Northern Cod</td>
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<td>Jose M. Maroto, Complutense University (Spain)</td>
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### 03F Managing Development of Fisheries and Aquaculture Sectors Part III

| Date: | Tuesday, July 17, 2012 |
| Time: | 4:30 PM - 5:30 PM |
| Location: | Bagamoyo |
| Moderator: | James Wilson |

- **Social Costs of Keeping Pension Fishers in the Community: The Case of Japan** (ID: 347)  
  Haruko Yamashita, Faculty of Econ, Meikai University (Japan)

- **Profitability Analysis of Abalone Farming in Port Nolloth, in the Northern Cape Province, South Africa.** (ID: 418)  
  Adeleen Cloete, Northern Cape Provincial Department of Environment and Nature Conservation (South Africa)  
  Pall Jensson, The University of Iceland (Iceland)

### 04 Posters and Game Demonstration Session and Reception

| Date: | Tuesday, July 17, 2012 |
| Time: | 5:30 PM - 7:30 PM |
| Location: | Kibo Ballroom |

- **Perception in France of Economic Actors and Ngo about Genetically Modified Fish** (ID: 453)  
  Catherine Mariojouls, AgroParisTech (France)

- **Study in Economic Performance of Coastal Seiners In Morocco** (ID: 454)  
  Naoki Tojo, JICA (Morocco (includes the Western Sahara))

- **Cooperatives as Tool For Fisheries Development: The Case of Eriwe Fish Farm Village, South West, Nigeria.** (ID: 14)  
  Yemi Akegbejo-Samsons, University of Agriculture (Nigeria)  
  Deji Adeoye, University of Agriculture (Nigeria)

- **African Catfish Famers’ Perception on Climate Change and Contribution of Catfish Production to Household Income in Lagos State, Nigeria.** (ID: 26)  
  Adeleke Lydia, Federal University of Technology Akure, Nigeria (Nigeria)

- **Do Open Access Inshore Fisheries Create Rent? The Case of Anchovy Fisheries, Vietnam** (ID: 45)  
  Thuy Pham Thi Thanh, Nha Trang University (Vietnam)

- **The Impact of Climate Change and Adaptation Strategy Selection Under Constrained Conditions, The Case in Ben Tre Province, Viet Nam** (ID: 50)  
  Trang Le Thi Huyen, Nha Trang University (Viet Nam)  
  Kim Anh Nguyen, Nha Trang University (Vietnam)  
  Chuong Bui Thien, Nha Trang University (Viet Nam)  
  Curtis Jolly, Auburn University (United States)

- **The Value Chain of White Leg Shrimp Exported to the U.S Market: The Case of Khanh Hoa Province, Vietnam.** (ID: 64)  
  Chuong Bui Thien, Nha Trang University (Viet Nam)  
  Trang Le Thi Huyen, Nha Trang University (Viet Nam)  
  Curtis Jolly, Auburn University (United States)

- **The Gender Roles of Women in Aquaculture and Food Security in Nigeria** (ID: 74)  
  Olufayo Mosun, Federal University of Technology (Nigeria)

- **Fisheries and Poverty Reduction – Implications for Future Work Priorities** (ID: 77)  
  Santosh Kumar Mishra, S. N. D. T. Women's University (India)
Frontier Research in Fisheries Economics: European Research Council and its Funding Opportunities  
(EID: 98)  
Erik Lindebo (Belgium)  
The Current State of the Clam, Galatea paradoxa Fishery at the Lower Volta River, Ghana  
(ID: 101)  
Daniel Adjei-Boateng, Kwame Nkrumah University of Science and Technology (Ghana)  
The Role of IIFET in Aquaculture and Fisheries Development for Livelihood Enhancement of Rural Communities in Sierra Leone.  
(ID: 107)  
Mawundu Sellu, Njala University (Sierra Leone)  
Martin Tjipute, University of Namibia (Namibia)  
Transition of Fish Farming from Subsistence to Sustainable Semi Commercial Activity in Uganda  
(ID: 112)  
Abudala Napuru, Son Fish Farm, Ltd. (Uganda)  
quality Index Method (QIM) for Frozen - Thawed Atlantic Mackerel (Scomber scombrus) Stored in Ice - Development and Application in a Shelf Life Study  
(ID: 129)  
Patricia Miranda Alfama, Directorate General of Fisheries  
Economic Incentives for Wetland Biodiversity and Fisheries Conservation: The Case of Chalan Beel (Wetland)  
(ID: 141)  
Aminur Rahman, Independent University, Bangladesh (Bangladesh)  
Biological and Socioeconomic Viability of Recreational Fisheries of Two Nigerian Lakes  
(ID: 181)  
Mabel Omowumi Ipinnoroti, Osun State University Osogbo (Nigeria)  
Ayanboye Abolope Oluyemi, Oyo State College of Agriculture, Fisheries Department (Nigeria)  
The Effect of Negative Events on Stock Returns of Fishing Enterprises: a Case Study of Norwegian Fisheries  
(ID: 187)  
Sarah Jennings, University of Tasmania (Australia)  
Vitali Alexeev, University of Tasmania (Australia)  
Bastien Le Bouhellec, AgroParisTech (France)  
Strategies for Reduction of Poaching in Community-Based Holothurian Aquaculture  
(ID: 192)  
Antoine Rougier, NGO Blue Ventures (Madagascar)  
Alasdair Harris, NGO Blue Ventures (Madagascar)  
Mebrahtu Ateweberhan (United Kingdom)  
Mialy Andriamahafazafy, NGO Blue Ventures (Madagascar)  
Evaluating Value Chains and Consumer Preferences in Asian and African Aquaculture to Help Overcome Underemployment and Poverty  
(ID: 213)  
Hillary Egna, AquaFish CRSP (Collaborative Research) (United States)  
Stephanie Ichien, AquaFish CRSP (United States)  
Evaluating Technology Adoption by the Small-Scale Aquaculture Operations in Developing Countries for Improved Productivity and Profitability  
(ID: 214)  
Hillary Egna, AquaFish CRSP (Collaborative Research) (United States)  
Stephanie Ichien, AquaFish CRSP (United States)  
Status of Nile Perch Lates niloticus Fishery in Lake Victoria  
(ID: 227)  
Monica Owili, Kenya Marine & Fisheries Research Institute (Kenya)  
Chrispine Nyamweya, Kenya Marine & Fisheries Research Institute (Kenya)  
Northern Inland Fishery and Crayfishery will be Challenged by Climate Change – Case Lake Säkylän Pyhäjärvi (SW Finland)  
(ID: 235)  
Marko Jori, Pyhäjarvi Institute (Finland)  
Marjo Tarvainen, Pyhäjarvi Institute (Finland)  
Anne-Mari Ventelä, Pyhäjarvi Institute (Finland)  
The Role of Women and their Rights in Fisheries and Aquaculture Development in Africa.  
(ID: 244)  
Hoki Massaquoi, Sierra Leone Standards Bureau (Sierra Leone)
Structure and Economic Performance of the European Union Fishing Fleet  
Jarno Virtanen, Joint Reseach Center, European Commission (Italy)
John Anderson, Seafish (United Kingdom)
Natacha Carvalho, JRC - European Commission (Italy)

Bioeconomic Adaptive Management Procedures for Short-Lived Species: A Case Study of Pacific Saury (Cololabis saira) and Japanese Common Squid (Todarodes pacificus)  
Eriko Hoshino, School of Economics & Finance, University of Tasmania (Australia)
E.J. Milner-Gulland, Imperial College London (United Kingdom)
Richard Hillary, CSIRO (Australia)

Sustainable, Profitable and Synergic Fish Farming in Nigeria- The Cluster Management Approach  
Ololade Adegoke, Sustainable Environment and Fisheries Foundation (Nigeria)

Acclimatization and Growth Rates of Pangani Tilapia (Oreochromis pangani) Different Salinities  
Aziza Hassan (Tanzania)
Aviti Mmochi (Tanzania)

Quality Changes in Salted, and Rehydrated Salted Cod (Gadus morhua) Products  
David Bamwirire, National Agricultural Research Organisation-Food Biosciences Research Centre
Kristin Thorarinsdottir, Icelandic Fisheries Laboratory-MATIS (Iceland)

Performance, Potential and Prospects of Fisheries Sector in Eritrea  
Tesfom Melake A., Central Institute of Fisheries Education (India)

The Status of the fisheries of Osinmo Reservoir,Ejigbo,Osun State,Nigeria  
Olaniyi Komolafe, Obafemi Awolowo University,Ile-Ife,Osun State,Nigeria (Nigeria)

Value Addition on Hot Smoked Lake Victoria Sardines (Rastrineobola argentea) for Human Consumption  
Ofred Mhongole, Fisheries Development Division (Tanzania)

Patricia Arceo, Institute of Marine Sciences and Fisheries. University of Veracruz (Mexico)

Comprehensive Resource Assessment and Associated Research for Socio-Economically Sustainable Small Pelagic Fish Fisheries in the Dynamic Ecosystem Along Northwestern African Coast of the Atlantic Ocean  
Naoki Tojo, JICA (Morocco (includes the Western Sahara))

Azeddine RAMZI, Institut National de Recherche Halieutique (Morocco (includes the Western Sahara))
Tadanori Fujino, JICA/INRH (Morocco (includes the Western Sahara))
Shunji Sugiyama, JICA (Japan)
Kazushi Miyashita, Hokkaido University (United States)

UNU Fisheries Training Program  
Ogmundur Knutsson, University of Akureyri (Iceland)
11A: Governance: Property Rights and Quota Systems Part I

Date: Wednesday, July 18, 2012
Time: 8:30 AM - 10:00 AM
Location: Zanzibar
Moderator: Debabrata Lahiri

- **ITQs in a Rough Water**  (ID: 131)
  Thorolfur Matthiasson, University of Iceland (Iceland)

- **Is the Fisheries Production Function Institution-Dependent? Implications for Targeting Ability in Multispecies Fisheries**  (ID: 316)
  Matthew Reimer, University of California, Davis (United States)
  Joshua Abbott, Arizona State University (United States)
  James Wilen, University of California, Davis (United States)
  Alan Haynie (United States)

- **The Australian Coral Reef Fin-Fish Fishery ITQ Market**  (ID: 333)
  James Innes, CSIRO Marine and Atmospheric Research (Australia)
  Olivier Thébaud, CSIRO - CMAR (Australia)
  Ana Norman-López, CSIRO (Australia)

- **Do Individual Rights Emerge from Collective Rights Systems?**  (ID: 367)
  Mihoko Tegawa, University of Rhode Island (United States)
  Chris Anderson, University of Washington (United States)
  Hirotsugu Uchida, University of Rhode Island (United States)

11B Understanding and Modeling Fishing/Sector Behavior Part III

Date: Wednesday, July 18, 2012
Time: 8:30 AM - 10:00 AM
Location: Kibo 1
Moderator: Dan Holland

- **The Barents Sea Red King Crab Invasion- Risky Business or Good Business?**  (ID: 56)
  Jannike Falk-Petersen, University of Tromsø, (Norway)

- **Comparison Between Bycatch Avoidance Programs in Two New England Fisheries**  (ID: 104)
  Daniel Georgianna, SMAST, UMass Dartmouth (United States)
  Steven Cadrin, UMass Dartmouth (United States)
  Greg DeCelles (United States)
  Catherine O'Keefe (United States)
  Kevin Stokesbury, UMass Dartmouth (United States)

- **Bycatch Risk Pools for the US West Coast Groundfish Fishery**  (ID: 180)
  Daniel Holland, Northwest Fisheries Science Center (United States)
  Jason Jannot, Northwest Fisheries Science Center (United States)

- **Fishery Income Diversification and Risk for Fishermen and Fishing Communities of the US West Coast and Alaska**  (ID: 310)
  Stephen Kasperski, Alaska Fisheries Science Center (United States)
  Daniel Holland, Northwest Fisheries Science Center (United States)
Socio-economic Assessment of Management Measures of the New Common Fisheries Policy Part I

SOCIOEC is an interdisciplinary, European wide project bringing together scientists from several fisheries sciences with industry partners and other key stakeholders to work in an integrated manner on solutions for future fisheries management, that can be implemented at a regional level. The central concept is to provide a mechanism for developing measures that are consistent with the overarching sustainability objectives of the EU, and that can provide consensus across all stakeholders. The first step will be to develop a coherent and consistent set of management objectives, which will address ecological; economic and social sustainability targets. The objectives should be consistent with the aims of the CFP, MSFD and other EU directives, but they should also be understandable by the wider stakeholder community and engage their support. This will then lead to the proposal of a number of potential management measures, based on existing or new approaches. The second step will be to analyze the incentives for compliance provided by these measures. In particular, we will examine fisher’s responses and perceptions of these measures, based on historical analysis as well as direct consultation and interviews. This project part will also examine how the governance can be changed to facilitate self- and co-management to ensure fisher buy-in to promising management measures. In particular, the project will focus on the interpretation of overarching (i.e. EU) objectives in local and regional contexts. Finally, the project will examine the impacts of the management measures that emerge from this process, particularly in terms of their economic and social impacts. The IA analysis will be integrated by evaluating the proposed measures against the criteria of effectiveness, efficiency and coherence. Special attention will be paid in evaluating the proposed management measures’ performance in terms of their ability to achieve the general and specific ecological objectives. In this special session at the IIFET conference we want to describe on one side the overall approach of the project and planned research activities and invite papers dealing especially with the methodological background of two of the main topics of the project: incentives in fisheries management measures and socio-economic impact assessment of management measures. Aim is to start a discussion on status quo and way forward in the assessment of management measures not only under the CFP as also in the United States socio-economic impact assessments for new measures are necessary.

Date: Wednesday, July 18, 2012
Time: 8:30 AM - 10:00 AM
Location: Kibo 3
Chair: Ralf Döring

Will I Clear My Feet? Vessel Owners’ Stay or Exit Dilemma in a Stock Recovery Situation (ID: 23)
Hazel Curtis, Sea Fish Industry Authority (United Kingdom)

Socio-Economic Effects of Management Measures of the Future CFP – Overview on a New European FP 7 Project (ID: 423)
Ralf Döring, vTI-Institute of Sea Fisheries (Germany)
Leyre Goti, vTI-Institute of Sea Fisheries (Germany)

ecoOcean - Games in Fisheries Education, Communication and Science (ID: 425)
Jörn Schmidt, Christian-Albrechts-Universität zu Kiel, Department of Economics (Germany)
Rudi Voss, Christian-Albrechts-Universität zu Kiel (Germany)
Dennis Nissen (Germany)
Michel Magens (Germany)
Martin F. Quaas, Department of Economics, University of Kiel (Germany)
Till Requate, University Kiel, Department of Economics (Germany)
11D The Economic Impact of Climate Change on Fisheries and Aquaculture Part I

Date: Wednesday, July 18, 2012
Time: 8:30 AM - 10:00 AM
Location: Lake Victoria
Moderator: Lydia Mosunmola

- Climate Change Impacts, Vulnerability Assessment and Economic Analysis of Adaptation Strategies in Ben Tre Province, Vietnam (ID: 323)
  Curtis Jolly, Auburn University (United States)
  Chuong Bui Thien, Nha Trang University (Viet Nam)
  Trang Le Thi Huyen, Nha Trang University (Viet Nam)
  Curtis Jolly, Auburn University (United States)
  Kim Anh Nguyen, Nha Trang University (Vietnam)
- Climate Change Awareness and Impacts on Aquaculture in Poor Rural Coastal Communities, Ben Tre Province, Vietnam (ID: 338)
  Kim Anh Nguyen, Nha Trang University (Vietnam)
  Chuong Bui Thien, Nha Trang University (Viet Nam)
  Trang Le Thi Huyen, Nha Trang University (Viet Nam)
  Curtis Jolly, Auburn University (United States)
- The Implications of Climate Change in Australian Seafood Markets (ID: 342)
  Ana Norman-López, CSIRO (Australia)
  Sean Pascoe, CSIRO Marine and Atmospheric Research (Australia)
  Olivier Thébaud, CSIRO - CMAR (Australia)

11E Too Big to Ignore: Enhancing Visibility and Possibilities in Small-Scale Fisheries

Fisheries support the livelihoods of about 560 million people, approximately 8% of the world’s population, and their number is growing. Of about 34 million active fishers, more than 90% are small-scale. Yet, these fisheries have been largely marginalized, ignored or dismissed as relics of the past. In many countries, this marginalization is shown by inadequate financial, institutional, and scientific support for small-scale fisheries, and an under-representation of the concerns of people working in this sector in policy discussions.

The prevailing narrative about the dismal state of world fisheries has obscured ample evidence about the contribution of small-scale fishing communities to conservation, food security, poverty alleviation, social wellbeing and resilience, and cultural heritage. Unfortunately, the tendency toward oversimplification in fisheries policy has meant that the persistence of many small-scale fisheries has often been portrayed as part of the problem. While population pressure on resources is certainly a problem in some areas, this narrative diverts attention away from the vastly different environmental impacts of different fishing technologies and the ways in which benefits are distributed amongst those participating in a given fishery. The under-appreciation of the economic importance of small-scale fisheries in sustaining coastal livelihoods is a global phenomenon, even in places characterized by longstanding fishing traditions. Concerted efforts are required to preserve the ability and ‘freedom’ of small-scale fishers to provide economic and social wellbeing locally, and to contribute to global environmental sustainability.

The sessions aim to highlight their economic, social and cultural importance, the roles they play in conservation and environmental stewardship, and appropriate governance systems and mechanisms that provide action spaces for small-scale fishers to manoeuvre in the changing economic, social and political landscape within which they operate. The overall goal of the sessions is to enhance visibility and possibilities of this sector. Speakers are asked to present examples of contributions of small-scale fisheries, and discuss their potentials. The panel discussion, which is an interactive session with the audience, will focus on ways to help elevate their profile.
These sessions are organized as part of the *Too Big to Ignore: Global Partnership for Small-Scale Fisheries Research* initiative, which participants of the sessions are members of. We will be happy to expand the sessions (with additional 90 minutes time allocation) to include papers submitted directly to the conference, upon request.

**Date:** Wednesday, July 18, 2012  
**Time:** 8:30 AM - 10:00 AM  
**Location:** Lake Tanganyika  
**Chair:** Ratana Chuenpagdee

**Fishermen, Fisherwoman and Climate Change** (ID: 248)  
Maricela de la Torre-Castro, Department of Systems Ecology (Sweden)  
Lars Lindström, Department of Political Science (Sweden)  
Sara Fröcklin, Stockholm University (Sweden)  
Narriman Jiddawi, Institute of Marine Science

**The Crucial Role of Small-Scale Fisheries in Conservation** (ID: 427)  
Anthony Charles, Saint Mary's University (Canada)

**Celebrating Southern African Small-Scale Fisheries** (ID: 428)  
Mafaniso Hara, PLAAS, UWC (South Africa)

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**11F Bioeconomic Modeling Part III**

**Date:** Wednesday, July 18, 2012  
**Time:** 8:30 AM - 10:00 AM  
**Location:** Bagamoyo  
**Moderator:** Sarah Jennings

**Abstract 61: The Sustainable Management of Marine Fish Resources in Cameroon: A Bioeconomic Analysis of the Trawl Fishery** (ID: 96)  
Meke Soung Pierre Nolasque, University of Douala (Cameroon)

**The Economic Repercussions of Fisheries-Induced Evolution** (ID: 161)  
Anne Maria Eikeset (Norway)  
Andries Richter, CEES, University of Oslo (Norway)  
Erin Dunlop, Aquatic Research and Development Section, Ontario Ministry of Natural Resources (Canada)  
Ulf Dieckmann, Evolution and Ecology Program, International Institute for Applied Systems Analysis (Austria)  
Nils Chr. Stenseth (Norway)

**Estimating MSY and MEY in Multi-Species and Multi-Fleet Fisheries: The Case of the Bay Of Biscay Mixed Fisheries** (ID: 173)  
Jordi Guillen, Ifremer (France)

**Optimal Management of Conflicting Species: Grey Seal (Halichoerus grypus) and Atlantic Salmon (Salmo salar) in the Northern Baltic Sea** (ID: 237)  
Maija Holma, Department of Economics and Management (Finland)  
Marko Lindroos (Finland)  
Soile Kulmala, Finnish Environment Institute (SYKE), MTT Agrifood Research, Finland, Finnish Game and Fisheries Research Institute (Finland)
12A Governance: Property Rights and Quota Systems Part II
Date: Wednesday, July 18, 2012
Time: 10:30 AM - 12:30 PM
Location: Zanzibar
Moderator: Taro Oishi

Ralph Townsend, Winona State University (United States)
Solving Congestion through ITQs: An Experimental Analysis  (ID: 85)
John Tisdell, University of Tasmania (Australia)
Max T. Stoeven, Department of Economics, University of Kiel (Germany)
Martin F. Quaas, Department of Economics, University of Kiel (Germany)
How Rights Based Fisheries Management in Namibia Can Provide Greater Benefits to Inland Local Communities  (ID: 216)
Hilkka O.N. Ndjaula, Marine Research Institute (Ma-Re), Department of Zoology, University of Cape Town (South Africa)
Alushe T. Hitula, 2Partnership for African Fisheries (PAF), Programme Implementation and Coordination Directorate, NEPAD Planning and Coordinating Agency (South Africa)

12B Fisheries Games and Experiments: Applications for Education, Outreach and Science
There is growing realization of the potential for games and experiments as powerful tools fisheries education, outreach and research. Fisheries economists have developed a wide variety of games and experiments for a wide variety of applications. Three examples of these games/experiments—ranging from very “low-tech” to extremely “high-tech”—will be demonstrated concurrently with the poster session and reception on Tuesday evening July 17. These demonstrations will provide a relaxed and fun opportunity to observe and participate in the actual playing of these games (while also enjoying refreshments). This special session, on the day following the demonstrations, will provide an opportunity for more detailed discussion of these three games as well as a more general discussion of fisheries games and experiments. During the first hour, the developers of the three games/experiments will describe and discuss the development and applications of their games, as well as their future plans for the games. During the second hour, the audience is invited to join in a moderated discussion of the potential for games and experiments as tools for fisheries education, outreach and research (including their applicability to policy issues in both developed and developing countries).

Date: Wednesday, July 18, 2012
Time: 10:30 AM - 12:30 PM
Location: Kibo 1
Chair: Gunnar Knapp
Chair: Jörn Schmidt

ecoOcean - How to Use a Relatively Simple Game for Stakeholder Communication and Dissemination  (ID: 447)
Jörn Schmidt, Christian-Albrechts-Universität zu Kiel, Department of Economics (Germany)
Michel Magens (Germany)
Dennis Nissen (Germany)
Erik Buisman (Netherlands)
Birgit de Vos (Netherlands)
### 12C Socio-economic assessment of Management Measures of the new Common Fisheries Policy (CFP)? Challenges and Methodological Background Part II

Part 2 of this special session.

- **Date:** Wednesday, July 18, 2012
- **Time:** 10:30 AM - 12:30 PM
- **Location:** Kibo 3
- **Chair:** Ralf Döring

**Reforming Europe's Fleet Policy: A "Sea change" Solution to Overcapacity?** (ID: 99)
**Erik Lindebo** (Belgium)

**Integrating Social Objectives and Indicators for Australian Fisheries Management** (ID: 191)
**Sean Pascoe**, CSIRO Marine and Atmospheric Research (Australia)
**Kate Brooks**, KAL Analysis (Australia)
**Jacki Schirmer**, ANU (Australia)
**Lianos Triantafillos**, Primary Industries and Resources SA (Australia)
**Cathy Dichmont**, CSIRO - CMAR (Australia)

**Socio-Economic Analysis of the Options for a Reformed CFP** (ID: 416)
**Angel Andres Calvo Santos**, European Commission. DG Maritime Affairs and Fisheries. Structural policy and economic analysis unit. (Belgium)

**Confronting the Implementation of Marine Ecosystem-Based Management within the European Common Fisheries Policy Reform** (ID: 424)
**Raul Prellezo** (Spain)
**Richard Curtin**, AZTI-Tecnalia (Spain)

### 12D The Economics of Aquaculture Production and Profitability Part I

- **Date:** Wednesday, July 18, 2012
- **Time:** 10:30 AM - 12:30 PM
- **Location:** Lake Victoria
- **Moderator:** CV Mohan

**Meta-Frontier Analysis of Intensive and Semi-Intensive Fish Farms in Ghana** (ID: 35)
**Edward Onumah**, University Of Ghana (Ghana)

**Bio-Economic Analysis of Silver Kob, Argyrosomus inodorus, (Griffiths & Heemstra) Aquaculture in Namibia** (ID: 110)
**Martin Tjipute**, University of Namibia (Namibia)

**Economic Analysis of Fish Farming in Osun State, South-Western Nigeria** (ID: 274)
**Bunmi Olasunkanmi**, Osun State University, Osogbo, Nigeria (Nigeria)

**Bluefin Tuna Full Life Cycle Culture: Review and Prospects Over the Next Thirty Years** (ID: 451)
**Seamus McElroy**, The BOSS Company (Indonesia)
**12E Too Big to Ignore: Enhancing Visibility and Possibilities in Small-Scale Fisheries. Part II**  
Part 2 of this special session.

- **Date:** Wednesday, July 18, 2012  
- **Time:** 10:30 AM - 12:30 PM  
- **Location:** Lake Tanganyika  
- **Chair:** Ratana Chuenpagdee

- **Driving Forces Behind the Exploitation of Sea Urchin Predators in the WIO**  
  **Sieglind Wallner**, Department of Systems Ecology (Sweden)  
  Maricela de la Torre-Castro, Department of Systems Ecology (Sweden)

- **Creating Economic Action Spaces for Small-Scale Fishers to Practice their Livelihoods - A Case Study of the New Small-Scale Policy in South Africa**  
  **Moenieba Isaacs**, University of Western Cape

- **Invisible Possibilities: Poverty Alleviation in Small-Scale Fisher Communities**  
  **Paul Onyango**, University of Dar es Salaam (Tanzania)

- **Are Small-Scale Fisheries Economically Viable?**  
  **Rashid Sumaila**, University of Western Cape

- **Effort Reduction Approaches in Small-Scale Fisheries-Dimensions of the Problem and Some Solutions**  
  **Kuperan Viswanathan**, Universiti Utara Malaysia

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**12F Bioeconomic Modeling Part IV**

- **Date:** Wednesday, July 18, 2012  
- **Time:** 10:30 AM - 12:30 PM  
- **Location:** Bagamoyo  
- **Moderator:** Olivier Thebaut

- **Searching for Viable Exploitation Within Small Scale Fisheries ; The Case of Solomon Islands**  
  **Pierre-Yves Hardy**, CNRS/National Museum of Natural History (France)  
  Luc Doyen, CNRS (France)  
  Christophe Béné, IDS University of Sussex (United Kingdom)  
  Anne-Maree Schwarz, WorldFish Center (Solomon Islands)

- **Stochastic Ecosystem Viable Yields**  
  **Esther Regnier**, University Paris1-Sorbonne (France)  
  Michel De Lara, L'Ecole des Ponts et Chaussée (France)

- **Optimal Management Under Fleet Constraints: The Case of Northeast Arctic Cod**  
  **Andries Richter**, CEES, University of Oslo (Norway)  
  Anne Maria Eikeset (Norway)  
  Daan van Soest (Netherlands)  
  Nils Chr. Stenseth (Norway)
13A Markets: Value Chains Part III
Date: Wednesday, July 18, 2012
Time: 2:00 PM - 4:00 PM
Location: Zanzibar
Moderator: Jimmy Young

**Thin Wholesale Markets and Direct Marketing in Renewable Resource Exploitation**  (ID: 358)
*Chris Kennedy,* George Mason University (United States)
Stephen Scott, George Mason University (United States)

**Assessing Gender Roles in Tilapia Production and Marketing Supply Chain on Lake Kariba, Zambia**  (ID: 334)
*Edward Mwiindeh Syampaku,* Mulungushi University

**Local Markets, Global Chains: How is Sustainability Created in Seafood Supply Chains from Asia to Europe?**  (ID: 297)
*Ingrid Kelling,* University of Stirling (United Kingdom)
James A. Young, University of Stirling (United Kingdom)

**Market Structure and Segments for Seafood: A Stated Preference Approach**  (ID: 241)
*Thong Tien Nguyen,* University of Southern Denmark (Denmark)
Hans Stubbe Solgaard, University of Southern Denmark (Denmark)
Wolfgang Haider, Simon Fraser University (Canada)
Lars Ravn-Jonsen, University of Southern Denmark (Denmark)
Eva Roth, University of Southern Denmark (Denmark)

**Coolnova Just-In-Time Fresh Fish**  (ID: 229)
*Torbjorn Trondsen* (Norway)

**Adding Value to Somaliland's Marine Capture Fisheries: Results of a 2010 Study**  (ID: 411)
*Seamus McElroy,* The BOSS Company (Indonesia)

13B Frontiers in Economic Modeling Part I
Date: Wednesday, July 18, 2012
Time: 2:00 PM - 4:00 PM
Location: Kibo 1
Moderator: Maribec Campos

**Integrating a Spatially-Explicit Individual-Based Fishing Vessel Model with Underlying Size-Based Dynamic Fish Population Models**  (ID: 127)
*Francois Bastardie,* DTU-Aqua (Denmark)
J. Rasmus Nielsen, DTU-Aqua (Denmark)
Tanja Miethe, vTi (Germany)

**Stability of International Fisheries Agreements – Implications of Non-Market Benefits and the Country of Origin**  (ID: 225)
*Soile Kulmala,* Finnish Environment Institute (SYKE), MTT Agrifood Research, Finland, Finnish Game and Fisheries Research Institute (Finland)
Polina Levontin, Imperial College London (United Kingdom)
Katja Parkkila, University of Helsinki, Department of Economics and Management (Finland)
Emmi Nieminen, University of Helsinki (Finland)
Pedro Pintassilgo (Portugal)
Marita Laukkanen, Government Institute for Economic Research, Finland (Finland)
Marko Lindroos (Finland)
Catch Share Schemes, the Theory of Cooperative Games and the Spirit of Elinor Ostrom (ID: 312)
Gordon Munro, University of British Columbia (Canada)
Rashid Sumaila
Bruce Turris, Pacific Fisheries Management Inc. (Canada)
Rational Choice of Vessel Sizes under ITQ Schemes when Fish Prices are Uncertain: an Experimental Approach (ID: 378)
Keisaku Higashida, School of Economics, Kwansei Gakuin University (Japan)
Kenta Tanaka, Tohoku University (Japan)
Shunsuke Managi, Tohoku University (Japan)

13C The Fishery Performance Indicators: A New Tool for Measuring Wealth Generation from Fishery Resources
This session presents current progress on the Fisheries Performance Indicators (FPIs), a rapid assessment instrument for benchmarking and tracking wealth generation from fisheries resources. Applied once to a single fishery, the FPIs provide a snapshot of where fishery-based wealth is accumulating (e.g., with capital owners, with crew or with processors) and of levels of factors thought to affect wealth accumulation. Repeating the instrument later within the same fishery allows monitoring of changes across time, including identifying the economic effects of management changes or development project investment. Where the more interesting research opportunities lie, however, is in drawing inferences across the range of industrial and artisanal fisheries in developing and developed countries in the case study database.

Date: Wednesday, July 18, 2012
Time: 2:00 PM - 4:00 PM
Location: Kibo 3
Chair: Chris Anderson

13D: Governance: Management of Fishing Activity Part I
Date: Wednesday, July 18, 2012
Time: 2:00 PM - 4:00 PM
Location: Lake Victoria
Moderator: Hoki Massaquoi

Modeling the economic benefits of temporary octopus fisheries closures (ID: 125)
Kirsten Oleson, University Hawaii Manoa (United States)
Thomas Oliver, University Hawaii Manoa (United States)
Michele Barnes-Mauthe, University of Hawaii at Manoa (United States)
Cost-Effectiveness Analysis in Intertemporal Natural Resource Policy: Evaluation of Selective Fishing Gear (ID: 341)
Lone Groenbaek Kronbak, University of Southern Denmark (Denmark)
Niels Vestergaard, University of Southern Denmark (Denmark)
Changing Aboriginal Policy in Canada, and the Effects on Scale and Capacity use in the Commercial Fisheries of Quebec (ID: 370)
James R. Wilson, UQAR (Canada)
Melissa Wilson (Canada)
Bruno Urli, Université du Québec à Rimouski (Canada)
Abdallah ben Hammouda, Université du Québec à Rimouski (Canada)
There is now a widespread realization of the need to address fisheries and marine issues through systems perspectives and holistic interdisciplinary approaches, rather than the narrower and more disciplinary analysis of the past. Much attention is being paid to developing suitable mechanisms to accomplish this, especially in small-scale fisheries. Recent research, such as in the Governing Small-scale Fisheries for Wellbeing and Resilience project, has identified the potential value of a well-being approach in understanding the complex social and economic dynamics of small-scale fisheries, and in moving toward improved fisheries management and governance. This approach broadens the analysis of fisheries, as it does in other social-ecological systems, by incorporating the three complementary elements of material, relational and subjective well-being, in order to properly consider the full range of values and objectives in fisheries. This special session will introduce and review ideas of well-being, and then focus on three key aspects: (1) the extent to which a well-being lens provides a more comprehensive approach to sustainable development in fisheries, incorporating considerations such as livelihoods, poverty and vulnerability; (2) how a well-being lens connects to a social-ecological systems perspective, and to analyses of resilience within a fisheries context; and (3) how adoption of well-being perspectives can contribute to fishery governance thinking, and whether it can inform the implementation of fisheries management instruments.

**13E: Well-Being and Fishery Governance**

**Date:** Wednesday, July 18, 2012  
**Time:** 2:00 PM - 4:00 PM  
**Location:** Lake Tanganyika  
**Chair:** Anthony Charles

**Linking Wellbeing and Resilience to Improve Fishery Governance**  
(DID: 434)  
Derek Armitage, University of Waterloo (Canada)  
Christophe Béné, IDS University of Sussex (United Kingdom)  
**Anthony Charles**, Saint Mary's University (Canada)  
Derek Johnson, University of Manitoba (Canada)  
Edward Allison, University of East Anglia (United Kingdom)

**3. Broadening the Scope in Fisheries Governance with a Wellbeing Lens**  
(DID: 435)  
Ratana Chuenpagdee, Memorial University (Canada)  
Anthony Charles, Saint Mary's University (Canada)  
Derek Johnson, University of Manitoba (Canada)

**Wellbeing in Small-Scale Fishing Communities in South Africa**  
(DID: 436)  
Philile Mbatha, Environmental Evaluation Unit, University of Cape Town (South Africa)  
Sarah Coulthard, Northumbria University (United Kingdom)  
Janne Rohe, Environmental Evaluation Unit, University of Cape Town (South Africa)

**13F Bioeconomic Modeling Part V**

**Date:** Wednesday, July 18, 2012  
**Time:** 2:00 PM - 4:00 PM  
**Location:** Bagamoyo  
**Moderator:** Yemi Akegbejo-Samsons

**The Sustainable Management of Marine Fish Resources in Cameroon: A Bioeconomic Analysis of the Trawl Fish Ery**  
(ID: 61)  
Meke Soung Pierre Nolasque, University of Douala (Cameroon)
14 Plenary Session: Keynotes by Fellow and Distinguished Service Award Winners

Dr Ola Flaaten: "Institutional Quality and Catch Performance of Fishing Nations"
Dr James Wilen: "The Challenges of Pro-Poor Fisheries Reform".

Date: Wednesday, July 18, 2012
Time: 4:30 PM - 6:00 PM
Location: Kibo Ballroom

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20A Africa Policy Day Plenary Session

Professor Yunus Mgaya Welcome and Introduction of Program
Dr. Sloans Chimatiro Remarks on behalf of the NEPAD Agency
Dr Timothy Bostock The World Bank's Role in African Fisheries and Oceans
Dr Nancy Gitonga Empirical ways Forward Towards Achieving Growth Contributions to African Economies (Chimatiro)
Dr Rashid Sumaila Managing Africa’s Fisheries and Aquaculture for Sustainable Wealth Creation

Date: Thursday, July 19, 2012
Time: 8:30 AM - 10:00 AM
Location: Kibo Ballroom

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21A Africa Policy Day Part II

Date: Thursday, July 19, 2012
Time: 10:30 AM - 12:00 PM
Location: Zanzibar

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Beach Seining in Mozambique – Bane or Benefit? (ID: 58)
James Wilson (Mozambique)

Dagaa Fishery the Unknown Wealth from Lake Victoria (ID: 103)
Joseph Luomba (Tanzania)
Paul Onyango, University of Dar es Salaam (Tanzania)
Evaluation of the Rich Fishery Resources in Democratic Republic of Congo and Contribution of Fisheries to the National Economy  (ID: 209)
Tusanga Mukanga, Agriculture, Fishery and Livestock Ministry (Congo, Democratic Republic of)

Wellbeing in Small-Scale Fishing Communities in South Africa  (ID: 305)
Philile Mbatha, Environmental Evaluation Unit, University of Cape Town (South Africa)
Sarah Coulthard, Northumbria University (United Kingdom)
Janne Rohe, Environmental Evaluation Unit, University of Cape Town (South Africa)

Certification and Eco-labelling: Opportunities for African fisheries  (ID: 392)
Martin Purves, Marine Stewardship Council (South Africa)
Oluyemisi Oloruntuyi, Marine Stewardship Council (United Kingdom)

Recent Development with Regard to Trade of Fish and Fishery Products from Small-Scale Fisheries in Africa  (ID: 401)
Frimpong Clifford Edmund, Ghana Standards Authority (Ghana)
Margaret Ottah Atikpo, Council for Scientific and Industrial Research-Food Research Institute (Ghana)
Christopher Hoareau, Seychelles Bureau of Standards (Seychelles)
Anass Karzazi, National Agency for Development of Aquaculture (Morocco (includes the Western Sahara))
Yahya Mgawe, Fisheries Education and Training Agency (Tanzania)

21B Coupled Economic-Ecological Models for Ecosystem-Based Fishery Management: Exploration of Tradeoffs Between Model Complexity and Management Needs
Ecosystem based fishery management has moved beyond rhetorical statements calling for a more holistic approach to resource management, to implementing decisions on resource use that are compatible with goals of maintaining ecosystem health and resilience. Coupled economic-ecological models are a primary tool for informing these decisions. Recognizing the importance of these models, the International Council for the Exploration of the Seas (ICES) formed a Study Group on Integration of Economics, Stock Assessment and Fisheries Management (SGIMM) to explore alternative modeling approaches that bring the multiple disciplines of economics, ecology, and stock assessment into integrated ecosystem models. This session is an extension of a series of workshops and theme sessions organized by the SGIMM, but would highlight the economic component of coupled models. Although economic and ecological systems are inherently complex, models are abstractions of these systems incorporating varying levels of complexity depending on available data and the management issues to be addressed. The objective of this special session is to assess the pros and cons of increasing model complexity to incorporate linkages between ecosystem components and processes. While more complex ecosystem models may provide greater insight into how management decisions and human actions propagate through the ecosystem and impact the value of ecosystem services, the resources and information required to develop and parameterize them is greater and these models tend to require trade-offs such as inability to quantify uncertainty or model human behavior as accurately as can be done with models of individual fisheries. The panel will discuss and compare fully integrated, highly detailed and dynamic economic-ecological models such as Atlantis to models that may be less detailed or not fully dynamic or integrated. In this special session we focus primarily on management issues that are of a longer term strategic nature such as the implications of climate change, fundamental regime change, or the role of forage species in an ecosystem.

Date: Thursday, July 19, 2012
Time: 10:30 AM - 12:30 PM
Location: Kibo 1
Chair: Daniel Holland

A Coupled Model of the Gulf of Maine Lobster, Herring and Groundfish Fisheries  (ID: 440)
Daniel Holland, Northwest Fisheries Science Center (United States)
### 21C Bioeconomic Modeling Part VI

**Date:** Thursday, July 19, 2012  
**Time:** 10:30 AM - 12:30 PM  
**Location:** Kibo 3  
**Moderator:** Viktoria Kahui

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>Developing a Predator-Prey Model for the Hake and Blue Whiting Spanish Fisheries</td>
<td>Marcos Perez, University of Vigo (Spain)</td>
</tr>
<tr>
<td>The Spawners' Shadow price: Joint Production of Recruitment and Growth in Age-structured Fish Populations</td>
<td>Martin F. Quaas, Department of Economics, University of Kiel (Germany) Rudi Voss, Christian-Albrechts-Universität zu Kiel (Germany)</td>
</tr>
<tr>
<td>Optimal Bioeconomic Multispecies Fisheries Management: A Baltic Sea Case Study</td>
<td>Emmi Nieminen, University of Helsinki (Finland) Marko Lindroos (Finland) Outi Heikinheimo (Finland)</td>
</tr>
<tr>
<td>A Bio-economic Model for Ecosystem-based Management: An application to the Coastal Fishery in French Guiana</td>
<td>Abdoul Ahad Cissé, IFREMER (France) Luc Doyen, CNRS (France) Jean Christophe Péreau, GRETHA UMR CNRS 5113 (France) Fabian Blanchard, IFREMER (France)</td>
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</tbody>
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### 21E An International Instrument on securing sustainable Small-scale Fisheries: Implementation strategies

The 29th Session of the FAO Committee on Fisheries (COFI) held in February 2011 recommended that an international instrument on small-scale fisheries be developed. This is based on the increasing recognition of small-scale fisheries as a principal contributor to poverty alleviation and food security and the guidance provided by a number of global and regional conferences and consultative meetings exploring how to better bring together responsible fisheries and social development in coastal and inland fishing communities. The process of developing this instrument – in the form of international Guidelines – has started and at the time of IIFET 2012, several local, national, regional and global level consultative stakeholder and expert workshops will have taken place.

The SSF Guidelines will facilitate the empowerment and mobilization of stakeholders to promote change towards sustainable small-scale fisheries and hence facilitate the realisation of the sector’s potential to contribute to poverty alleviation, food and nutrition security, and economic growth. This process needs strong catalysts and follow-up to stimulate lasting and efficient change and there is a need to build bridges between different stakeholder visions, within the fisheries sector as well as outside, to ensure coherence and build political will.

Taking a forward looking approach, it therefore appears critical to start considering how these SSF Guidelines are going to be implemented. The discussions taking place during the preparation of the SSF Guidelines are expected to influence policies and actions and strong stakeholder buy-in will ensure that the instrument becomes a part of ongoing governance and development processes. However, also strategies and activities explicitly supporting the SSF Guidelines implementation will be needed. New thinking with regard to availability, access and use of information will be required together with capacity building and enabling institutional arrangements, and incentive structures:

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**Economic Valuation of Mangroves for Assessing the Livelihood of Fisherfolk – A Case Study in India** (ID: 78)
- **Piyashi DebRoy**, Central Institute of Fisheries Education (India)

**Capturing Malagasy fisher communities’ non-market economic values using mixed methods** (ID: 126)
- **Kirsten Oleson**, University Hawaii Manoa (United States)
- **Michele Barnes-Mauthé**, University of Hawaii at Manoa (United States)
- **Luke Brander** (China)

**Estimating Financial Returns to Coastal States from their Tuna Resources – A Preliminary Analysis of the Western Indian Ocean Tuna Harvesting Sector** (ID: 331)
- **Edward Kimakwa**, WWF Coastal East Africa Initiative (Tanzania)

**Current and potential fish asset values worldwide** (ID: 384)
- **Rashid Sumaila**

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**Age-Structure Metrics for Precautionary Management- Can we save fish, time, and money?** (ID: 360)
- **Christopher Cusack**, Applied Economics (United States)

**Advancing Fishery Management in West Africa: Design and Application of a Seafood Bioeconomic Assessment Model** (ID: 379)
- **Shannon Davis**, The Research Group (United States)
- **Gilbert Sylvia**, Oregon State University (United States)

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**21D Measurement and Indicators for Improved Understanding and Management Part I**

- **Date**: Thursday, July 19, 2012
- **Time**: 10:30 AM - 12:00 PM
- **Location**: Lake Victoria
- **Moderator**: Ralph Townsend
With the trend to decentralise and the increased focus on co-management regimes the respective roles of managers/decision-makers, researchers and communities/CSOs in information and research are changing and innovative approaches to information are needed. Academic research and basic information need to feed into policy-making. Special efforts and new avenues with regard to communication channels, language and publications may be required to make this link. Different ministries should be engaged and CSOs can act as information and knowledge brokers.

Information is a form of power and the small-scale fisheries sector needs to be empowered to be able to access and use relevant information. There are many aspects linking capacity development and information and knowledge. The target groups for capacity development include the state, civil society and communities.

It is important to create opportunities for exchange of views among stakeholder groups to learn from each other, develop synergies and drop barriers. Accordingly, for both implementation and monitoring of the SSF Guidelines and along with the development of capacity at all levels, appropriate institutional arrangements are required, including partnerships for policy formulation and involvement of grassroots level organisations.

Due to poverty and vulnerability, small-scale fishing communities may lack the incentives to participate in resource management and these aspects of poverty need to be addressed first, or simultaneously. Appropriate incentive structures (institutional, legal, economic, social) are needed to enable small-scale fishing communities to sustainably manage the aquatic resources they and future generations depend on for their well-being without jeopardizing their social and economic development.

The Special Session, including a panel discussion with stakeholder representatives, will provide an opportunity to explore and discuss, inter alia, the required institutional and incentive structures, potential implementation constraints and opportunities for support and partnerships for bringing the SSF Guidelines into effective implementation. More information on the small-scale fisheries guidelines can be found at: http://www.fao.org/fishery/ssf/guidelines/en

Panelists are:
Robert Pomeroy, University of Connecticut, USA
Anthony Charles, Saint Mary’s University, Canada
Friday Njaya, Department of Fisheries, Malawi
Sloans Chimatio, NEPAD Planning and Coordinating Agency
Sebastian Mathew, ICSF

Date: Thursday, July 19, 2012
Time: 10:30 AM - 12:30 PM
Location: Lake Tanganyika
Chair: Lena Westlund
Organizer: Nicole Franz
21F Environment, Natural Disasters, and Recovery Part I
Date: Thursday, July 19, 2012
Time: 10:30 AM - 12:30 PM
Location: Bagamoyo
Moderator: Bruce Shallard

- Socio-Economic Impacts of the Tsunami on March 11, 2011, in Japan  (ID: 171)
  Nobuyuki Yagi, The University of Tokyo (Japan)
- The Economics of Rebuilding Fisheries - A Norwegian Perspective  (ID: 335)
  Guri Hjallen Eriksen, The Norwegian Ministry of Fisheries and Coastal Affairs (Norway)
  Tale Halsør, The Norwegian Ministry of Fisheries and Coastal Affairs (Norway)
- Green Growth and Fisheries Governance – A Framework for Analysis  (ID: 400)
  Gunnar Haraldsson, OECD (France)

22A Africa Policy Day Part III
Date: Thursday, July 19, 2012
Time: 1:30 PM - 3:30 PM
Location: Zanzibar

- Challenges and Investment Opportunities for Large-scale Aquaculture Farmers in Nigeria  (ID: 21)
  Deji Adeoye, University of Agriculture (Nigeria)
  Yemi Akegbejo-Samsons, University of Agriculture (Nigeria)
  Tunde Omoniyi (Nigeria)
  Adewale Dipeolu, Federal University of Agriculture (Nigeria)
- Aquaculture as a Vehicle for Socio-Economic Development in Namibia  (ID: 328)
  Panduleni Elago, Ministry of Fisheries & Marine Resources (Namibia)
- Problems and Prospects in Developing Aquaculture for Livelihood Enhancement in Gucha, Meru and Taiata Taveta in the Republic of Kenya  (ID: 349)
  Ernest Yongo, Kenya Marine and Fisheries Research Institute (Kenya)
  Harrison Charo-Karisa, Kenya Marine and Fisheries Research Institute (KMFRI) (Kenya)
  Mary Opyo, Kenya Marine and Fisheries research Institute (Kenya)
  Jonathan Munguti, Kenya Marine and Fisheries research Institute (Kenya)
  Paul Orina, Kenya Marine and Fisheries research Institute (Kenya)
- The Role of Government in Promoting Commercial Aquaculture in Africa: Examples from East Africa  (ID: 368)
  Harrison Charo-Karisa, Kenya Marine and Fisheries Research Institute (KMFRI) (Kenya)
  Maina Wilson Gichuri, Fisheries Department (Kenya)
  Betty M Nyonje, Kenya Marine & Fisheries Research Institute (Kenya)
  Mary Opyo, Kenya Marine and Fisheries research Institute (Kenya)
  Henry Mbugua, Fisheries Department (Kenya)
  Charles Ngugi, Ministry of Fisheries Development (Kenya)
  Japheth Micheni Ntiba, Ministry of Fisheries Development (Kenya)

22B The Economics of Genetic Development in Aquaculture
A number of issues influence the economic viability of aquaculture, particularly as bourgeoning environmental issues and food safety requirements increase production costs and complicate aquaculture management. One important issue that shapes developed and developing country aquaculture alike is disease management. While economic impact
assessment platforms have been applied in a number of fisheries applications, an important research gap in the aquatic health literature is the lack of direct integration between the ecology of diseases, the dynamics of disease spread, and their economic impacts among different stakeholders. These issues are important given the potential feedbacks between disease control interventions and their influence on economic incentives for producers and policymakers alike, which can potentially affect the evolution of disease and the success of subsequent control efforts.

In addition, limited information exists at a policy level to inform government on the tradeoffs implicit between government and industry on various aquaculture-related decisions, although potential toolkits exist to examine these more closely. Given the numerous stakeholders implicit throughout the value chain, further elaboration on the decision tools necessary to interface with aquaculture – and appropriate entry points in those decisions – will be crucial.

In this session, we plan a series of five thematic presentations to highlight different decision-making approaches to aquaculture. Each thematic presentation will last 20 minutes, with 15 minutes of presentation and 5 minutes of clarifying questions from the audience. Part of these presentations reflect preliminary outputs from the SALMODIS project, a three-year research project funded by the Norwegian Research Council and salmon industry to improve disease control and management. The presentations contrast in scope and method between decisions taken at different scales of analysis (production site, industry, value chain, and government), providing guidance to researchers and policymakers on the variety of different decision tools available to address these challenges to global aquaculture in developed and developing country settings. A 20 minute open discussion will follow.

**Date:** Thursday, July 19, 2012  
**Time:** 1:30 PM - 3:30 PM  
**Location:** Kibo 1  
**Chair:** Karl Rich  
**Chair:** Yajie Liu

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**Costs and Benefits of Interventions in Aquatic Animal Disease Management: A Case Study**  
*ID: 406*  
*Mohan Chadag*, Network of Aquaculture Centres in Asia Pacific (Thailand)

**Strategies for Seizing Control of Genetic Development in Aquaculture**  
*ID: 414*  
*Svein Borgen*, SIFO (Norway)

**An Integrated Epidemiological-Economic Model of Sea Lice Control in Aquaculture: A System Dynamics Approach**  
*ID: 437*  
*Kanar Hamza* (Norway)

**The Economics of Controlling Diseases on Fish Farms.**  
*ID: 438*  
*Yajie Liu*, SINTEF Fisheries and Aquaculture (Norway)

**Capturing Decision-Making Tradeoffs Between Government and Industry: A Bi-Level Programming Approach**  
*ID: 439*  
*Karl Rich*, NUPI (Norway)

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**22C Frontiers in Economic Modeling Part II**

**Date:** Thursday, July 19, 2012  
**Time:** 1:30 PM - 3:30 PM  
**Location:** Kibo 3  
**Moderator:** Hazel Curtis

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**The Fishery as an Economic Base Industry after the Newfoundland Cod Moratorium**  
*ID: 24*  
*Noel Roy*, Memorial University of Newfoundland (Canada)
### 22D The Economics of Aquaculture Production and Profitability Part II

**Date:** Thursday, July 19, 2012  
**Time:** 1:30 PM - 3:30 PM  
**Location:** Lake Victoria  
**Moderator:** Taiwo Mafimisebi

- **Measuring profitability in Small scale Aquaculture Enterprises in South West Nigeria**  
  (ID: 15)  
  **Yemi Akegbejo-Samsons**, University of Agriculture (Nigeria)  
  Deji Adeoye, University of Agriculture (Nigeria)

- **Efficient Aquaculture Production: A Panacea for Alleviation of Nutritional Poverty in Nigeria**  
  (Id: 31)  
  **Oluwadare Ojo**, Federal University of Technology (Nigeria)  
  Oluwadare Ojo, Federal University of Technology (Nigeria)  
  Dapo Fagbenro, Federal University of Technology (Nigeria)

- **Profitability Analysis of Public-Private Partnerships in Village Based Sea Cucumber Aquaculture**  
  (ID: 193)  
  **Antoine Rougier**, NGO Blue Ventures (Madagascar)  
  Kirsten Oleson (United Kingdom)  
  Mialy Andriamahefazafy, NGO Blue Ventures (Madagascar)  
  Alasdair Harris, NGO Blue Ventures (Madagascar)  
  **Developing Smallholder Aquaculture In Kenya Into Viable Enterprises: Case Study Of Nyaguta Fish Ponds In Kisii, Kenya.**  
  (ID: 201)  
  **John Okechi**, Kenya Marine and Fisheries Research Institute (KMFRI) (Kenya)  
  Olivier Mikolasek, CIRAD (France)  
  Harrison Charo-Karisa, Kenya Marine and Fisheries Research Institute (KMFRI) (Kenya)

### 22E Trade

**Date:** Thursday, July 19, 2012  
**Time:** 1:30 PM - 3:30 PM  
**Location:** Lake Tanganyika  
**Moderator:** CV Mohan

- **Middlemen-Good for Resource and Fishermen? An Economic Analysis of a Common Fisheries Institution in Developing Countries**  
  (ID: 19)  
  **Thuy Pham Thi Thanh**, Nha Trang University (Vietnam)  
  Ola Flaaten, Norwegian college of fishery science (Norway)
Tradeoffs in Indian seafood trade - Forex earnings vis- a- vis Domestic Availability and Affordability

Shyam S Salim, Central Marine Fisheries Research Institute (India)
Geetha R, Central Marine Fisheries Research Institute (United States)
Aswathy N, Central Marine Fisheries Research Institute (India)
Vipinkumar V.P, Central Marine Fisheries Research Institute (India)

Price Relationships for Imported Abalone in the Japanese Market  (ID: 124)
Eriko Hoshino, School of Economics & Finance, University of Tasmania (Australia)

Poor rich-country industries: fish-processing industries becoming out-competed by low-labour-cost countries?  (ID: 233)
Audun Iversen, Nofima (Norway)
Bjorn-Inge Bendiksen (Norway)

Maria Gasalla, University of Sao Paulo (Brazil)
Ruth Pincinato, University of Sao Paulo (Brazil)
Amanda Rodrigues, University of Sao Paulo (Brazil)

GLOBALG.A.P. Aquaculture Certification: Improving Sustainability for the entire Production Chain  (ID: 396)
Valeska Weymann, GLOBALG.A.P. (Germany)

23A Africa Policy Day Part IV

Date:  Thursday, July 19, 2012
Time:  4:00 PM - 5:30 PM
Location:  Zanzibar

Assessing Policies Promoting Poverty Alleviation and Marine Resource Sustainability in Impoverished Coastal Communities  (ID: 81)
Michelle Stern, Trinity College Dublin (Canada)

The Impacts of Global Climate Change in Africa: The Lake Chad and its Associated Activities.  (ID: 87)
Babagana Abubakar, Kanuri Development Association (Nigeria)

Climate Change: Implication on Aquatic Resources, Food Security and Livelihood  (ID: 174)

Assessing the Poverty-Ig illegal Fishing Nexus in the Lake Victoria Fisheries  (ID: 382)
Adolphine Kateka, University of Dar es Salaam (Tanzania)
Adolf F. Mkenda, University of Dar es Salaam (Tanzania)
Razack Lokina, University of Dar es Salaam (Tanzania)

African Fisheries and Climate Change: A Policy Agenda  (ID: 452)
Alex Benkenstein, South African Institute of International Affairs (South Africa)
23B JIFRS/JICA Session on Responsible Fishing
This session provides opportunities for participants from developing countries to present their study outcomes, so that the participants could share common issues on responsible fisheries in various countries where similar environmental, social and economic backgrounds exist. JIFRS (Japan International Fisheries Research Society) has provided travel supports as supplementary prize of the award known as JIFRS Yamamoto Prize, for maximum two winners of paper competition among participants from developing countries to IIFET Conferences since 2004. JICA (Japan International Cooperation Agency) also joins this function this year and provides support for this session.

Date: Thursday, July 19, 2012
Time: 4:00 PM - 5:30 PM
Location: Kibo 1
Chair: JICA
Chair: JIFRS

Reducing Post-Harvest losses of the artisanal Dagaa fishery (Rastrineobola argentea) in Lake Victoria Tanzania: A Cost and Benefit Analysis. (ID: 44)
Lilian Ibengwe, Ministry of Livestock and Fisheries Development (Tanzania)
Dagmar Kristofersson, University of Iceland (Iceland)

Farmer-To-Farmer Extension Approach For Freshwater Aquaculture Development In The Southern Benin (ID: 128)
Arsene d’Almeida, Direction des Peches, MAEP, Benin (Benin)
Masanori Doi, PROVAC (a technical cooperation project of JICA) (Benin)

The Sustainable Management of the Shrimp Trawl Fishery in Tonkin Gulf, Vietnam (ID: 303)
Thanh Viet Nguyen, University of Southern Denmark (Viet Nam)

Pilot Study of the Economic Performance of Coastal Seiners in Morocco - Case of the Atlantic Center of Morocco (ID: 399)
Abdelkabir KAMILI, Institut National de Recherche Halieutique (United States)
Amale Laabdi, Institut National de Recherche Halieutique (INRH) (Morocco (includes the Western Sahara))
Tadanori Fujino, JICA/INRH (Morocco (includes the Western Sahara))
Naoki Tojo, JICA (Morocco (includes the Western Sahara))
Gakushi Ishimura (JAPAN)
Kazushi MIYASHITA, Hokkaido University (United States)

Results Obtained from an 8-year Experiment of Fisheries Co-management in Senegal (ID: 415)
Mamadou Thiam, Ministry of Fisheries (Senegal)
Makoto Ikeda, JICA (Senegal)

23C: Where Management and Marketing Meet
Date: Thursday, July 19, 2012
Time: 4:00 PM - 5:30 PM
Location: Kibo 3
Moderator: Sherry Larkin

Weak Regulation Of Distant Water Fleets Puts Rented Fishery In Jeopardy; A Critical Analysis Of Fisheries Partnership Agreements In Madagascar (ID: 189)
Mialy Andriamahefaazafy, NGO Blue Ventures (Madagascar)
Alasdair Harris, NGO Blue Ventures (Madagascar)
Frederic Le Manach, Sea Around Us Project (Canada)
**Persistent Subsidies in Fishing – the Case of Fuel Tax Exemption in Norway** (ID: 318)  
Øystein Hermansen, NOFIMA (Norway)  
John R. Isaksen, Nofima (Norway)  
Ola Flaaten, Norwegian college of fishery science (Norway)

A Fisheries Management System’s Importance for the Demersal Value Chain of the Icelandic Fish Industry (ID: 336)  
Ogmundur Knutsson, University of Akureyri (Iceland)

SEAFOOD FORESIGHT: From Managing Information to Facilitating Intelligence (ID: 354)  
Angus Garrett, Sea Fish Industry Authority (United Kingdom)

Gilbert Sylvia, Oregon State University (United States)

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**23D: Measurement and Indicators for Improved Understanding and Management Part II**

Date: Thursday, July 19, 2012  
Time: 4:00 PM - 5:30 PM  
Location: Lake Victoria  
Moderator: Andries Richter

Factor Productivity in Artisanal Fishery Production in Nigeria (Id: 33)  
Oluwadare Ojo, Federal University of Technology (Nigeria)  
Oluwadare Ojo, Federal University of Technology (Nigeria)

Measuring Economic Depreciation in Fisheries (ID: 190)  
Sean Pascoe, CSIRO Marine and Atmospheric Research (Australia)  
Simon Vieira, ABARES (Australia)  
Olivier Thébaud, CSIRO - CMAR (Australia)

Integrated Assessment of the Coastal Fishery Production Systems in French Guiana (ID: 320)  
Abdou Ahad Cissé, IFREMER (France)  
Fabian Blanchard, IFREMER (France)  
Olivier Guyader, IFREMER, UMR AMURE (France)

FAO Fish Price Index (ID: 410)  
Audun Lem, United Nations Food and Agriculture Organization (Italy)  
Sigbjørn Tveteraas, CENTRUM Católica Graduate School of Business, Pontificia Universidad Católica del Perú (Peru)  
Frank Asche, University of Stavanger (Norway)  
Kristin Lien, Norwegian Seafood Council (Norway)  
Stefania Vannuccini, FAO (Italy)

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**23E Governance: Marine Reserves and Protected Areas Part I**

Date: Thursday, July 19, 2012  
Time: 4:00 PM - 5:30 PM  
Location: Lake Tanganyika  
Moderator: Tony Charles

Valuing Marine Parks in a Small Island Developing State: A Travel-Cost Study in Seychelles (ID: 300)  
Paul Mwebaze (United Kingdom)
The Economics of MPAs Revisited  (ID: 153)
Siv Reithe (Norway)
Claire Armstrong (Norway)
Ola Flaaten, Norwegian college of fishery science (Norway)

Are Marine Reserves and Harvest Control Rules Substitutes or Complements for Rebuilding Fisheries?
(ID: 185)
Satoshi Yamazaki, University of Tasmania (Australia)
Sarah Jennings, University of Tasmania (Australia)
Quentin Grafton, Bureau of Resources and Energy Economics (Australia)
Tom Kompas, Crawford School of Economics and Government (Australia)

Impacts of MPA on Coastal Communities’ Resource Use Behaviour: Case of Mafia Island Marine Park,
Tanzania  (ID: 188)
Esther Japhet MULYILA, United Graduate School of Agriculture Sciences, Kagoshima University (Japan)

31A FAO Regional Value Chains Workshop Part I
The Food and Agriculture Organization (FAO) and the Norwegian Agency for Development Cooperation (NORAD) initiated a comprehensive value-chain analysis of international fish trade in 2010, with an impact assessment of the small-scale sector in developing countries. The project also analyses the contributions of women along the value-chain. The aim was to identify ways to improve food security and employment for local populations through a better understanding of the dynamics of relevant value-chains, leading to more informed choices for policymakers. Comparisons were made between domestic, regional and international value-chains to identify how developing countries can increase the value derived from their fishery resources in local, regional and global markets.

Countries included in the FAO-NORAD value-chain project are: Bangladesh, Cambodia, Canada, Ghana, Honduras, Japan, Kenya, Maldives, Morocco, Peru, Thailand, Uganda, and Viet Nam. Iceland, Norway and Spain joined the project at a later stage, building upon previous experiences.

During the FAO workshop in Tanzania, national and international consultants will present their findings from country case studies and a panel of experts will discuss implications of the results. This session is open to all IIFET Conference participants.

Panelists/Contributors are:
ABBEY, Emmanuel, National Consultant (Ghana)
ABILA, Richard, Project Steering Committee, Kenya Marine and Fisheries Research Institute (Zambia),
ANTWI-ASARE, Theodore, National Consultant, Professor, University of Ghana (Ghana),
BELKOUCH, Abdelatif, National Consultant, Director, INFOSAMAK (Morocco),
BOUGOUSS, Nada, National Consultant, Marketing Specialist, INFOSAMAK (Morocco),
BOURAS, David, National Consultant, Professor, Lincoln University (USA),
BJORNDAL, Trond, Lead International Consultant, Director, CEMARE, University of Portsmouth (UK),
CHOMO, Victoria, Products Trade and Marketing Service, FAO (Italy),
De SILVA, Achini, International Consultant (UK/ Sri Lanka),
EL MALAGUI, Mohamed, Director, INFOPECHE (Cote D’Ivoire),
KNUTSSON, Ogmundur, National Consultant, Professor, University of Akureyri (Iceland),
LEM, Audun, Products Trade and Marketing Service, FAO (Italy),
MANYALA, Julius Otieno, National Consultant, Senior Lecturer - Fisheries, Chepkoilel University (Kenya),
MAPFUMO, Blessing, Project Steering Committee, Regional Fisheries and Aquaculture Advisor, INFOSA, (Zimbabwe),
MATHEW, Sebastian, Project Steering Committee, Programme Advisor, International Collective in Support of Fishworkers (India),
MENESES, Carolina Ipar, INFOPESCA (Uruguay),
31B Restoring Global Fisheries to Biological and Economic Health: How to Design and Finance Better Management

The Food and Agriculture Organization of the United Nations estimates that 70% of fisheries worldwide are fully or overexploited and a joint study the organization released with the World Bank estimates that mismanaged fisheries have cost the global economy $2 trillion over the last thirty years. The overexploitation and mismanagement of fisheries has devastating repercussions for fishermen and oceans including job loss, stock depletion, habitat damage and even on-the-job deaths. However, there are a growing number of examples worldwide where effective management has prevented these issues by aligning fishermen’s economic interests with ensuring biologically robust fish stocks (e.g. catch shares). When carefully designed and strategically implemented, these programs lead to improved environmental, economic and social performance. This session, Restoring Global Fisheries to Biological and Economic Health: How to Design and Finance Better Management is a holistic panel discussion that features a wide variety of professionals in the field of fisheries from Europe, Africa, Asia and North America to share their research, real life experiences and cutting edge approaches to creating and financing an effectively and sustainably managed fishery. Discussions will center on design models and implementation, overcoming key challenges, and financial tools to transition seamlessly to effective management systems for long-term sustainability.

Panelists and Contributors are:

Jamie Workman (Moderator), Environmental Defense Fund jworkman@edf.org
### 31C: Governance: Management of Fleet Capacity

**Date:** Friday, July 20, 2012  
**Time:** 8:30 AM - 10:30 AM  
**Location:** Kibo 1  
**Chair:** Jamie Workman

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<tr>
<td>Who Pay the Cost of the Reduction of the Large Scale Purse Seine Vessels?</td>
<td>Takashi Shibata, Osaka University of Commerce (Japan)</td>
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<td>What Kinds of Japanese Strategies are Pareto Improving: The case of Skipjack Tuna fisheries in the Pacific Ocean</td>
<td>Keisaku Higashida, School of Economics, Kwansei Gakuin University (Japan)</td>
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<td>To Invest or Not – Renewal of the Norwegian Bottom Trawler Fleet</td>
<td>Øystein Hermansen, NOFIMA (Norway)</td>
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<td>Bent Dreyer, NOFIMA (Norway)</td>
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<td>Thomas A Larsen, Nofima (Norway)</td>
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### 31D The Economic Impact of Climate Change on Fisheries and Aquaculture Part I

**Date:** Friday, July 20, 2012  
**Time:** 8:30 AM - 10:30 AM  
**Location:** Lake Victoria  
**Moderator:** Florian Diekert

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<td>Economics of Adaptation to Climate Change of Sea Cucumber Fishers in the Philippines</td>
<td>Maria Rebecca Campos, University of the Philippines Open University (Philippines)</td>
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<td>The Impact of Climate Change on the Vulnerable Fisheries Resource and Its Coastal Community in Cilacap Regency-Indonesia: A Set Up for Adaptation and Mitigation Strategy</td>
<td>Indah Susilowati, Faculty of Economics-Diponegoro University (Indonesia)</td>
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<td>Waridin Waridin, Faculty of Economics and Business. Diponegoro University (Indonesia)</td>
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<td>Rizky Yulianisa, Faculty of Economics and Business. Diponegoro University (Indonesia)</td>
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<tr>
<td>Climate Change and Small-Scale Fisheries: Social, Economic and Governance Interactions</td>
<td>Anthony Charles, Saint Mary's University (Canada)</td>
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**31E The Economics of Aquaculture Production and Profitability Part III**

- **Date:** Friday, July 20, 2012
- **Time:** 8:30 AM - 10:30 AM
- **Location:** Lake Tanganyika
- **Moderator:** Ernest Yongo

**Marine Ornamental Fish Trade in Kerala, India: A Demand-supply Analysis** (ID: 62)  
Sirajudheen, T.K., Dept. of Aquatic Biology & Fisheries (United States)  
Bijukumar A, Dept. of Aquatic Biology & Fisheries (United States)  
Shyam S Salim, Central Marine Fisheries Research Institute (India)

**Effects of Price Risk in Wholesale Market on the U.S. Farm-Raised Catfish** (ID: 95)  
Giap Nguyen, Tan Tao University (Viet Nam)  
Curtis Jolly, Auburn University (United States)

**Analytical Hierarchical Process and Cost Benefit Analysis for Evaluation of Alabama Catfish Profitability and Sustainability** (ID: 315)  
Curtis Jolly, Auburn University (United States)  
Carel Ligeon, Auburn University, Montgomery (United States)  
Nathanael Hishamunda, FAO (Italy)  
Terrl Hanson, Auburn (United States)  
Vincent Wright, Northern Caribbean University (United States)

**The Prospects and Opportunities for Trout Farming in Scotland** (ID: 326)  
Abdulai Fofana, Scottish Agricultural College (United Kingdom)

**Prospects and Potential of the African Lungfish (Protopterus spp): Results from a Field Survey in Uganda.** (ID: 362)  
Joseph Molnar, Auburn University (United States)  
John Walakira, Auburn University (United States)  
Jeffrey Terhune, Auburn University (United States)

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**31F: Markets: Consumers**

- **Date:** Friday, July 20, 2012
- **Time:** 8:30 AM - 10:30 AM
- **Location:** Bagamoyo
- **Moderator:** Seamus McElroy

**The Structure of Wholesale and Retail Marketing of Farm Raised Catfish (Clarias gariepinus Burchell 1822) In Southwest, Nigeria** (ID: 163)  
Ayanboye Abolupe Oluvemi, Oyo State College Of Agriculture.Fisheries Department (Nigeria)  
Mabel Omowumi Ipinmoroti, Osun State University osun state, Osogbo (United States)  
Mabel Omowumi Ipinmoroti, Osun state university osogbo (Nigeria)  
Prof adewale J.G, Oyo State college of Agriculture Igboora Oyo State (Nigeria)  
Oluwafemi Zaccheaus Olaniyi, Oyo State College of Agriculture Igboora Oyo State (Nigeria)

**Consumer Acceptability of Mukene (Rastrineobola argentea) Value-added Products in Uganda** (ID: 236)  
Margaret Masette, National Agricultural Research Organization (Food Biosciences Research centre) (Uganda)

Elizabeth Khakasa, National agricultural Research Organization (Food Biosciences Research centre) (Uganda)
Valuing Seafood Attributes: Stated Choice Model   (ID: 344)
Thong Tien Nguyen, University of Southern Denmark (Denmark)
Wolfgang Haider, Simon Fraser University (Canada)
Hans Stubbe Solgaard, University of Southern Denmark (Denmark)
Eva Roth, University of Southern Denmark (Denmark)
Lars Ravn-Jonsen, University of Southern Denmark (Denmark)
Evaluating Consumer Preferences for Value-Added Fish Products Attributes in Oman   (ID: 345)
Msafiri Mbaga, Sultan Qaboos University (Oman)

32A FAO Regional Value Chains Workshop Part II
Part 2 of this special session.
Date:    Friday, July 20, 2012
Time:    11:00 AM - 12:30 PM
Location: Zanzibar
Chair:    Audun Lem

32B Governance: Recreational and Inland Fisheries
Date:    Friday, July 20, 2012
Time:    11:00 AM - 12:30 PM
Location: Kibo 1
Moderator: Paul Mwebesa

Estimating the Economic Impact of Alien Invasive Fishes: Recreational Angling in the Amatola Region   (ID: 46)
James Kinghorn, Rhodes University, Department of Economics and Economic History (South Africa)
Jen Snowball, Rhodes University, Department of Economics and Economic History (South Africa)
Pete Britz, Rhodes University, Department of Ichthyology and Fisheries Science (South Africa)
Meta-Regression Analysis and Benefit Transfer in the Sportfishing Literature When Valuation Studies Contain Dependent Measurements   (ID: 49)
Arvin Vista, University of the Philippines Los Baños (Philippines)
Randall Rosenberger, Oregon State University (United States)
The Economics of Recreational Fisheries in Namib   (ID: 346)
Mike Nghipunya, Ministry of Fisheries and Marine Resources

32C A Fisheries Management Synthesis: A Facilitated Discussion to Identify the Attributes of Successful Fisheries Management Part II
The global adoption of the 200 hundred mile exclusive economic zone has not lived up to its promise some forty years ago for improved marine fisheries management. Marine fisheries continue to constitute a major component of the global economy. If not in terms of its total value or income generated, then as a political force facing many national governments, as a source of foreign exchange, as a provider of last resource of jobs and income for the poor and unemployed, and as a focus for the programs of nongovernmental conservation and environmental organizations (NGO’s). Continued global population growth, recently reaching seven billion people, will only increase these demands for marine fisheries and the other services and products provided by the marine ecosystem. Unfortunately, wild caught production of commercially valuable species has already reached its zenith according to the United Nations Food and Agricultural Organization which has been further augmented by an unknown level of recreational catch. While some suggest that per capita consumption of marine fish species will decline over time, a more realistic expectation would be
a rise in fish product prices as demand increases as a result of global population growth expected to reach 9 billion by 2045. The implication is a decline in availability of healthy fish products to the majority of the world population that inhabit the lower income classes. Coupled with the inherent equity problems due to this global trend in supply and demand are specific cases of fish stock overexploitation. Races of Pacific salmon and stocks of Atlantic salmon have been declared to be endangered species in the U.S. The International Council for the Conservation of Atlantic Tuna (ICCAT), the regional fishery management organization (RFMO), recently rejected a motion by some of its delegates to declare Bluefin Tuna in the Mediterranean Sea an endangered species. Patagonian tooth fish managed conservatively under another RFMO experiences illegal, unreported, and unregulated (IUU) harvests by fishing vessels operating under flags of convenience provided by nonmember nations. Such a pervasive problem is IUU fishing in global fisheries that the European Union (EU) felt compelled to take the drastic step of banning from its ports any vessel that had been engaged in IUU fishing regardless of its present ownership (Baumuller, 2010). Extranous factors beyond the control of fishery managers are also impacting marine fisheries. Anthropomorphically induced global warming is at best causing a shift in species distributions as seawater warms, changing the availability of species to fishing fleets. At its worse, global climate change is increasing the acidification of the oceans reducing the habitat available to finfish and shellfish species and conceivably increasing natural mortality rates. If the ferocity of hurricanes may not, global warming will certainly cause their frequency to increase, which will impact fish harvesting costs as fishers are forced to invest in storm resistant capital for their vessels as well as harbor infrastructure. Hypoxia zones already exist in the marine environment and will only become more pervasive in the future as the global population grows and becomes more concentrated in metropolitan areas (World Bank, personal communication). Partially treated waste from the east coast, U.S. megalopolis are already leading to harmful algae blooms (HAB) along the Canadian eastern seaboard. Canadian lobsters have been banned from Japan because of tests that have revealed the presents of trace amounts of saxitoxin in their livers. Shellfish tend to concentrate this toxin preventing their harvest from wild stocks or in aquaculture facilities. Competing uses of marine resources on the continental shelf have had beneficial and harmful effects on marine fisheries. Oil exploration, production, and transportation have harmed fishery resources as well as their habitats. While oil production platforms can act as fish aggregation devices and artificial reefs to the benefit of recreational fishermen, the recent British Petroleum Deep Horizon oil platform failure prefaces by the Ixtoc I oil spill in the Bay of Campeche in 1979 in the Gulf of Mexico are examples of their potential harm. The 1989 Exxon Valdez oil spill in Alaska and the Amoco Cadiz off the coast of France in 1978 are additional indicators of the failue to adequately address the expected value of the risk to living marine resources from petroleum production in the coastal zone. Potential solutions to these issues also have their own associated problems for marine ecosystems and commercial fishermen and recreational anglers. Marine aquaculture, a major economic force circling the globe, has been proposed as a solution to stagnate wild capture production, increased demand, and potentially higher seafood process. While it has lead to significant declines in what were once robust shrimp and salmon prices, aquaculture’s undesirable pollution byproducts are often cited as reasons to prevent its further expansion to protect marine habitats. Amidst this cacophony of failures, bright spots of success do exist. New Zealand and Iceland were among the first nations to adopt individual transferable quota programs for their commercial harvesting industry. Although not without their subsequent problems such as the Maori fishing rights and Iceland’s Constitutional right to work, the quality of life of fishermen and the conservation of the stocks have improved. More importantly, at least in the case of New Zealand, the costs of management significantly declined with the adoption of coamagament where the fisheries ministry transferred the responsibility for fishery research and development to the fishing industry. Individual fishery management programs conducted by national fishery agencies have also demonstrated successful stock conservation in conjunction with improved industry efficiency. Australia’s lobster trap program transformed a group of fishers from being essentially feudal serfs to landed gentry. A comparison of the Canadian and U.S. sea scallop fisheremen provided evidence of the superiorilty of the Canadian incentive adjusting management program when compared to the incentive blocking program of the U.S. (Repetto, 2001). His was prior to the serendipitous U.S. groundfish closure regulations that inadvertently revitalized the U.S. sea scallop fishery. The wreckfish ITQ program, the Cape Cod hook and line association and Alaskan Pollock fishery cooperatives, and the red snapper individual fishermen quota (IFQ) program are among the exceptions to the generally dismal performance history of US fisheries management. The Alaskan Pollock Cooperative actually retired a multi-million dollar factory trawler from the fishery after the cooperative was formed to reduce harvests costs, while the Atlantic cod fishery collapse represents the other extreme of fisheries management. The success of the hierarchical Namibian fisheries management program
complete with clearly defined goals and objectives is difficult to contest when compared to the decentralized US system of federal, state, and local agencies, regional fishery management councils and commissions, overlapping and inconsistent, and in some cases conflicting legal authorities, nongovernmental organizations representing conservationists, environmentalists, commercial fishers, and recreational anglers, and seafood processors and retailers. Other examples of the failure of hierarchical programs could be compared to the success of devolved programs are also possible, which leads to the question of the role played by infrastructure in determining the success of fishery management programs. While various management infrastructures have been proposed under the rubrics of incentive adjusting and blocking, ITQ/IFQ, the precautionary approach and the ecosystem approach to fisheries management, catch sectors, RFM’s, etc. and many goals and objectives have been promoted as criteria for determining the success of these different management programs, no synthesis has been compiled by those who deal with the actual fishery management operations, of the positive and negative attributes of each management approach. The purpose of this special session would be to synthesize a list of attributes that benefit users and mitigate the negative consequences of fishery management infrastructure. The synthesis would be developed by employing a facilitated discussion among panel members and the general audience rather than a series of presentations with a limited question and answer session. A series of questions will be generated in co-operation with panel members about management infrastructure attributes to prompt the discussion among panel members. The facilitator will guide the discussion with these questions to ensure that the session objectives are achieved. Audience participation will be actively encouraged by the facilitator to ensure the broadest array of information from different perspectives; i.e., NGO, policy makers, and multi-disciplinary scientists.

**Date:** Friday, July 20, 2012  
**Time:** 11:00 AM - 12:30 PM  
**Location:** Kibo 3  
**Chair:** Rebecca Metzner

### 32D Environment, Natural Disasters, and Recovery Part II

**Date:** Friday, July 20, 2012  
**Time:** 11:00 AM - 12:30 PM  
**Location:** Lake Victoria  
**Moderator:** Santosh Kumar Mishra

*The Value of Environmental Impact of Fisheries on Nutrient Dynamics* (ID: 224)  
**Jarno Virtanen**, Joint Research Center, European Commission (Italy)

*The Economic Consequences of Regime Shifts in Marine Ecosystems* (ID: 289)  
**Lorena Gola**, Kiel University (Germany)  
**Martin F. Quaas**, Department of Economics, University of Kiel (Germany)

* crayfish management in the Ljungan River - Managing with Shocks* (ID: 402)  
**Jesper Stage** (Sweden)

### Closing Ceremony

**Plenary**

**Date:** Friday, July 20, 2012  
**Time:** 12:40 PM - 1:00 PM  
**Location:** Kibo Ballroom  
**Chair:** Rebecca Metzner

Closing remarks: Honorable Minister for Fisheries, Zanzibar