



# BOOK OF ABSTRACTS

## 5TH WORLD SSF CONGRESS

April 27-May 1, 2026  
Dusit Thani Hua Hin, Thailand



***SMALL-SCALE FISHERIES FOR ADVANCING...***

**JUST HARMONY**

**YOUNG FUTURES**

**REGENERATIVE WISDOM**



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April 27-May 1, 2026

Hua Hin, Thailand

## **Plenary Sessions**

## Session 1 – Monday, April 27

### Regenerative Wisdom

#### Chairs

**Miguel Gonzalez**, York University, Canada, [migon@yorku.ca](mailto:migon@yorku.ca)

**Derek Johnson**, University of Manitoba, Canada, [derek.johnson@umanitoba.ca](mailto:derek.johnson@umanitoba.ca)

#### Panelists

**William Cheung**, University of British Columbia, Canada

**Editrudith Lukanga**, Brock University, Canada

**Amalendu Jyotishi**, Azim Premji University, India

#### Synopsis

Regenerative Wisdom Panel discussion: Concept, challenges-opportunities, future visioning  
The 5<sup>th</sup> WSSF Congress will open with a plenary session dedicated to *Regenerative Wisdom* in small-scale fisheries. The organizing committee invites panellists and audience members to reflect on *Regenerative Wisdom* in the context of small-scale fisheries' research, policy, and practice. As this concept is new within TBTI, we are continuing to update it beyond what is presented on the TBTI website. We present a revised description of Regenerative Wisdom here for your consideration that deepens the engagement of the idea with food systems and across value chains:

“The idea of regenerative food systems focuses on restoring ecosystems, fostering equitable growth, and prioritizing the long-term sustainability of food production. Given the importance of fish as food, the concept is highly relevant to fisheries. It emphasizes the need for fishing and aquaculture practices that achieve food security without harming resources, habitats and aquatic ecosystems, or displacing small-scale fishers and fishworkers. Small-scale fisheries are rich with experience and knowledge. Regenerative food systems are rooted in the ‘wisdom’ that these fishers have, not only about fishing practices, through their stewardship of fisheries and the care for their ecosystems, but also their knowledge of fish processing, trading, and aquatic foodways. Thinking about ‘Regenerative Wisdom’ in fisheries is a way to recognize the power of small-scale fishers’ and fish workers’ knowledge and wisdom in safeguarding the environment and sustaining fishing culture, vibrant economies, social relations, and culture. It is not only renewable energy that

can give the planet clean power. Small-scale fishers do the same, in generating wholesome, climate-friendly food for local communities to power the planet nutritionally and economically.”

The following questions to the panellists are meant to inspire dialogue, invite thinking across boundaries, and motivate Congress attendees to reflect upon regenerative wisdom in the opening session:

1. How do you understand the idea of “regenerative wisdom” in the context of small-scale fisheries? How has it informed your work?
2. In transitioning toward regenerative systems for food production, livelihoods support, and environmental integrity, what barriers (in your sector, country, institution, etc.) currently inhibit integration of small-scale fisher and fish worker knowledge into fisheries, coastal, and aquatic governance?
3. Given the scale of the challenges and changes that small-scale fisheries face, how can regenerative wisdom serve as a source of hope for the future? Can you point to inspirational examples of how regenerative wisdom is informing practice?

## Session 2 – Tuesday, April 28

### Young Futures

#### Chairs

**Evan Andrews**, Memorial University, Canada, [evana@mun.ca](mailto:evana@mun.ca)

**Prateep Nayak**, University of Waterloo, Canada, [pnayak@uwaterloo.ca](mailto:pnayak@uwaterloo.ca)

#### Panelists

**All the Young Futures!**

#### Synopsis

Youth are often called the future of fisheries and oceans—but if that's true, why do so many young people feel like the future is being decided without them? In many governance spaces, youth perspectives remain invisible, even though young people in coastal communities and among emerging researchers care deeply about the future of marine environments, small-scale fisheries, and coastal communities. Behind the scenes, youth are already connected through lively networks of families, peers, schools, research labs, and community groups, quietly building ideas, energy, and momentum that rarely reach decision-making tables. Young Futures will flip the script: making the invisible visible by listening to youth, amplifying their voices, and sparking conversation about what real co-leadership could look like. Expect bold ideas, unexpected perspectives, and a glimpse of the futures that young people are already imagining and building.

Every Young Future will have a chance to contribute. The session is designed with multiple avenues for sharing, including live floor time, open exchange with fellow participants and facilitators, and an interactive poster, so that all voices have a place in the conversation. All those in attendance will also have opportunities to respond and engage throughout the session.

**If you are a Young Future:** This is your moment to be heard. Come prepared with a focused 2-minute contribution and be ready to be called on at any point during the session. Think about what you most want the room to know, using these questions as your guide:

- How would you describe the future in one word or phrase?
- Why does this matter for fisheries, oceans, or coastal communities?
- What should we start doing now to address it?

Your ideas, your hopes, and your strategies matter. Come ready to share them.

## Session 3 – Tuesday, April 28

### Just Harmony

#### Chairs

**Milena Arias Schreiber**, World Maritime University, Sweden, [mas@wmu.se](mailto:mas@wmu.se)

**Silvia Salas**, Cinvestav Unidad Merida, Mexico, [ssalas@cinvestav.mx](mailto:ssalas@cinvestav.mx)

#### Panelists

**Kate Barclay**, University of Technology Sydney, Australia

**Alice Joan Ferrer**, University of the Philippines Visayas, Philippines / TBTI  
Philippines

**Brennan Lowery**, St. Thomas University, Canada

#### Synopsis

There's no denying that young people are the future, but for the most part, they have been mostly left out of the conversation about what they want the future to look like. It is not clear, for instance, the extent to which 'youth voices' are incorporated in the 'Future We Want' document, which was the outcome of the United Nations Conference on Sustainable Development in 2012, and which led to the 17 Sustainable Development Goals (SDGs) being promoted nowadays. One can argue that concerns about youth are being addressed in all goals, given that pursuing these goals would no doubt benefit not only the current but also future generations. Yet, one may wonder what the 'future' may look like if youth were the ones crafting it. The Young Futures theme explores youth thoughts and ideas about the future of the ocean, the fisheries, the coast, the communities and the society that they are part of. The future of fisheries according to youth is likely to be different from the present one.

## Session 4 – Wednesday, April 29

### A Policy Forum

#### *“Key policy messages for sustainable and viable small-scale fisheries”*

#### Moderators

**Katia Frangoudes**, UMR AMURE, University of Brest, France, [katia.frangoudes@gmail.com](mailto:katia.frangoudes@gmail.com)

**Ratana Chuenpagdee**, Memorial University, Canada, [ratana@mun.ca](mailto:ratana@mun.ca)

#### Panelists

**Lubyayi Margaret Nakato**, Katosi Women Development Trust / NPOA-SSF Task Team,  
Uganda

**Lilian Ibengwe**, Ministry of Livestock and Fisheries (MLF), SSF National Task Team, Tanzania

**María José Barragán Paladines**, Charles Darwin Foundation, Galapagos, Ecuador

**Abhilaksh Likhi**, Department of Fisheries, Government of India

**Denis Bailly**, ACOPS / United Nations University, France

#### Synopsis

Despite the increasing attention on small-scale fisheries (SSF), including in policy and governance through global instruments like the SSF Guidelines and other initiatives. Yet, more can be done, from the policy perspective, to protect the rights of small-scale fisheries, enhance their contribution to the Sustainable Development Goals (SDGs), and to integrate them in Blue Economy and Blue Transformation initiatives. Small-scale fisheries are closely connected to coastal and inland fisheries communities, including through the value chain. Consequently, policies that promote small-scale fisheries have a wide-ranging societal impact, worthy of the investment and support. This is, however, not new knowledge, but is often well reflected in policy document. The question is then about what more is required to be impactful in policy arena, where issues and concerns in small-scale fisheries are discussed along with those of influential sectors, like large-scale fisheries, aquaculture and other coastal and ocean-based development.

The session aims at arriving at key policy messages about SSF that resonate with governments and decisionmakers. The session will begin with a short statement by the panelists, followed by their remarks on some of the questions posted by the session moderators. There will be opportunities for the participants to share thoughts and ideas and to help craft the message.



April 27-May 1, 2026

Hua Hin, Thailand

## **Special Sessions**

## Session 1.1 – Monday, April 27

### Governing for transformation towards sustainable small-scale fisheries

#### Organizer

**Franz, Nicole**, Stanford University, USA, [nicole.franz@stanford.edu](mailto:nicole.franz@stanford.edu)

#### Moderator

**Xavier Basurto**, Stanford University, USA

#### Speakers

**Fikret Berkes**, University of Manitoba, Canada

**Prateep Nayak**, University of Waterloo, Canada

**Merle Sowman**, University of Cape Town, South Africa

**Nicole Franz**, Stanford University, USA

**Anthony Charles**, Saint Mary's University, Canada

**Xavier Basurto**, Stanford University, USA

#### Synopsis

Securing sustainable and viable small-scale fisheries not only a key issue for aquatic resources management, but also an important global development objective. Notably, the estimated 113 million people in small-scale fisheries along the supply chain play a role in tackling the challenges faced by nearly 700 million people still live in extreme poverty, a number projected to remain high through to 2030. Achieving this objective requires not just incremental change, but a transformation to address trade-offs and build synergies. This is at the core objective of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. This session introduces and expands on the 2025 FAO publication, “Governing for transformation towards sustainable small-scale fisheries”, to address the ingredients needed for a transformation, systematically and with rigour. In particular, the session will emphasize how transformation of SSF is built through a focus on four key ingredients:

- Commons: Governing the dynamics of shared resources

- Co-management: sharing power and responsibilities
- Sustainable livelihoods: enablers, threats and opportunities
- Linking the ecosystem approach to fisheries with the human rights-based approach

The session may not necessarily provide answers, but it will flag important questions in this quest. How do we make humans part of nature and not apart from nature? How can different ways of knowing contribute to our objectives? What does power-sharing truly mean? And what makes livelihoods sustainable in the long term? These are riveting questions that are not academic and theoretical; rather, they are important in the context of a rapidly changing, challenging world, to make the aquatic food sector, especially the SSF subsector, more sustainable ecologically, economically, and in particular, socially. Progress to support and develop SSF must be addressed using a range of disciplines across the natural and social sciences, recognizing the importance of bridging the science-policy interface and emphasizing the multi-dimensional benefits of small-scale fisheries. Conceptual shifts may be required in the process. This session, and the book on which it is based, provide an invitation to a new generation of resource managers/practitioners and policy makers to be aware of how relevant approaches and concepts have evolved and to embrace the challenge of complexity and interdisciplinarity to advance the transition towards sustainable small-scale fisheries.

The presentations will be followed by a moderated Q&A/comment session with the audience.

### **How does this paper contribute or is related to one or more of the congress themes?**

The session will provide evidence through examples of specific governance cases that demonstrate **Just Harmony**, as well as situations where the co-existence of different users of aquatic commons is a challenge in terms of social and environmental justice. The value of knowledge - including regenerative wisdom - held by small-scale fishers as an intrinsic part of socio-ecological systems will be highlighted throughout the session. The session will provide an opportunity to discuss possible solutions with youth in the audience who represent potential future leaders, educators and decision-makers.

## Session 1.2 – Monday, April 27

### Pathways towards urban blue justice

#### Organizer

**Ruth Pinto**, International Institute for Environment and Development, United Kingdom, [ruth.pinto@iied.org](mailto:ruth.pinto@iied.org)

#### Speakers

**Andrew Maki**, Justice & Empowerment Initiatives, Nigeria

**Rende Paul Kunnnu**, Nigerian Slum / Informal Settlement Federation, Nigeria

**Gabriela Leandro Pereira**, Federal University of Bahia, Brazil

**Ana Cristina Da Silva Caminha**, Women's Group Gamboa, Brazil

**Ansumana Tarawally**, Sierra Leone Urban Research Centre, Sierra Leone

**Kadiatu Kargbo**, Woman for Beteh, Sierra Leone

#### Synopsis

Small-scale fishing communities have long occupied coastal cities, yet their lives are often threatened by forced displacement, loss of access to waterfronts, marine pollution, industrial fishing and other extractive activities. These threats hinder urban fishing communities' abilities to meet their basic needs, improve their quality of life, protect their cultural identities, enhance their resilience to climate change, and sustainably use and manage marine environments. Within these communities, women, young people, people with disabilities, and indigenous peoples are especially impacted by unequal access to opportunities, resources and decision-making processes. This absence of consideration and consultation of urban fishing communities is rooted in a lack of recognition of their human rights, particularly the right to self-determination, adequate housing, food and a healthy environment.

Despite a human rights-based approach underpinning multiple international legal instruments and multilateral agreements, many city, national and international policies and programmes overlook the systematic marginalization of urban fishing communities. In Lagos, Freetown and Salvador, fishing communities are organising to advocate for their rights to adequate housing, practice their livelihood without discrimination and steward marine resources and environments. In support of these efforts, we (the organisers and

presenters) are collectively developing pathways towards more just futures. These pathways focus on 1) strengthening urban fishing communities' capacities to claim their rights and participate in marine and fisheries governance and 2) improving enabling conditions for recognition of their rights at the city, national and international level.

This session will outline challenges faced by urban fishing communities in Lagos, Freetown and Salvador, highlighting current advocacy efforts and proposed ways forward. Session participants will be invited share their experiences and identify opportunities and methods to collectively advocate for the rights of urban fishing communities across different scales.

## Session 1.3 – Monday, April 27

### Rethinking ‘Advanced’: Small-scale fisheries in advanced fisheries nations and Japan’s vision toward the SSF Guidelines at 20

#### Organizer

Yinji Li, Tokai University, Japan, [riginki@tokai.ac.jp](mailto:riginki@tokai.ac.jp)

#### Speakers

Yinji Li, Tokai University, Japan  
*Why this session?*

Hajime Oshima, Regional Planning Institute, Japan  
*Fisheries infrastructure and small-scale fisheries in Japan*

Tamano Namikawa, Tokyo University of Marine Science and Technology, Japan  
*Fishing community revitalization and small-scale fisheries in Japan*

Maya Takimoto, WWF Japan  
*Sustainable seafood market and small-scale fisheries in Japan*

Masanori Kobayashi, Sasakawa Peace Foundation, Japan  
*Sustainable blue economy and small-scale fisheries in Japan*

Minoru Tamura, JICA, Japan  
*International cooperation and small-scale fisheries in Japan*

Kate Barclay, University of Technology Sydney, Australia  
*A comparative perspective: small-scale fisheries in Australia & Japan*

#### Synopsis

*“The Small-Scale Fisheries Guidelines are also for the Global North (Jentoft 2023, p. 10).”*

The FAO Small-Scale Fisheries Guidelines are the first international policy instrument dedicated to small-scale fisheries—an extremely important yet often overlooked sector—and call on countries worldwide to implement them to pursue sustainable small-scale fisheries. In 2024, a wide range of commemorative events and initiatives were held

worldwide to celebrate its 10th anniversary. However, its implementation remains limited. One key reason for this is the limited awareness of the Small-Scale Fisheries Guidelines itself. There is also a widespread misconception that these Guidelines are intended primarily for developing countries rather than developed ones. In some cases, there is even a misperception that small-scale fisheries do not exist within certain countries, despite their significant socio-economic contributions. The above-mentioned statement cautions against such misunderstandings. Globally, small-scale fisheries account for approximately 40% of total catch and 90% of fisheries employment. They are widely present in both the Global North and the Global South. While differing in degree, small-scale fisheries in the Global North face no fewer challenges than those in the Global South, illustrating a reality that is 'different but similar.' In eight years' time, as the Small-Scale Fisheries Guidelines reach their 20th anniversary, a significantly improved global situation is anticipated. In this context, this session will focus on Japan—often described as an 'advanced fisheries nation' and a 'living proof of Life Above Water.' Drawing on diverse expertise, the session will examine the roles, opportunities, and challenges Japan faces in implementing the Small-Scale Fisheries Guidelines and propose pathways toward becoming a truly advanced fisheries nation.

#### **Reference:**

Svein Jentoft. 2023. *The Gift of Community: More Essays on Human Experiences of Small-Scale Fisheries*. TBTI Global Publication Series, St. John's, NL, Canada

## Session 2.1 – Monday, April 27

### National Plans of Action for Small-Scale Fisheries (NPOA-SSF) to support the implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines)

#### Organizer

**Lena Westlund**, FAO, Italy, [lena.m.westlund@telia.com](mailto:lena.m.westlund@telia.com)

#### Chairs

**Angela Lentisco**, FAO, Thailand

**Rishi Sharma**, FAO, Italy

#### Speakers

**Angela Lentisco**, FAO, Thailand

**Rishi Sharma**, FAO, Italy

**Lena Westlund**, FAO, Italy

**Margaret Nakato**, Katosi Women Development Trust / NPOA-SSF Task Team, Uganda

**Krishnan Pandian**, Bay of Bengal Program Inter-Governmental Organizations (BOBP-IGO)

#### Panelists

**Gavina Tumbaga**, City Fisheries and Aquatic Resources Management Council / NPOA-SSF working group, Philippines

**Hadija Malibiche**, Tanzania Women Fishers Association (TAWFA), Tanzania

**Margaret Nakato**, Katosi Women Development Trust / NPOA-SSF Task Team, Uganda

**Lilian Ibengwe**, Ministry of Livestock and Fisheries (MLF), SSF National Task Team, Tanzania

**Mildred Buazon**, Bureau of Fisheries and Aquatic Resources, Philippines

**Benjamin Betey Campion**, Fisheries Commission, Ghana

**Abhilaksh Likhi**, Department of Fisheries, India

**Md. Ahsanur Rahman Hasib**, Ministry of Fisheries and Livestock, Bangladesh

## Synopsis

2014 marked the 10th anniversary of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines), a key internationally developed instrument that calls for responsible fisheries and sustainable, social and economic development of the subsector, which is responsible for 90 per cent of capture fisheries employment and provides livelihoods for over 500 million people globally.

Implementation efforts, which in turn contribute to the achievement of Sustainable Development Goals, particularly 1 'No Poverty,' 2 'No Hunger,' and 14 'Life below water', in particular SDG target 14.b 'Provide access for small-scale artisanal fishers to marine resources and markets'. Although global and regional implementation of the SSF Guidelines has gone far, national and local level implementation still slightly lags in comparison. However, countries are increasingly showing interest in incorporating the recommendations of the SSF Guidelines in their national legal frameworks and their programs in support of the subsector.

In this endeavour, FAO supports the development and implementation of National Plan of Action for Small-Scale Fisheries (NPOA-SSF) processes. These processes are country-led efforts to systematically and holistically identify and address key challenges in their small-scale fisheries subsector, resulting in a roadmap fostering the long-term sustainability of small-scale fisheries and their contributions to food security, food safety and poverty eradication in the country. So far, Africa has the most countries with NPOAs-SSF, namely Madagascar, Malawi, Namibia, Uganda and the United Republic of Tanzania. Additionally, other countries such as Colombia and the Philippines have embarked on their own development and implementation processes, with other countries, particularly in Asia, expected to follow.

The session will share and discuss experiences from selected countries with NPOAs-SSF, offering insights into a variety of key topics that are of utmost importance to a successful NPOA-SSF development and implementation process, including:

- Importance of a fully participatory process such as designing stakeholder consultations to ensure maximum representation, particularly SSF actors
- Institutionalizing the process and best practices for ensuring long-term sustainability and effectiveness
- Role of reviewing legal and policy frameworks
- Implementation experiences and successes
- Building and strengthening existing networks with research institutions on key roles they can play
-

## Tentative agenda:

- **Angela Lentisco & Rishi Sharma:** Opening and welcome
- **Lena Westlund:** Overview of the NPOAs-SSF process: Short history, rationale and the NPOA-SSF process
- **Margaret Nakato:** Key considerations in the NPOA-SSF process
- **Krishnan Pandian:** Taking a regional approach: the experience from the Bay of Bengal Region

- **Panel discussion: All panelists**

- SSF actor's perspectives:*

- What capacities are needed on behalf of SSF actors and their organizations to actively engage in NPOA-SSF processes?
    - What is needed to ensure fair representation of SSF actors and how should consultations be arranged for effective participation?
    - How have the NPOA-SSF processes helped SSF organizations and giving voice to SSF actors?

- Government perspectives:*

- How can an NPOAs-SSF be institutionalized and how can cross-sectoral/interministerial collaboration be promoted?
    - What are the key legal aspects to consider when developing and implementing an NPOA-SSF?
    - What strategies can be used to mobilize resources for NPOA-SSF implementation and long-term sustainability?

- Questions to all panelists:*

- According to your experience, what are the key actions needed to ensure successful NPOAs-SSF implementation?
    - How can global and regional processes, organizations and actors support country level NPOA-SSF?

- **Discussion & Wrap-up**

## Session 2.5.1 – Monday, April 27

### A decade of collaboration to strengthen the small-scale fisheries organizations in Mexico: Lessons learned from a partnership between academics, non-governmental organizations and fisheries organizations

#### Organizers

**Bibiana Ruiz**, Sociedad de Historia Natural Niparaja, Mexico,  
[bibiana.rg@niparaja.org](mailto:bibiana.rg@niparaja.org)

**Amy Hudson Weaver**, Stanford University, USA, [ahudsonweaver@gmail.com](mailto:ahudsonweaver@gmail.com)

#### Moderator

**Xavier Basurto**, Stanford University, USA

#### Speakers

**Amy Hudson Weaver**, Stanford University, USA

**Mateja Nenadovic**, University of Rhode Island, USA

**Bibiana Ruiz**, Sociedad de Historia Natural Niparajá, A.C., Mexico

**José de Jesús Flores Higuera**, Mexican Confederation of Fishing and Aquaculture Cooperatives, Mexico

#### Synopsis

The objective of the session is to share the process and key lessons learned from ten years of collaboration and co-production of knowledge to strengthen small-scale fishing organizations.

#### **Presentation 1: From research to action** **Amy Hudson Weaver**, Stanford University, USA

She will briefly review the project's trajectory, from a national assessment to the implementation of two pilot programs to strengthen fishing organizations in Mexico. She will highlight how a shared vision was built from diverse interests starting in 2015 and how this enabled the co-design of a pilot program. She will also describe the main strengthening strategies and tools implemented as a pilot program since 2022 in fifteen Mexican

cooperatives located in four states, such as training, technical support, organizational improvement plans, exchanges, and evaluations.

**Presentation 3: Changes in cooperative functionality**

**Mateja Nenadovic**, University of Rhode Island

She will present the main changes in cooperative functionality in the pilot program and how these changes were evaluated. Additionally, the adjustments made to the functionality measurements will be discussed, along with how these can contribute to obtaining more accurate and representative results, albeit with certain limitations in terms of comparability. Finally, the extent to which the internal conditions of the cooperatives and their local contexts may have influenced the program's results will be analyzed.

**Presentation 4: Lessons learned from the implementation process**

**Bibiana Ruiz**, Sociedad de Historia Natural Niparaja

This presentation will cover how the changes in the cooperatives were documented and evaluated during the program's implementation, as well as the most relevant findings derived from its operation and the work with cooperatives and federations. Key lessons from the evaluation and monitoring process in both pilot programs will also be shared, with an emphasis on identifying which aspects of the strengthening process proved most effective.

**Presentation 4: Lessons learned from the fishing sector**

**José de Jesús Flores Higuera**, Confederación Mexicana de Cooperativas Pesqueras (CONMECOOP)

The Mexican Confederation of Fishing Cooperatives will share the main lessons learned during the collaborative process between researchers, NGOs, and fishers. They will discuss the role of the fishing sector in this program, as well as their perspectives on the need for the fishing sector to participate in collaborative projects, the main challenge, and the greatest satisfaction in these 10 years of collaboration.

**Presentation 5: Challenges and recommendations**

**Amy Hudson Weaver**, Stanford University, USA

Finally, the program director will share the main challenges for expanding, consolidating, and sustaining efforts to strengthen the small-scale cooperative fishing sector in Mexico, as well as recommendations derived from this collaborative work, aimed at motivating other stakeholders to continue promoting the strengthening of the sector.

## Session 2.5.2 – Monday, April 27

### Waves of change: Harnessing the power of youth in building sustainable futures for small-scale fisheries in the Global South

#### Organizer

**Kumar Sahayaraju**, Dakshin Foundation, India, [kumar@dakshin.org](mailto:kumar@dakshin.org)

#### Chair/discussant

**E Haripriya**, Dakshin Foundation, India

#### Speakers

**Tanmay Wagh**, Dakshin Foundation, India

**Ahmad Furqon**, Indonesain Coastal Youth Union (Kesatuan Pelajar, Pemuda, Mahasiswa Pesisir Indonesia – KPPMPI), Indonesia

**Ebziba Buella**, Dakshin Foundation, India

**Kumar Sahayaraju**, Dakshin Foundation / Coastal Students Cultural Forum, India

#### Synopsis

The global fisheries landscape is undergoing rapid transformation, with profound implications for future generations of small-scale fishers. Coastal communities are facing multiple pressures arising from infrastructure development, climate change, and declining livelihood security. Among those most affected are youth, whose voices remain largely absent from decision-making spaces that shape the future of fisheries and coastal communities.

This special session will examine the role of youth in shaping the discourse on conservation, governance, and livelihood security in small-scale fisheries. While coastal youth today are acutely aware of the challenges facing the fishing occupation, their perspectives are seldom recognized within formal governance processes. Drawing on experiences from the Global South, the session will highlight how youth can be meaningfully engaged as knowledge holders, storytellers, changemakers, and future leaders. The session will primarily present case studies from India and Indonesia.

In India, Dakshin Foundation's Ocean Stewards and Coastal Grassroots Fellowship initiatives work with youth from small-scale fishing families to strengthen their capacity to participate

in local fisheries governance. These initiatives bridge the gap between conventional science and the traditional knowledge systems held by fishing communities, equipping youth with skills in participatory research, communication, photography, and marine resource monitoring. In the context of the growing emphasis on the blue economy, these youth are increasingly recognizing the urgency of voicing their concerns and engaging with governance processes affecting their livelihoods.

Another example from India is the Coastal Students Cultural Forum (CSCF), a coastal youth and student-led organization that engages coastal youth and students by creating platforms for learning, cultural exchange, and dialogue on coastal livelihoods, marine ecosystems, and community heritage. Through workshops, discussions, cultural programmes, and awareness activities, the forum encourages youth from fishing communities and coastal regions to engage with issues related to fisheries, ocean stewardship, climate change, and social development.

Indonesia, the Indonesian Traditional Fishers' Union (KNTI) has established a dedicated autonomous body, the Indonesian Coastal Youth Union (Kesatuan Pelajar, Pemuda, Mahasiswa Pesisir Indonesia – KPPMPI), to focus on coastal youth issues. The organisation engages in activities such as mangrove plantation, capacity-building programmes, and the development of youth-led fisheries enterprises with a goal to empower youth and strengthen their role in fisheries and coastal conservation.

Anchored within the *Young Futures* theme, the session invites reflections on how youth envision the future of oceans, fisheries, coasts, and their communities. It aims to explore pathways through which youth aspirations can be realised and to highlight the role of intergenerational dialogue in fostering resilient and inclusive futures for small-scale fisheries.

The session will begin with an introduction by the moderator, followed by introductions of the panel members. The moderator will guide the discussion by posing questions that allow the panellists to present their experiences and perspectives. An interactive question-and-answer session with the audience will follow this. The moderator will conclude the session with a summary of the key insights.

## Session 2.6 – Monday, April 27

### Renewing the vision of small-scale fisheries in Latin America and the Caribbean: Socio-environmental and economic contributions

#### Organizers

**Silvia Salas**, Cinvestav Unidad Merida, Mexico, [ssalas@cinvestav.mx](mailto:ssalas@cinvestav.mx)

#### Discussant

**María José Barragán Paladines**, Charles Darwin Foundation, Galápagos, Ecuador, [mariajose.barragan@fcdarwin.org.ec](mailto:mariajose.barragan@fcdarwin.org.ec)

#### Speakers

**Silvia Salas**, Cinvestav Unidad Mérida, México  
*Multidimensional contribution of small-scale fisheries to society: Contrasting case studies in Mexico.*

**Alesa Flores Guzman**, Comunidad y Biodiversidad AC, México  
*Solutions from the Sea: Innovation and Resilience in Mexico, Latin American and Caribbean Fishing Communities*

**César Viteri Mejía**, Charles Darwin Foundation, Galápagos, Ecuador  
*Contribution of Artisanal fisheries to essential food and nutrition on the Galapagos Islands: priority areas for policy and sustainability*

**Lina M. Saavedra-Díaz**, Universidad del Magdalena, Colombia  
*Collective Fisheries Governance in Colombia: Lessons for Lasting Resilience and Sustainability in Latin America and the Caribbean Region*

**Sarah Oliveira**, Universidade Federal do Rio Grande, Brazil  
*From Marginalization to Co-construction: Conflict Transformation Experiences in SSF in Brazil*

**Ingrid Cabral Machado**, Instituto de Pesca da Secretaria de Agricultura e Abastecimento do Estado de São Paulo, Brazil  
*Building Blue Justice in Small-scale fishery territory*

**Minerva Arce-Ibarra**, Universidad Autónoma de Sinaloa, Mexico  
*Artisanal fishing in Mesoamerica: Regenerative wisdom, just harmony and young futures*

## Synopsis

Under the context of increasing global changes, including economic, social, environmental affairs at different scales, we no longer can luxuriate in isolation to address the problems associated with fishing communities and the small-scale fishing sector. In this panel we have the opportunities of bringing case studies from the Latin American and the Caribbean region to portrait the challenges and opportunities people are facing, but about how small-scale fisheries can contribute to healthy oceans and healthy communities, and hence to ensure viable and sustainable fisheries. Members of TBTI hubs in the region of Latin America exchange experiences about how collective efforts by fishing communities have demonstrated to be vital for preserving resources and ecosystems, offering invaluable lessons in self-governance and resilience. Hence, we want to stress the relevant contribution of SSF in alignment with the SSF Voluntary Guidelines and the Sustainable development goals of agenda 2030. We discuss their contributions above and below water, including the input to four of the pillars that ensure food security and nutrition for coastal people, income, foreign exchange, among others. We also deliberate about the increasing challenges that SSF have been facing and how people integrate territorial actions, adopt technology, and create solutions to face such trials. We highlight the relevance of undertaking transdisciplinary approaches to connect knowledge and people through networking, and co-creation of solutions for resilient communities. We need to generate a new vision regarding SSF and facilitate co-construction of solutions, transdisciplinary research and enduring effort to improve the conditions SSF are currently facing.

## Sessions 2.6: Individual abstracts

### **Multidimensional contribution of small-scale fisheries to society: Contrasting case studies in Mexico.**

**Salas, Silvia**

Cinvestav Merida, Mexico

**Germán Ponce, Francisco Arreguin Sanchez**, CICIMAR IPN, Mexico

**Salvador Rodríguez Van Dick**, Niapraja, Mexico

**Miguel A. Cabrera**, Cinvestav Merida, Mexico

**Adrian Nuñez**, ECOSSUR Campeche, Mexico

**José Otilio Avendaño-Alvarez**, IMIPAS, Mexico

**Nadia C. Olivares Bañuelos**, EDF, Mexico

**Lorena Rocha-Tejada, Francisco Fernández Rivera-Melo**, Comunidad y Biodiversidad, Mexico

In the face of global challenges, like habitat degradation and over-exploitation of resources, it is crucial to emphasize the significance of small-scale fisheries in delivering co-benefits to society by contributing to move towards the Sustainable Development Goals (SDGs). In this paper, we use various sources of information, in addition to expert elicitation, to contrast two fisheries in the Pacific region and Gulf of Mexico, using a rapid appraisal to assess the contribution of small-scale fisheries to the Sustainable Development Goals of the Agenda 2030. The potential and actual contribution of SSF to several of the SDG targets at different scales was evident and the benefits provided to society are highlighted. The characteristics of the SSF, the governance system, the size of the group of stakeholders, and the type of resources targeted seem to play a role in better scoring for different targets. Several of the targets identified may appear contrasting at some stages in both cases, but it was also evident that the management system can facilitate, in a less paved way, promotion and implementation of the SDGs. This approach offers information for policymakers to fill existing gaps and define proprietary actions to move towards the expected outcomes and support sustainable and viable fisheries.

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## **Solutions from the Sea: Innovation and Resilience in Mexico, Latin American and Caribbean Fishing Communities**

**Flores, Alesa**

Comunidad y Biodiversidad, Mexico

**Francisco Fernández Rivera-Melo, Stuart Fulton, Gabriela A. Cuevas, Neyra Solano**

Comunidad y Biodiversidad, Mexico

Small-scale fisheries are essential for thousands of people in coastal communities across Mexico, Latin America and the Caribbean, sustaining livelihoods, cultural identity, and food security. However, they face increasing challenges: overexploitation of species, climate change, unequal access to financial and technical resources, market fluctuations, and limited participation in decision-making processes. In response, fishing communities have developed solutions that strengthen their resilience and promote the sustainable management of marine resources. Through the *PescaData* platform, we have documented and analyzed 331 solutions, assessing their contribution to the Sustainable Development Goals (SDGs), FAO Guidelines, and KMGBF agendas. Key findings include: 147 solutions related to sustainable fishing; 142 documented by women and 51 by youth; main themes comprising conservation strategies, pollution reduction, biological monitoring, and livelihood diversification; and 72 implemented within Marine Protected Areas. These solutions mainly contribute to SDG 5 (78), SDG 8 (114) and SDG 14 (195), benefiting over 60,000 people. Nevertheless, replicating these community-based solutions faces structural challenges: digital gaps, insufficient infrastructure, technical limitations, lack of financing, bureaucracy, illegal fishing, and limited market

participation in sustainability costs. Scaling them up requires greater —traditional and alternative— investment, technical support, fair financing, and collaborative governance. Experience in Mexico, Latin America and the Caribbean shows that with community leadership and cross-sector partnerships, it is possible to advance toward more equitable, resilient, and sustainable fisheries management.

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### **Contribution of Artisanal fisheries to essential food and nutrition on the Galapagos Islands: priority areas for policy and sustainability**

**Viteri Mejía, César**

Charles Darwin Foundation, Galapagos, Ecuador, [cesar.viteri@fcdarwin.org.ec](mailto:cesar.viteri@fcdarwin.org.ec)

**Stefan Partelow**, University of Bonn, Germany

**Lotta C. Kluger**, Kiel University, Germany

**Carlos Silva**, Charles Darwin Foundation, Galapagos, Ecuador / Herriot Watt University

**Michael Tanner**, Charles Darwin Foundation, Galapagos, Ecuador / University of Hamburg,  
Germany

**Olivia Estes, Gabriela Rodríguez, María José Barragán-Paladines**

Charles Darwin Foundation, Galapagos, Ecuador

This study analyses the contribution of artisanal fisheries to the four pillars of food security and nutrition (FSN) in the Galapagos archipelago: availability, accessibility, use, and stability. Artisanal fisheries consistently supply enough fish to meet the demand, even with a significant portion of seafood being exported. Local options of food from the sea satisfy nearly all tourist needs, except for imported, non-local seafood products requested by visitors. Artisanal fisheries demonstrated remarkable resilience to external shocks, including from COVID-19 crisis. Yet, there are also other vulnerabilities. International market demands and tourism continue to influence the allocation of fishing effort. These demands can weaken local food availability of staple fishery products, for example if exports are prioritized, how these can affect fish populations and undermine nutrition available to local people. Physical access to seafood products in Galapagos is jeopardized by numerous factors. These include the lack of infrastructure such as adequate fishing landing sites, fish handling and value-adding facilities, as well as the adoption of fisheries management-driven policies that aim to conserve some species while ignoring their essential contribution to local food security. Seafood use is impacted by unmet basic needs, such as the lack of clean water and proper waste management systems, hindering adequate seafood handling and consumption. This has cascading effects on the quality of local diets, contributing to increased overweight and obesity rates. We suggest and discuss four strategic policy guidelines to strengthen food security and nutrition in the Galapagos, with the ambition to better align food security and nutrition concerns with local livelihood needs and conservation through governance.

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## **Collective Fisheries Governance in Colombia: Lessons for Lasting Resilience and Sustainability in Latin America and the Caribbean region**

**Saavedra-Díaz, Lina M.**

Universidad del Magdalena, Colombia, [lsaavedra@unimagdalena.edu.co](mailto:lsaavedra@unimagdalena.edu.co)

**María Claudia Díazgranados**, Conservation International, Colombia

Artisanal and subsistence fisheries across Latin America and the Caribbean (LAC) are critically threatened by resource overexploitation, environmental degradation, and weak governance structures often marked by centralized authority that impair sustainable management and equitable community participation. Nonetheless, collective efforts by fishing communities have demonstrated to be vital for conserving resources and ecosystems, offering invaluable lessons in self-governance and resilience. This study analyzes six cases from Colombia, documented in the book “Communities with Voice. The Future of Artisanal Fishing in Latin America and the Caribbean”, which compiles fourteen LAC regional case studies. The Colombian cases exemplify community-led transitions toward adaptive co-management spanning marine, coastal, and inland aquatic environments. Common strategies include participatory zoning, temporal and spatial closures, size-limit regulations, community-based biological and CPUE monitoring, formalized agreements, integrated territorial actions, value-chain development, and marine spatial planning. Based on the understanding of the complexity of Socioecological Systems (SSE) and the application of the eight principles postulated by Ostrom, this assessment reveals solutions to the crisis faced by fishery resources and their users. The outcomes span stock recoveries, organizational strengthening, formal recognition of governance frameworks, and enhanced territorial planning. Crucially, these cases demonstrate that sustained community efforts—more than government interventions—are decisive in maintaining fisheries and ecosystems. They also highlight that communities possess critical knowledge and resilience that can inform and guide institutional reforms, emphasizing the urgent need for legal acknowledgment of community governance, sustained capacity-building investments, and the institutionalization of co-management frameworks to scale and embed these locally grounded successes.

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## **From Marginalization to Co-construction: Conflict Transformation Experiences in SSF in Brazil**

**de Oliveira, Sarah**

Universidade Federal do Rio Grande, Brazil, [sarah@lexbr.net](mailto:sarah@lexbr.net)

**Ingrid Cabral Machado**, Instituto de Pesca, Brazil

**Mayra Jankowsky**, NOVA University, Portugal

**Ederson Silva Pinto** Universidade Federal do Rio Grande, Brazil

**Gustavo Adolfo Marconcin Faria**, Universidade Federal de Santa Catarina, Brazil

Small-scale fisheries, although vital for food security and income generation, remain invisible. This results from exclusionary and oppressive management structures, which perpetuate injustices in the sector. In Brazil, blue injustice is exacerbated by the absence of official data and effective governance, where organizations fail to establish efficient inter-institutional and cross-scalar processes, face economic and political pressures, and are hindered by language barriers and the lack of recognition of local knowledge. Thus, experiences aimed at transforming SSF conflicts, conducted through action-research processes that are transdisciplinary and co-constructed, offer contributions to justice in the sector. We analyzed experiences guided by the right of access to fishery resources and markets. The experience in the Baixada Santista region (São Paulo) was marked by the co-construction of inclusive governance across 24 fishing communities, overlapping with the largest port in Latin America. Additionally, the study of four fishing communities in the South, Southeast, and North of Brazil was based on a transdisciplinary approach focused on promoting the formalization of post-harvest activities. The pursuit of justice was supported by three pillars: strengthening agency, collective action, and governance. Among the challenges, we highlight the need to overcome technical bias and the dominance of academic knowledge in decision-making spaces, which reveal institutional limitations in recognizing the right to participation. The repertoire of knowledge and practices systematized in collaborative spaces provides pathways to overcome conflicts in socio-ecological systems and to build a viable and sustainable future.

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### **Building Blue Justice in Small-scale fishery territory**

**Cabral Machado; Ingrid**

Instituto de Pesca, Brazil

**Mayra Jankowsky**, NOVA University, Portugal

Small-scale fisheries face multiple conflicts that have come to characterize a scenario of blue injustice. Our study was conducted in a fishing territory affected by ocean grabbing driven by port expansion. To address this issue, we adopted a transdisciplinary co-construction approach, organizing workshops with fishers to examine the consequences of the overlap between fishing and port territories, and conducting interviews with institutional actors to explore their perceptions of the conflict and their roles in local governance. The findings revealed cross-scale institutional shortcomings that produce a governance vacuum in the territory, including the absence of a dedicated governance body. Building on these results, we convened stakeholders in a scenario workshop to design governance-oriented strategies for transforming this reality. The scenario identified four priority spheres—Negotiation Body, Environmental Licensing, Social Participation, and Regulation of port activities—considered decisive for transformation, and for which specific strategies were developed with the aim of co-constructing an action plan. However, this goal was undermined by the lack of engagement from institutional actors and the difficulty in establishing a formalized governance body to mediate the conflict. In response, efforts shifted toward strengthening

fishers' participation as a pathway to enabling a future governance body. Through this process, we observed important gains, including increased recognition of fishing communities affected by the port and greater engagement among fishers. We also noted that all actors need literacy to support the plural governance of the territory, grounded in the recognition of diverse knowledge systems and interests.

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### **Artisanal fishing in Mesoamerica: Regenerative wisdom, just harmony and young futures**

**Arce-Ibarra, Minerva**

Universidad Autónoma de Sinaloa, Mexico, [arwenypepper@gmail.com](mailto:arwenypepper@gmail.com)

**Martín Correa-Arce**, Universidad Autónoma Comunal de Oaxaca, Mexico

During the last three decades, ecosystem health and the livelihoods which it sustains have gradually diminished throughout the country of Mexico. Despite this, according to the literature, regions with a higher number of native populations have their ecosystems more preserved than those with a predominant mestizo population. This study aims to identify the dynamics of small scale-fishing, related to regenerative wisdom, just harmony and young futures, to comprehend the roles which they play in sustaining Zapotec and Maya livelihoods in two areas of Mesoamerica. We used a mixed methods approach including social surveys as well as anthropology-based participatory observation. Our data were analyzed and compared with the description made by native authors such as Floriberto Diaz, Jaime Luna and Aura Cumes regarding the hidden roles of social practices strengthening social fabric. On regenerative wisdom, our results demonstrate that shared responsibilities such as the Mayan "Kanan kaax", an ancient task of caring for life in local territories that involves casting a deep glance at the different components of ecosystems to actively restore them, are crucial to both having an updated diagnose of ecosystem health and teaching the young commoners the needs and risks of such environments. Likewise, communal feasting is important, for it contributes to maintaining awareness of the state of the resources needed to elaborate the traditional recipes. Regarding just harmony, it is also in daily life where we found respect, solidarity and equity, such as when the catch of fishing expeditions are shared among the participants, a practice found both in Zapotec and Maya communities, even though they are from separate linguistic families and their territories being almost 1000 km apart. Lastly, young community members have been undertaking leading roles in revitalizing cultural practices, and highlighting the importance of ancient knowledge, such as the use of mother tongues, by creating social media content which is consumed by audiences from all ages. Our study concludes that to maintain ecosystem health in Mesoamerica, all of the strings which weave the social fabric on cultural-specific territories must be taken care of.

Session 3.1 – Tuesday, April 28  
&  
Session 5.1 – Wednesday, April 29

Mapping the regenerative wisdom of small-scale fisheries through the  
lenses of small and dried fish

Organizers

Derek Johnson, University of Manitoba, Canada, [derek.johnson@umanitoba.ca](mailto:derek.johnson@umanitoba.ca)

Mohammed Anas Shoebullah Khan, University of Manitoba, Canada,  
[anakhan.law@gmail.com](mailto:anakhan.law@gmail.com)

Chair

Maarten Bavinck, University of Amsterdam, Netherlands

Speakers

Part 1: Mapping regenerative economies through small and dried fish in Asia

Kyoko Kusakabe, Asian Institute of Technology, Thailand

*Mapping gendered social economies in the Dried Fish Matters project*

Dilanthy Korlagama, Ruhuna University, Sri Lanka

*Restoring harmony and fostering regeneration through inclusive governance of the dried fish sector in Sri Lanka*

Wae Win Khaing, University of Manitoba, Canada

*Dried fish in Burmese migrants' survival strategies in Thailand*

Mohammed Anas Shoebullah Khan, University of Manitoba, Canada

*Human rights, nutrition security, and climate resilience in Gujarat's small dried fish value chains*

Sonal Sethia & Abhilasha Sharma, Dakshin Foundation, India

*Small fish to the rescue! Strengthening systemic resilience of small-scale fishing communities in Maharashtra, India*

Amalendu Jyotishi, Azim Premji University, India

*Small dried fish and environmental change in Karnataka, India*

## Speakers

### Part 2: Mapping regenerative economies through small and dried fish in Asia and Africa

**Matthew Pfluam**, University of Bergen, Norway

*Integrating human rights into mass balance scenario planning for Lake Victoria*

**Paul van Zwieten**, Wageningen University and Research, The Netherland

*Participation of local fishers for scientific data collection in Lake Turkana, Kenya: Research and Policy Implications*

**Jeppe Kolding**, University of Bergen, Norway

*Policy incoherence and the small-scale small fish fisheries on Lake Victoria*

**Ragnhild Overå**, University of Bergen, Norway

*Interdisciplinary collaboration to support technical innovation for Ghanaian small-scale fish processors*

**Derek Johnson**, University of Manitoba, Canada

*Concluding remarks: A small regenerative ecosystem of projects on small and dried fish, food, and climate resilience*

## Synopsis

In this linked set of panels, we use two categories of products of fish products, small and dried fish, to show the regenerative wisdom of small-scale fisheries. These products embody the multiple values that SSF generate societally. Even more, small fish and dried fish have regenerative potential for small-scale fisheries. By this, we mean that through supporting to small-scale fisheries to produce these products well, the products may be vehicles for the realization of social goods such as enhanced population health, climate resilience, employment, and value addition.

The line between these present and potentially greater future benefits, however, is not linear. In our panels, we chart the ways in which understanding enhancing the regenerative values of small-scale fisheries requires conceptual and methodological care to contend with complexity, ambiguity, and uncertainty.

The research on which we report comes from a small ecosystem of projects that link a wide range of researchers and practitioners across Africa, Asia, Europe, and North America. We lay out that web of collaboration to start our first panel and then present, in sequence, research from Dried Fish Matters (DFM), Small Fish for Food (SF4F), and the Reimagining Food Systems – Small Fish Climate Change (RFS-SFCC) projects. The panels conclude with a brief comparative reflection on the innovations, challenges, and promise of the collective work that the sister projects represent as an entry point into a final discussion.

## Sessions 3.1 & 5.1: Individual abstracts

### Part 1:

#### Mapping regenerative economies through small and dried fish in Asia

##### Mapping gendered social economies in the Dried Fish Matters project

**Kusakabe, Kyoko**

Asian Institute of Technology, Thailand

This presentation provides a theoretical introduction to the panel by outlining the key analytical framework that runs through the various cases we present. The whole project on Dried Fish Matters, to which all the panelists in the first panel are linked, explored how the social economies of dried fish are constituted from a feminist perspective. It explored the economy's embeddedness in gendered social relations and how the intertwining of women's reproductive and productive activities has shaped the value and meaning of dried fish production and consumption. We consider value not only economically but also in cultural and social dimensions. We take a social well-being approach that enables us to understand the political considerations shaping how people produce, exchange, and consume dried fish. This introductory presentation will share the basic thinking and methodology that the Dried Fish Matters Project has adopted in South and Southeast Asia.

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##### Restoring harmony and fostering regeneration through inclusive governance of the dried fish sector in Sri Lanka

**Koralagama, Dilanthi**

Ruhuna University, Sri Lanka

Fragmentation and informality of dried fish production and trading have been understood as a consequence of structural neglect and policy gaps within the fisheries sector. Unlike export-oriented or industrial fisheries, dried fish is often perceived as a low-value activity and therefore remains absent from national fisheries strategies, subsidy schemes, and regulatory frameworks. Lack of well documented policies has allowed the sector to operate informally, without institutional support, quality standards, or mechanisms for collective bargaining. The absence of governance structures leaves small-scale dried fish producers and traders vulnerable to exploitation by intermediaries, while their contributions to food security, local nutrition, and rural employment remain largely invisible in policy discourse. Moreover, regeneration is also constrained by this policy vacuum. Without governance support, producers have limited access to technologies such as solar dryers, waste recycling

systems, or quality assurance processes that could make dried fish production more sustainable and resilient. Therefore, the political economy approach will be applied to highlight how policy neglect, institutional invisibility, and unequal power relations perpetuate fragmentation in the dried fish sector, while also pointing to the need for reforms that recognize its socio-economic significance. Hence, it is worthy to conclude dried fish industry as a critical site for policy intervention and institutional reform that may restore social harmony by empowering small-scale actors, and foster regeneration by embedding sustainable, community-driven practices into governance frameworks.

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### **Dried fish in Burmese migrants' survival strategies in Thailand**

**Khaing, Wae Win**

University of Manitoba, Canada

**Derek Johnson**, University of Manitoba, Canada

Dried fish in Thailand's fishing villages operates as a social infrastructure that underpins Myanmar migrant workers' survival, social reproduction, and everyday negotiations with the state. Produced by the same migrant workers who harvest export-oriented seafood, dried fish circulates primarily within Myanmar communities for subsistence, cultural maintenance, and cross-border support rather than entering the global commodity chain, making it a key site for examining alternative value systems and survival strategies.

Dried fish is situated in fishing trips, production and trading, and in the spaces where fish and people meet, on the edges of fish landing piers, in front of rented rooms where fish is spread to dry, at kitchens where dried fish is prepared, at tables where dried fish is eaten, and at events where dried fish is served. In these spaces, gendered labour, care, and community are organized through the dried fish commodity and these ties are made and remade every day. At the same time, Thai migration and labour policies criminalize migrants' independent businesses, bind workers to specific employers, and push women's dried-fish work into informal, home-based, and legally invisible forms, making these infrastructures simultaneously enabling and precarious.

Drawing on feminist commodity chain analysis (Dunaway 2014) and social reproduction theory (Douglass 2012; Bezanson and Luxton 2014), we conceptualize dried fish activities in the Thai fishing industry as a dried fish social infrastructure for social reproduction and women's dried fish operations as third places through which production, reproduction, and community-making intersect in the lives of Myanmar migrants (Oldenburg 1989; Klinenberg 2019; Hall 2020). By following dried fish across workplaces, homes, and community spaces, the presentation argues that dried fish is central to the reproduction of migrant households and communities, and that understanding it as social infrastructure and third place reveals who bears the hidden costs of sustaining labour in the global seafood economy.

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## Human rights, nutrition security, and climate resilience in Gujarat's small dried fish value chains

**Khan, Mohammed Anas Shoebullah**

University of Manitoba, Canada

**Tara Nair**, Work Fair and Free Foundation, India

Gujarat is one of India's leading marine fish-producing states and a major hub for dried fish processing. While the state is often perceived as predominantly vegetarian based on aggregate consumption patterns, there exist important regional pockets where fish, particularly affordable small dried fish, is an essential part of the diet. These foods are especially significant for vulnerable and marginalized communities including Scheduled Tribes and Scheduled Castes. Small dried fish value chains, such as those involving bombay duck and golden anchovy, are widely present in both coastal and hinterland markets across urban and rural Gujarat. This presentation draws on ongoing empirical research from the *Dried Fish Matters (DFM)* project and reflects on its transition into the *Reimagined Food Systems – Small Fish for Climate Change (SFCC)* project. Building on DFM's foundational work, SFCC focuses more closely on small dried fish value chains through the lenses of human rights, nutrition security, and climate resilience. Through empirical examples and emerging research designs, this presentation highlights the critical role of small dried fish in supporting nutrition security, livelihood improvement, and contributing to more inclusive and sustainable food systems in Gujarat.

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### Small fish to the rescue!

Strengthening systemic resilience of small-scale fishing communities in Maharashtra, India

**Sharma, Abhilasha**

Dakshin Foundation, India

**Meghana Teerthala**, Dakshin Foundation, India

**Haripriya E.**, Dakshin Foundation, India

**Sonal Sethia**, Dakshin Foundation, India

**Ishaan Khot**, University of Manitoba, Canada

**Naveen Namboothri**, Dakshin Foundation, India

**Derek Johnson**, University of Manitoba, Canada

Small pelagic species such as anchovies, mackerels, and sardines form the backbone of small-scale fisheries in Maharashtra. Despite their humble size, these fish underpin resilient socio-ecological systems by sustaining nutrition, livelihoods, and equitable value chains. Our work in the state shows that age-old markets and trade routes that have historically existed

and enabled communities to withstand external shocks were exemplified during the COVID-19 pandemic. Ecologically, small pelagics reproduce rapidly and demonstrate greater resilience to climate change and fishing pressure than other fish, allowing for sustainable harvests. On the market and consumption fronts, they are sold fresh during glut seasons and in dried and cured forms during lean periods, supporting food security and year-round livelihoods. However, these systems face mounting pressures from industrial fisheries, especially bottom trawling and purse seining. Furthermore, the diversion of small fish into the fishmeal and fish oil industries restricts supply to local markets and induces price volatility. Other stressors, such as coastal tourism, marginalize traditional fishers while eroding demand for small fish. To address these challenges, our work adopts a multi-pronged approach: analyzing transitions driven by tourism and industrial demand, mapping coastal-to-hinterland value chains, and facilitating the conception of community-led interventions through consultations. By strengthening resilience across four domains – wellbeing, nutrition, climate adaptation, and livelihoods- this work will produce critical knowledge to inform small fish-based pathways for equitable and climate-resilient small-scale fisheries in Maharashtra.

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### **Small dried fish and environmental change in Karnataka, India**

**Jyotishi, Amalendu**

Azim Premji University, India

**Prasanna S, Prashanth R, Ramachandra Bhatta**

Three major factors have serious implications on small marine dried fish production in Karnataka's context. These are climate and environment risk, technological risks, and market risks. Of these, while the first one is direct and evident, the other two are also indirectly related to climate factors and further impact the sustainability of dried fish economy. Erratic weather, climatic variation, environmental pollution, destructive fishing practices play a significant role in impacting fish availability for dried fish processing and consumption. The utilisation shift of dried and fresh fish for food to the fishmeal fish oil (FMFO) industry not only impacts the availability of fish but also leads to destructive fishing practices in the sea. Coastal erosion, species migrating to the deeper sea impacting small-scale fishers, changing ecological characteristics of estuary leading to specific species unavailability, marine debris including microplastic, market instability due to frequent weather shocks, increasing temperature impacting the shelf life are some of the key factors impacting dried fish. The impacts of such changes are different across genders. Women, who are numerous in dried fish processing and trading activities are disproportionately impacted by such environmental changes. In this context, our presentation on Karnataka will bring narratives and evidence from our survey analysis, interviews, and observations to impress on how environmental factors are impacting the small dried fish economy in coastal Karnataka. The study is a reflection and analysis based on our work on dried fish in Karnataka since the year 2020.

## Part 2:

### Mapping regenerative economies through small and dried fish in Asia and Africa

#### Integrating human rights into mass balance scenario planning for Lake Victoria

**Pfluam, Matthew**

University of Bergen, Norway

**Jeppe Kolding, Ragnhild Overå**

University of Bergen, Norway

Small-scale fishers (SSF) are vital contributors to global fish production and local livelihoods, employment, and food security. Despite their importance to global food security, diverse threats to livelihoods and food security from aquaculture, competition and commercialization, gender inequality, labor practices, regulation, environmental change, and aquaculture make them vulnerable. Questions remain over how and why diverse human rights-based issues related to gender, climate, labor, and security create heterogeneous outcomes on SSF actors and how these outcomes are shaped by regulation, value chain dynamics, and socio-political conditions. This study seeks to clarify the dynamics of SSF value chains in Lake Victoria by integrating dimensions neglected but critical human rights-based dimensions into modeling and scenario planning. It finds persistent issues with gender and inequality, high heterogeneity of experiences with human rights-based issues, and prioritization of income generation over non-economic dimensions like human rights, climate, and gender.

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#### Participation of local fishers for scientific data collection in Lake Turkana, Kenya: Research and policy implications

**van Zwieten, Paul**

Wageningen University and Research, The Netherlands

**Kevin Obiero**, Kenya Marine and Fisheries Research Institute, Kenya

**Jeppe Kolding**, University of Bergen, Norway

**Ken Irvine**, IHE Delft Institute for Water Education

**Maurice Obiero**, Kenya Marine and Fisheries Research Institute, Kenya

**John Malala**, Kenya Marine and Fisheries Research Institute, Kenya

**Jonathan Ekiru**, Kenya Marine and Fisheries Research Institute, Kenya

The potential of Lake Turkana's fishery resources remains largely unknown due to a lack of comprehensive understanding of the fishery and the volatile nature of the lake. Involving local fishermen in the data collection process of fisheries statistics has several benefits, including increased participation and ownership, improved data quality and resolution, insights in the fishing pattern, high cost-effectiveness, and potentially improved

relationships between researchers, managers, and local communities. To gain insights into the current fishery of Lake Turkana, 24 fishers from 12 different landing sites along the lake were trained to collect species and size data of their daily fishing operations for three days per week in the period from September 2023 to September 2024. The experimental fishing gave a wealth of new data and information on the fishery. The overall conclusion of the experimental fishery is that Lake Turkana fishers have developed a multispecies and gear fishery, where each gear catches a specific range of species and sizes, that all have markets mostly in dried form. The fishers appear to rapidly adapt to different and the rapidly changing conditions by harvesting a wide range of species and sizes in proportion to their productivity, a hallmark of balanced-harvesting. Current legislation and management objectives focused on limiting allowable sizes of fish and, by implication, species are in stark contrast to the realities on the lake, and there is a serious need for policy revision necessitating the recognition of the nature and goals of the existing fishery.

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### **Policy incoherence and the small-scale small fish fisheries on Lake Victoria**

**Kolding, Jeppe**

University of Bergen, Norway

**Paul van Zwieten**, Wageningen University and Research, The Netherlands

Overfishing has been an ever-recurrent theme for the past 100 years in Lake Victoria, East Africa. Tales of overfishing started already with the first European scientists studying the lake (Graham 1929) and have been persistently repeated ever since. The one observable metric used throughout was 'declining catches'. Still, total catches from Lake Victoria have been steadily increasing or stable for as long as records exist and now reach 1.3 million tons per year. The lake is without comparison the most studied and the best monitored of any of the Great African Lakes. It has been regularly surveyed in terms of both catches and the biomasses in the lake since the late 1950s through catch assessment surveys, frame surveys, experimental trawl surveys (1970 to 2006) and lately acoustic surveys (since 1999). After the initial decline in haplochromines before 1983, the commercial stock sizes of Nile perch, Nile tilapia, haplochromines and *Rastrineobola argentea* only have shown stable or increasing trends. There seems to be a mismatch between often ill-defined notions of overfishing and the observed population parameters. This paper explores the epistemology of the phrase 'overfishing' in the lake, and why misunderstandings around how fish stocks respond to fishing and the (mis)use of steady state assessment models and their basic assumptions have contributed to this persistent but mistaken notion of a fishery under threat.

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## **Interdisciplinary collaboration to support technical innovation for Ghanaian small-scale fish processors**

**Overå, Ragnhild**

University of Bergen, Norway

**Amy Atter**, CSIR-Food Research Institute, Ghana

Women's labour-intensive fish preservation practices are essential for transforming fish into storable, tradable commodities in low-income contexts where refrigeration is often unavailable. Their work supports access to affordable smoked and sun-dried fish in both rural and urban markets, contributing significantly to food security and nutrition. Despite this, small-scale fish processors face economic, social, and technical constraints that limit profitability and affect product quality, safety, and shelf life. Numerous development initiatives have introduced improved processing technologies to reduce post-harvest losses, health risks, and environmental impacts while enhancing product value. However, adoption rates remain low once external support ends. Processors often lack access to capital, hesitate to invest in costly equipment without reliable market demand, and face gender-specific barriers within their communities. This study argues for moving beyond "technological fix" approaches toward more holistic strategies that integrate local knowledge and address broader social, economic, cultural, institutional, and political constraints. Drawing on the experience of Ghana's CSIR-Food Research Institute, we examine the development and introduction of improved smoking ovens and drying racks. We analyze interactions between scientific and local knowledge and discuss how women's context-specific experiences can inform more effective and inclusive technology adoption to harness the generation of safe, nutritious and affordable fish products.

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**Concluding remarks:**

**A small regenerative ecosystem of projects on small and dried fish, food, and climate resilience**

**Derek Johnson**, University of Manitoba, Canada

## Session 3.3 – Tuesday, April 28

### Temporary closures

#### Organizer

**Anastasia Quintana**, Smithsonian Tropical Research Institute, Panama,  
[quintanaa@si.edu](mailto:quintanaa@si.edu)

#### Speakers

**Anastasia Quintana**, Smithsonian Tropical Research Institute, Panama

**Erendira Aceves Bueno**, University of Washington, USA

**Bonnie Basnett**, University of California Santa Barbara, USA

**Emilie Lindkvist**, Stockholm Resilience Centre, Sweden

**Jean Wencelius**, CRIOBE, France

**Amy Hudson Weaver**, Mar de Fondo, Mexico (*short talk*)

#### Discussant

**Marguerite Tiarui**, CRIOBE, France

#### Synopsis

International conservation efforts, including “30x30” – the goal to protect 30% of the land and sea by 2030 – have focused largely on permanent or long-term protection. These initiatives often rest on studies linking the effectiveness of marine protected areas to their longevity, as well as on pragmatic concerns that permanent boundaries are easier to enforce and monitor. Yet for many coastal communities who depend on small-scale fisheries for livelihoods, food security, and cultural identity, permanence is not always feasible, desirable, or just. Around the world, small-scale fisheries have relied on impermanence, using seasonal rules, rotational closures, and protected areas with defined expiration dates to balance ecological regeneration with continued access. These practices highlight a critical question: how should conservation practitioners think about temporary protection?

The international TEMPO project (Temporal Eco-Social Management and Productivity of the Oceans) is a five-year collaboration between four universities and two community partner organizations in Mexico and French Polynesia. Bringing together participatory ecological

monitoring, in-depth interviews, and cross-country comparative analysis, TEMPO investigates how temporal management strategies shape ecological outcomes, governance, and community well-being. In this special session, our team will present insights from a global systematic review of temporary protections alongside detailed case studies in Mexico and French Polynesia. Our findings offer four key takeaways. First, communities innovate diverse ways of incorporating time into management, reflecting deep social-ecological knowledge. Second, temporal protection expands climate-adaptive policy options and creates opportunities for stronger institutional fit. Third, temporary closures frequently open space for equity and legitimacy, supporting just harmony by mediating conflicts and fostering respect across different users and perspectives. Fourth, while periodic harvest may limit long-term ecological gains compared to permanent closure, it sustains intergenerational buy-in and ecological care — forms of regenerative wisdom embedded in cultural practice.

Finally, young fisheries leaders, students, and early-career researchers together have formed the background of TEMPO’s work. These “young futures” point to both continuity and change: valuing traditional practices of temporality while reimagining what fisheries could look like in 2050, in the face of climate change and global market shifts. By attending to youth voices, we ask how small-scale fisheries governance can be re-envisioned when future leaders articulate the futures they want.

By engaging fishers, NGOs, and policymakers, this session situates temporality as both a cultural practice and a governance innovation. Anchored in the Congress themes, we argue that recognizing temporality is essential for building resilient, just, and sustainable futures for small-scale fisheries worldwide.

## Session 3.6 – Tuesday, April 28

### The contribution of small-scale fisheries to the Sustainable Development Goals

#### Organizers & chairs

**Rachel Bitoun**, IRD, Espace-Dev Laboratory, France, [rachel.bitoun@ird.fr](mailto:rachel.bitoun@ird.fr)

**Nicole Franz**, Stanford, Center for Ocean Solutions, USA, [nicole.franz@stanford.edu](mailto:nicole.franz@stanford.edu)

#### Speakers

**Rachel Bitoun**, IRD, Espace-Dev Laboratory France

*Measuring small-scale fisheries' contributions to the Sustainable Development Goals: A new assessment method*

**Gretchen Stokes**, University of Florida, USA

*Inland fish and fisheries integral to achieving the Sustainable Development Goals*

**Marc Léopold**, IRD, AMURE Laboratory, France

*Trade-offs in the multidimensional contribution of marine small-scale fisheries to sustainable development*

**Md. Ruyel Miah**, University of Waterloo, Canada

*Governability of vulnerability to viability transitions in transboundary small-scale fisheries: a study on the Sundarbans*

#### Synopsis

Target 14.B of the Sustainable Development Goals (SDGs) emphasizes nations' responsibility to implement the SSF Guidelines, ensuring small-scale artisanal fishers have secure access to marine resources and markets. While important, this framing narrows the role of small-scale fisheries (SSFs) to SDG 14 (Life Below Water), overlooking their wider role across the 2030 Agenda. Evidence shows that, when managed sustainably, SSFs can support food security (SDG 2), decent work and economic growth (SDG 8), sustainable consumption and production (SDG 12), and Life on Land (SDG 15), in the context of inland SSFs. Yet, because SSFs are diverse, informal, and dispersed, their contributions are difficult to measure systematically. As a result, they are often unaccounted for or aggregated in national

reporting, perpetuating their marginalization and excluding them from debates on their potential as stewards of inland waters and marine environments.

This session brings together three research initiatives, which have helped bridge this gap by systematically documenting and analyzing the multidimensional contributions of SSFs to the SDGs: Illuminating Hidden Harvests initiative, Fish2Sustainability, and the InFish Research Network. Through case studies and comparative analysis, the initiatives provide evidence of SSFs' potential to accelerate SDGs progress and methods to measure and monitor their impacts. The session will feature national insights and two global syntheses, highlighting the contribution of both marine and inland fisheries to the SDGs.

## Session 4.1 – Tuesday, April 28

### Governance literacy: Advanced theory and applications of Interactive Governance

#### Organizers

**Chuenpagdee, Ratana**, Memorial University, Canada, [ratanac@mun.ca](mailto:ratanac@mun.ca)

**Svein Jentoft**, UiT – The Arctic University of Norway, Norway, [svein.jentoft@uit.no](mailto:svein.jentoft@uit.no)

#### Speakers

**Svein Jentoft**, UiT – The Arctic University of Norway, Norway

*Investigating power in interactive small-scale fisheries governance*

**Suvaluck Satumanatpan**, Mahidol University, Thailand

*Governance mismatch: Lessons from anchovy fisheries management in Thailand*

**Pearl Aljean Santacera**, University of the Philippines Visayas, Philippines

*Assessing the governability of closed fishing seasons for sardine fisheries in the Visayan Sea, Philippines*

**Jewel Das**, Leibniz Centre for Tropical Marine Research (ZMT) / U. of Bremen, Germany

*Interactive Governance and Blue (In)Justice: Pathways for just transformation in the Blue Economy of coastal islands*

**Ranju Ghimire**, TBTI Nepal, Nepal

*'Blue Justice' for inland small-scale fisheries in Nepal: Relevance, challenges, and opportunities*

**Milena Arias Schreiber**, World Maritime University, Sweden

*How did these women end up here? The transition of governance modes in the on-foot shellfish fishery in Galicia, Spain*

**Brennan Lowery**, St. Thomas University, Canada

*Social innovation for just and sustainable small-scale fisheries*

## Discussants

**Md. Ruyel Miah**, University of Waterloo, Canada

**Mohammed Anas Shoebullah Khan**, University of Manitoba, Canada

**Jaime Ramon Bruquetas**, Universidad de La Laguna, Spain

**Evan Andrews**, Memorial University, Canada

## Synopsis

Since the publication of the 'Fish for Life' book in 2005 (Kooiman et al., eds.), numerous efforts have been made to advance the Interactive Governance (IG) theory and its applications. Some of these efforts have culminated into the 2013 book (Bavinck et al., eds. Springer, Mare Series), focusing on governability, and the 2015 book (Jentoft & Chuenpagdee, eds. MARE Series Vol. 13), which emphasized the application of IG theory on small-scale fisheries. The literature on IG shows that the theory has been applied globally and widely, even beyond fisheries and oceans. To help celebrate the 20 years since the publication of the Fish for Life book, and in recognition of the important work by IG scholars around the world, it is deemed opportune to bring them together in a publication that highlights the progress made in theorizing IG, to reflect on lessons learned from various applications, to identify and fill theoretical and application gaps, and to project areas and spheres where IG theory can have the most real-world impact. But most of all, the book aims to enhance understanding about governance and the need for governance literacy, in order to fulfill global goals like the Sustainable Development Goals (SDGs), just and equitable Blue Economy and sustainable small-scale fisheries. The session is the presentation of the book by the editors and the authors.

### How does this paper contribute or is related to one or more of the congress themes?

Interactive Governance Theory is a key analytical tool that can be used to identify challenges and opportunities in the governance system to promote **Just Harmony** for small-scale fisheries as they face pressure from other land and ocean-based activities. The session presents chapters from the new book that apply the IG theory in various contexts, offering lessons for the audience to reflect on.

## Session 4.1 Individual abstracts

### Investigating power in interactive small-scale fisheries governance

**Jentoft, Svein**

UiT – The Arctic University of Norway, Norway, [svein.jentoft@uit.no](mailto:svein.jentoft@uit.no)

**Ratana Chuenpagdee**, Memorial University, Canada

It is generally understood that in small-scale fisheries, as in society, those who govern should have the power they need to do so. However, the question is who these people are, if they should have power, how they acquire it, and how they are using it. These questions are especially prominent when power, along with authority, is supposed to be shared among stakeholders and government, as in modern governance. Here, as in other governance systems, power often works in mysterious ways: it is hard to locate and observe *in vivo*. Where then should we, as researchers and practitioners, look for power, and what exactly should we look for and look at? This chapter explores the merits of Interactive Governance, as first coined by Jan Kooiman (2003), as a lens for researching the complexity and functioning of power, both as enabling and restricting factors, in improving the governability of small-scale fisheries governance, particularly in the context of the implementation of the SSF Guidelines.

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**Governance mismatch:  
Lessons from anchovy fisheries management in Thailand**

**Satumanatpan, Suvaluck**

Mahidol University, Thailand, [suvaluck.nat@mahidol.ac.th](mailto:suvaluck.nat@mahidol.ac.th)

**Sansanee Wangvoralak**, Kasetsart University, Thailand

**Kungwan Juntarashote**, TBTI Global Foundation, Thailand

**Ratana Chuenpagdee**, Memorial University, Canada

With ongoing concerns about resource overexploitation and unsustainability, countries around the world are obliged to develop fisheries policies that are in compliance with international instruments, such as the FAO Code of Conduct for Responsible Fisheries. These policies should also align with global agreements, particularly those related to conservation and sustainability. Often, this requires countries to reform policy, which may or may not correspond well with the local fisheries context. This is the case in Thailand, with the Royal Ordinance on Fisheries (2015), a major legislative reform driven largely by the European Union's Yellow Card. In an attempt to address illegal, unreported, and unregulated fisheries, the instrument contains some articles that seem to contradict the government's mandate to ensure sustainable utilization of fisheries resources and support the viable livelihood of small-scale fisheries. This mismatch creates governability challenges which need to be understood before they can be overcome. This chapter uses interactive governance theory to examine the underlying causes of these challenges, using anchovy fisheries as a case study. Specifically, we ask why anchovy fisheries are heavily scrutinized by law, despite their historical and cultural importance, as well as their contribution to food security, jobs, and livelihoods. Based on a time-series analysis of official catch statistics between 2012 to 2023, we question the rationale for imposing strict regulations on these fisheries, arguing against the government's claim that they are unsustainable and destructive, and explore possible explanations for the predisposed treatment of anchovy fisheries in Thailand. We conclude

with a discussion about the implications of these governance mismatches related to scale issues and the rapid change in regulations, as well as offer some pathways forward.

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### **Assessing governability of closed fishing seasons for sardine fisheries in the Visayan Sea, Philippines**

**Ferrer, Alice Joan G.**

University of the Philippines Visayas, Philippines / TBTI Philippines

**Harold M. Monteclaro, Pearl Aljean Santacera\***, [pssantacera@up.edu.ph](mailto:pssantacera@up.edu.ph),

University of the Philippines Visayas, Philippines

**Paul Joseph B. Ramirez**, University of the Philippines Los Baños, Philippines

Concerns about declining fish catches often necessitate conservation measures such as fishery closures. Such is the case for sardine fisheries in the Visayan Sea and adjoining waters in the central Philippines, wherein a fishing closure during the spawning season (from 15 November to 15 February each year) was updated for a renewed implementation in 2013. Studies have shown that the fishing closure has both positive and negative impacts on the livelihoods of those dependent on the fishery and that its effectiveness could be influenced by several governance challenges. Following the governability framework, this chapter assesses factors that enable or inhibit the implementation of the sardine fishery closure in the Visayan Sea. First, it describes the inherent characteristics of the natural and social systems associated with the sardine fisheries. It also examines questions related to the performance of the governing institutions, the responsiveness of the existing co-governance mode, and other limitations in governability. Data collected in 2017 were re-examined for this study, supplemented by available official statistics and findings from recent studies. This study contributes to discussions about improving marine conservation and protection efforts in the Philippines and elsewhere, as countries around the world aim to achieve the 30x30 Target of the Global Biodiversity Framework. The use of the governability framework is valuable for identifying areas where governance can be improved and how to move towards the conservation target and goals without affecting small-scale fisheries and their communities.

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### **Interactive Governance and Blue (In)Justice: Pathways for just transformation in the Blue Economy of coastal islands**

**Das, Jewel**

Leibniz Centre for Tropical Marine Research (ZMT), Germany / University of Bremen,  
Germany, [jewelrny@gmail.com](mailto:jewelrny@gmail.com)

**Maheshwaran Govender**, Leibniz Centre for Tropical Marine Research (ZMT), Germany

**Marion Glaser**, University of Bremen, Germany

Recent Blue Economy initiatives have driven coastal megaprojects such as ports, energy plants, and military bases, often on strategically located coastal islands in the Global South. These islands are sensitive systems where external projects can disrupt key functions, raising equity and justice issues for local stakeholders, particularly small-scale fishers. Neglecting local priorities risks undermining sustainability. This chapter explores how the theory of interactive governance can facilitate just transformation pathways associated with megaprojects in coastal islands where people largely depend on small-scale fisheries for their livelihoods. Drawing on a case study from the Southeast coast of Bangladesh, we examine how Blue (In)Justice expresses itself in three interactive governance orders, and how the principles of justice and equity can foster just transformation in the context of coastal industrialization. Improving governance in the context of coastal islands carries specific challenges such as limited institutional capacity, resource constraints, and ingrained power imbalances. We suggest that by embedding a commitment to justice and equity in the institutions and processes between the governing system and actors at multiple orders of governance, just transformation comes within reach. We demonstrate how implementing three justice types (recognition, procedural, and distributional) across governance orders can support the development of resilient and sustainable development pathways on coastal islands.

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**‘Blue Justice’ for inland small-scale fisheries in Nepal:  
Relevance, challenges, and opportunities**

**Ghimire, Ranju**

TBTI Nepal, [ranjughimire155@gmail.com](mailto:ranjughimire155@gmail.com)

**Tek Bahadur Gurung**, Lutheran World Relief, Corus International, Nepal / TBTI Nepal

The term “Blue Justice” was coined in 2018 during the 3<sup>rd</sup> World Small-Scale Fisheries Congress. Since then, academic engagement with the concept has grown rapidly. To date, Blue Justice has mostly been explored in marine contexts. In Nepal, small-scale fishers have long engaged in inland capture fisheries for sustenance and livelihoods. Inland fisheries are not only culturally important, but contribute substantially to human well-being, nutrition, and local economies. Yet, they remain underrepresented in national policymaking and governance compared with commercial aquaculture and conservation initiatives, which have priority over community rights. This chapter examines the relevance of Blue Justice for small-scale fisheries in Nepal and its inland fisheries context. The chapter examines key aspects of Blue Justice in inland fisheries based on a review of publications and online search for context related to the SSF Guidelines and Blue Justice principles. It identifies the extent to which small-scale fisheries are recognized for cultural heritage, livelihood opportunities, and factors impeding governance. One of the key governability challenges is a fragmented governance system, which limits the space for pursuing human-rights-based Blue Justice

initiatives. This chapter stresses that while inland small-scale fisheries have immense potential to contribute to food and nutrition security, livelihoods, and employment, they have been the most ignored sector and are at risk of being displaced. This threat applies not only to landlocked countries like Nepal, but also countries dominated by marine fisheries.

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### **How did these women end up here?**

#### **The transition of governance modes in the on-foot shellfish fishery in Galicia, Spain**

**Schreiber, Milena Arias**

World Maritime University, Sweden, [mas@wmu.se](mailto:mas@wmu.se)

The on-foot shellfish fishery in Galicia (northwestern Spain) is a small-scale fishery in which shellfish is dug out from intertidal coastal waters, predominantly by women. This women's fishery has been a traditional practice for centuries, shaping the socio-economic and cultural development of the region. Yet, by the mid 2020s, after nearly three decades of relative prosperity, shellfish landings are plummeting, the number of fishers is decreasing rapidly, and women's participation in the fishery and decision-making is lower than any time in the 21<sup>st</sup> century. Furthermore, women believe that their fishery is facing an unprecedented crisis and a distressing future. A question has been raised about the effectiveness of governance of the Galician on-foot shellfish fishery in light of its failure to halt this decline. Based on secondary documentary sources, interviews and participatory observation, this chapter analyzes the trajectory of governance modes in the fishery after its transition from self-governance to co-governance in the 1990s. The findings reveal the emergence of a unique blend of hierarchical and co-management governance modes with adverse implications for the fishery's governability. I argue that the fishery's decline might have been mitigated by enhancing governance literacy among relevant stakeholders and accentuating the relevance of the meta-order principles, values, and images of Interactive Governance.

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### **Social innovation for just and sustainable small-scale fisheries**

**Lowery, Brennan**

St. Thomas University, Canada, [blowery@stu.ca](mailto:blowery@stu.ca)

This chapter situates social innovation in Interactive Governance Theory to explore how grassroots innovations can advance justice and sustainability for small-scale fisheries and coastal communities. Considering diverse efforts to address complex problems that include both market and non-market based strategies, social innovation has long been part of small-scale fishers' and communities' efforts to enhance livelihoods and advocate for their rights. Moreover, interactive governance itself represents a form of social innovation, particularly through co-governance arrangements that create horizontal interactions between community, market, and state actors. This chapter argues that social innovation represents a unique form of governing interaction that

can strengthen the governance of small-scale fisheries and merits greater attention in research and policy on fisheries and coastal communities. It calls for alternative images of ocean and coastal innovation that challenge the dominant Blue Economy discourse with grassroots narratives of social innovations originating from small-scale fisheries communities. Finally, it proposes criteria for assessing social innovation's contributions at three orders of governance, highlighting examples of innovation in small-scale fisheries and outlining opportunities for future research. This chapter thus contributes to Interactive Governance Theory while inviting further exploration of how social innovation can – and already does – support more just and sustainable small-scale fisheries.

## Sessions 4.4 – Tuesday, April 28

### Adapting to change: Resilience and transformation of fisheries communities facing multiple threats

#### Organizers

**Katia Frangoudes**, UMR AMURE, University of Brest, France, [katia.frangoudes@gmail.com](mailto:katia.frangoudes@gmail.com)

**Alyne Delaney**, Tohoku university, Japan, [alyne.delaney@tohoku.ac.jp](mailto:alyne.delaney@tohoku.ac.jp)

#### Speakers

**Alyne Delaney**, CNEAS, Tohoku University, Japan

*Exploring community and environmental (re-)vitalization stakeholder-led collaborative activities*

**Kumi Soejima**, Setsunan University, Japan

*Initiatives and actions of newcomers (women and men) in fisheries communities in Japan*

**Alizée de Bollardière**, University of French Guiana, French Guiana

*Circulating seas: Migration, gender, and resilience among Brazilian small-scale fishers in French Guiana*

**Sunae Lee**, Miyazaki Municipal University, Japan

*Changing gender roles in coastal resource use: A comparative study of Japan and South Korea*

**Katia Frangoudes**, UMR AMURE, University of Brest, France

*Fisheries community profile in EU: The example of Le Gulivinec, France*

#### Participants from fisheries sector and young student:

**Jun Akama**, Vice chair of the cooperative Women group and Umi Hito Net, Japan

**Moe Tada**, Setsunan University, Japan

**Miku Narisawa**, CNEAS, Tohoku University, Japan

## Synopsis

Across the globe, fisheries-dependent communities are confronting a diverse array of challenges, ranging from natural disasters (e.g., coastal erosion, flooding), degradation of ecosystems (pollution) to demographic shifts (e.g., declining birth rates and aging populations), and governance-related pressures such as resource management and regulatory changes. These challenges are prompting local populations—women, men, and youth alike—to adapt and respond in order to preserve the viability of their communities and prevent the marginalization of fisheries.

Post-disaster reconstruction, for instance, requires more than physical rebuilding; it necessitates rethinking village life and harbor infrastructure in ways that ensure long-term local residency and community cohesion. Participation of local population is very mandatory in a way to achieve such reconstruction. Meanwhile, in regions facing demographic decline, the lack of generational renewal jeopardizes the survival of fisheries and coastal communities. Moreover, the expansion of tourism, the establishment of marine protected areas or wind farms, and the implementation of seasonal or spatial fishing bans—while often ecologically necessary—frequently lead to a reduction in fishing activities, further straining the socio-economic fabric of these communities.

This session will explore how fisheries communities across different continents are responding to such threats. Presentations will first address efforts to define and characterize fisheries communities, using specific indicators to monitor changes and vulnerabilities. Subsequently, attention will be given to the adaptive strategies initiated by local people, with a particular focus on the roles of women, youth, and newcomers in maintaining community resilience and fostering sustainable development. Finally, the session will examine the crucial role of public policy in supporting these communities, highlighting the need for targeted measures that enhance social, economic, and environmental resilience in coastal areas.

### Session 4.4 Individual abstracts

#### Exploring community and environmental (re-)vitalization stakeholder-led collaborative activities

**Delaney, Alyne**

Tohoku University, Japan, [alyne.delaney@tohoku.ac.jp](mailto:alyne.delaney@tohoku.ac.jp)

Coastal community residents throughout the world have long-standing connections and histories with their local coasts and seas. Although life has often been precarious in resource-dependent environments, today's challenges are multiple and increasingly visible. From climate change to societal pressures and governance issues, communities face

cumulative and intensifying difficulties. This presentation focuses on a Japanese case study from coastal Tohoku in northern Japan. Over the past three years, the region has experienced record seawater temperatures and changes in ocean currents, alongside ongoing depopulation and declining numbers of fishers. At the same time, communities continue to adapt to social transformations shaped by post-disaster governmental policies. As the 15th anniversary of the Great East Japan Earthquake approaches, aging fishers and the declining number of fishing households have prompted community members to search for new ways to revitalize their communities. In this presentation, I focus on two types of activities: (1) ocean-related collaborative research initiatives centered on knowledge co-production, and (2) cooperative labor practices that support everyday neighborhood life.

Both highlight the importance of **creativity, collaboration, and connections (繋がりに)**.

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### **Initiatives and actions of newcomers (women and men) in fisheries communities in Japan**

**Soejima, Kumi**

Setsunan University, Japan, [kumi.soejima@setsunan.ac.jp](mailto:kumi.soejima@setsunan.ac.jp)

The declining number of fishers is a major challenge in Japan. For the younger generation in particular, fishing is seen as an unprofitable industry with no bright future. Conversely, few young people are attracted to the idea of working outdoors and aspire to become fishers. Until recently, the typical model in Japan was for a father to be a fisher and for his son to take over the family fishing business. Consequently, individuals from non-fishing families who wanted to become fishermen were often not accepted as members of fishing cooperatives. In recent years, government-led initiatives have focused on securing newcomers to increase the number of fishers. For these individuals to truly settle in the community and establish themselves as fishers, however, ongoing local support is essential in terms of fishing practices, daily life and mental well-being after the policy support period ends. In many areas, however, this support is insufficient, causing many newcomers to give up. This presentation examines the case of Tabuse Town in Yamaguchi Prefecture, which has been relatively successful in attracting newcomers to the fishing industry. It identifies the factors behind this success and clarifies the challenges the region currently faces.

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**Circulating seas:  
Migration, gender, and resilience among Brazilian small-scale fishers in French Guiana**

**de Bollardière, Alizée**

University of French Guiana, French Guiana, [alizee.debollardiere@gmail.com](mailto:alizee.debollardiere@gmail.com)

Along the Brazil–French Guiana border, Brazilian small-scale fishers have historically interacted with the social, ecological, and political factors influencing coastal livelihoods. This communication explores how migration and transnational mobility constitute adaptive responses to multiple and overlapping pressures — including resource depletion in the Brazilian states of Pará and Maranhão, restrictive fisheries policies, and the broader effects of global environmental change. Drawing on ethnographic fieldwork conducted among fishing communities in Oiapoque, on the French Guianese coast, this paper examines how fishers and their families reorganize their practices, knowledge, and social networks across borders. These circulations have given rise to a hybrid and dynamic fishing system that combines Brazilian artisanal techniques, local ecological knowledge, and the regulatory frameworks of the European Union. Particular attention is paid to gendered dimensions of adaptation: women play key roles in sustaining community cohesion, managing economic uncertainty, and transmitting fishing knowledge within families and across generations. By foregrounding the interplay between migration, gender, and resilience, this study contributes to understanding how small-scale fisheries communities in the Guianas negotiate both environmental and political constraints, crafting new forms of belonging and continuity in the face of transformation.

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**Changing gender roles in coastal resource use:  
A comparative study of Japan and South Korea**

**Sunae, Lee**

Miyazaki Municipal University, Japan, [iisune@miyazaki-mun.ac.jp](mailto:iisune@miyazaki-mun.ac.jp)

This study examines gender role changes in coastal resource use by comparing Japan’s ama divers and South Korea’s haenyeo divers. Both communities have historically been dominated by women, but aging populations, resource decline, environmental shifts, and economic pressures have driven changes. In Japan, both men and women now participate in small-scale coastal fisheries. Despite an average diver age over 60, men join due to social flexibility and economic incentives, creating low institutional and cultural barriers, while women remain the main focus in research and cultural narratives. In contrast, South Korean diving remains almost exclusively female, and efforts to involve men have not led to sustained participation. This contrast demonstrates that gender roles are shaped not only by institutional and economic factors but also by deeply rooted cultural norms and practices. Using quantitative data on resource harvests, diver numbers, and age distributions, the study compares flexibility and rigidity in gender roles. Findings clarify social and cultural

determinants of gender role change, reveal implications for the sustainability of traditional fisheries and cultural heritage, and offer insights for gender studies and fisheries socio-economic research. Future work will extend this comparative framework to small-scale coastal fisheries in Western Europe, enhancing understanding of gender role transformations and sustainable coastal resource use. Gender roles, small-scale coastal fisheries, Ama / Haenyeo Japan (Oura, Yamaguchi), South Korea (Ulsan).

This paper contributes to advancing discussions on gender roles, sustainability, and small-scale coastal fisheries by examining Japan's ama divers and South Korea's haenyeo divers. Historically female-dominated, both communities now face diver aging, resource decline, and economic pressures that have altered patterns of gender participation in distinct ways. Combining quantitative data on resource harvests, diver numbers, and age distributions with socio-cultural analysis, the study reveals how cultural norms, social practices, and institutional factors shape gender roles differently across contexts. These findings illuminate the social and cultural drivers of gender role transformation, highlight implications for sustaining traditional fisheries and cultural heritage, and offer insights relevant to small-scale coastal fisheries globally. By connecting gender, community practices, and resource use, this research provides new perspectives at the intersection of social, cultural, and ecological dimensions, helping to move scholarly discussion forward on these critical and interconnected themes.

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**Fisheries community profile in EU:  
The example of Le Gulivinec, France**

**Frangoudes, Katia**

UMR AMURE, University of Brest, France, [Katia.Frangoudes@univ-brest.fr](mailto:Katia.Frangoudes@univ-brest.fr)

**Christelle Le Grand**, IFREMER, UBO, CNRS, IRD, France

Back to the origins of the European Community fisheries policy in the 70's and the establishment of the Common Fisheries Policy in 1983, market and resources management have been the core of its objectives. A very reductionist view has resumed the social dimensions of fisheries to employment. This limited vision started to change with the inclusion in 2007-2013 programming period of the European Fisheries Fund (EFF), the financial instrument to support CFP implementation, of a priority axis for the Sustainable Development of Fisheries Areas that referred to "community development" (EFF, axis 4). Later, the EU regulation on data collection framework for fisheries (2017/1004) introduced five social indicators, namely age, education level, gender, nationality of fishers and Full Time Equivalent employment. This limited move opened the discussion in an EU working group on data collection about the feasibility for fisheries community profiles to assess the vulnerability of communities facing the consequences of conservation policy, COVID sanitary crisis, political decisions such as Brexit or any other change in their environment.

To feed this discussion, a group of French scientists (social scientists, economists and statisticians) working on fisheries issues decided to produce a first community profile using the case of Guilvinec harbor in Brittany with the objective to standardize a methodology that would rely only on existing statistical data and would be easily replicable. Guilvinec is an important artisanal fisheries harbor hosting 271 vessels that landed 13,534 tons of fish with a value of 60 million euro in 2021. Fisheries employ 919 people on small-scale and large-scale vessels who live within a distance of 20 km from the harbor. We present here our approach to identify sources of social data, conditions of access and the main characteristics of the Guilvinec fisheries community, as they can be described using available statistical data from different sources.

## Session 4.6 – Tuesday, April 28

### Advancing small-scale fisheries sustainability through ecosystem approach and other governance measures: Lessons from the Gulf of Thailand and Bay of Bengal

#### Organizer

**Angela Lentisco**, FAO, RAP, Thailand, [angela.lentisco@fao.org](mailto:angela.lentisco@fao.org)

**Worawit Wanchana**, SEAFDEC, Thailand, [worawit@seafdec.org](mailto:worawit@seafdec.org)

#### Speakers

**Pavarot Noranartragoon**, Department of Fisheries, Thailand

*Transboundary shared stock management for multispecies and multigear fisheries in the Gulf of Thailand*

**Krishnan Pandian**, Bay of Bengal Program Inter-Governmental Organizations (BOBP-IGO) /  
**Panitnard Weerawat**, SEAFDEC, Thailand

*EAFM for promoting small-scale fisheries in the Bay of Bengal*

**Maeve Nightingale**, Coastal and Marine, Asia, IUCN

*Regenerative Seascapes Approach*

**Pedro FERREIRO**, Sustainable Fisheries Partnership

*Market & Livelihood Systems*

#### Panelists

**Mohammed Koya**, Department of Fisheries, Government of India,

**Md. Zia Hyder Chowdhury**, Department of Fisheries, Bangladesh

**Sinesha Nuwan Karunarathne**, Ministry of Fisheries, Aquatic and Ocean Resources,  
and Member Secretary of NPOA-SSF, Sri Lanka.

**Nipa Kulanujaree**, Department of Fisheries, Thailand

**Diky Suganda**, Ministry of Marine Affairs and Fisheries, Indonesia

**Vaani Muniandy**, Department of Fisheries Malaysia

**Nguyen Thi Phuong Dung**, SEAFDEC / Department of Fisheries, Viet Nam

**Sarah Hashim Aishath**, Ministry of Fisheries and Ocean Resources, Maldives

## Synopsis

This session explores how sub-regional cooperation, ecosystem approaches to fisheries (EAF), market/value-chain incentives – supported by coherent governance frameworks – can strategically aligned to drive more sustainable and resilient small-scale fisheries in the Gulf of Thailand and the Bay of Bengal

### **SCENE 1 — Opening & Framing An Introduction to advancing SSF sustainability**

**Worawit Wanchana**, CTA of the GoTFish project

**Angela Lentisco**, FAO Fishery and Aquaculture Officer

*Focus: Introduction to the key thematic clusters and regional initiatives*

The speakers will open the session by welcoming participants and framing its context through the introduction of key thematic clusters: sub-regional cooperation, ecosystem-based management, and market and value-chain mechanisms for sustainable small-scale fisheries. He will preview the contributions from regional partners and national authorities, outlining a clear roadmap for the discussion. Ms. Lentisco will highlight ongoing regional and collaborative initiatives that advance practical solutions for sustainable fisheries and resilient marine ecosystems. Together, they will set the stage for a holistic exploration of small-scale fisheries sustainability in the region.

### **SCENE 2 — Approaches in the Region: Transboundary shared stock management for multispecies and multigear fisheries in the Gulf of Thailand**

**Pavarot Noranartragoon**, DOF Thailand

*Focus: Building sub-regional coherence for managing shared fisheries*

The session opens with a central question: why must the Gulf of Thailand be governed beyond national boundaries? Frames as shared and dynamic ecosystem, the Gulf's transboundary fisheries and shared stocks demand coordinated, science-based management that no single country can deliver alone. The Ecosystem Approach to Fisheries Management (EAFM) provides the operational pathway - integrating ecological, social, and economic dimensions through a multi-species lens and enabling policy coherence across borders. Community fisheries are central to this approach, anchoring co-management through local knowledge and participation. Moving forward, the focus is on strengthen sub-regional mechanisms, piloting multi-species EAFM, and building durable platforms for data

sharing, joint stock assessments, and inclusive governance – towards a more resilient and cooperative future.

## **EAFM for promoting small-scale fisheries in the Bay of Bengal**

**Krishnan Panadian**, BOBP-IGO  
**Panitnard Weerawat**, SEAFDEC

*Focus: Strengthening small-scale fisheries within a regional context*

BOBP-IGO will present the Organisation's experience in operationalising the Ecosystem Approach to Fisheries Management (EAFM) across its four member countries — Bangladesh, India, the Maldives, and Sri Lanka — under the BOBLME-II project, drawing on the diagnostic findings of the ongoing project implementation activities and NPOA-SSF process. The intervention will argue that EAFM is not a uniform methodology but changes fundamentally in character depending on the governance structures, socio-economic conditions, and technological realities of the stakeholders involved. Using contrasting cases from the Bay of Bengal from artisanal and commercial fisheries the presentation will demonstrate how the design of EAFM plans must be differentiated to be effective. The implications for combating IUU fishing will be highlighted, noting that non-compliance takes qualitatively different forms across these two archetypes and requires correspondingly different responses. The intervention will conclude by presenting BOBP-IGO's integrated framework linking the NPOA-SSF (policy diagnostic), EAFM (operational methodology), RPOA-IUU (compliance architecture), and BOBLME-II (enabling platform) as a cohesive regional response to the SSF Guidelines' call for policy coherence and institutional coordination.

Ms. Panitnard will complement this perspective by reflecting on SEAFDEC's experience in advancing EAFM implementation in Southeast Asia, with a particular focus on translating regional frameworks into practical actions at national and community levels. Drawing on lessons from a regional perspective and broader ASEAN collaboration, she will highlight how EAFM can be operationalized through participatory processes, capacity building, and adaptive management tailored to small-scale fisheries contexts. The presentation will emphasize the importance of strengthening institutional coordination, enhancing data and knowledge systems, and fostering inclusive governance that integrates local communities, especially in addressing IUU fishing and improving compliance. Building on regional platforms and partnerships, she will underscore the role of SEAFDEC in facilitating knowledge exchange, supporting policy alignment, and promoting scalable approaches that bridge regional cooperation with local realities—contributing to more resilient and sustainable small-scale fisheries systems across the region.

## **Regenerative seascapes approach**

**Maeve Nightingale, IUCN**

*Focus: Area Based Fisheries Management – a part of Regenerative seascapes*

Regenerative Seascapes are a people-centered, nature-based and climate-positive approach to regenerating the health and vitality of socio-ecological systems. These sub-national jurisdictions focus on protecting and restoring coastal and marine natural capital while unlocking the regenerative potential of the blue economy. The development of regenerative blue businesses that contribute to local socio-economic development, climate resilience and ocean-positive outcomes. Area based fisheries management (such as EAFM) play a key role and contribute to Regenerative Seascapes. Sustainable aquaculture models and nature based tourism models can also play a key role. At their core Regenerative Seascapes strengthen local stakeholders' agency, cultural identity and diversity, and well-being, restore and conserve ecological integrity and biodiversity, and build resilient and inclusive locally driven and globally enhanced economies.

Marine Spatial Planning (MSP) is the fundamental operational instrument for delivering Regenerative Seascapes, providing the necessary structured framework for managing coastal and ocean space for the realisation of economic growth ambitions with environmental conservation and positive outcomes for human well-being. Key features of Regenerative Seascapes include protected and conserved area management, sustainable fisheries and aquaculture management and ecotourism areas.

## **Market & livelihood systems**

**Pedro Ferreiro, Sustainable Fisheries Partnership**

*Focus: Aligning market and value-chain incentives with governance and ecosystem objectives*

The speaker will examine how market and livelihood systems can help create the enabling conditions for governance reforms and ecosystem objectives to succeed in practice. Building on the preceding presentations, the intervention will focus on how seafood value chains - from fishers and landing sites to traders, processors, and buyers - shape the incentives and relationships that influence behavior across fisheries systems. The presentation will highlight that markets do not replace governance, but can reinforce it by supporting traceability, transparency, improved data flows, fairer commercial relationships, and incentives for legal and responsible practices. It will also emphasize the importance of contextualized solutions, domestic and regional markets, and shared responsibility across the value chain to support responsible and resilient fisheries.

### SCENE 3 — Panel statements

This session brings together policy-makers, technical experts, and practitioners to explore how governance systems, EAFM, and market mechanisms can be more effectively aligned. The discussion will move from enabling policy frameworks, to ecosystem-based implementation, and finally to market and livelihood incentives—highlighting the needs for these dimensions to function in an integrated manner to support responsible and resilient small-scale fisheries.

Panellists are invited not only to share experiences, but also to reflect critically on what works, what does not, and what must change to bridge the gap between policy commitments and real-world outcomes.

**Guiding Question:** *How can governance frameworks be aligned with ecosystem objectives and market/value-chain mechanisms to strengthen responsible small-scale fisheries management and livelihoods?*

Panellists are encouraged to respond with practical insights and examples:

- How can policy frameworks and EAFM be better aligned to reflect ecosystem realities, including multi-species fisheries?
- What roles do participation, compliance, and enforcement play in making governance effective on the ground?
- How can traceability and transparency be strengthened along fisheries value chains?
- What types of market incentives (e.g. responsible sourcing, private sector engagement) can support sustainable practices?
- How can gender equity and social inclusion be meaningfully integrated into both governance and value chains?
- What approaches can enhance climate resilience of fisheries systems and livelihoods?
- What partnerships and risk-sharing mechanisms are needed to better support small-scale fisheries actors?

### SCENE 4 Moderated dialogue & Audience Q&A

This session aims to synthesize insights from the previous scenes into an interactive, solution-oriented dialogue engaging panellists and the audience to identify practical pathways for strengthening small-scale fisheries (SSF) governance and livelihoods. Guided by the moderator, discussions will focus on sub-regional collaboration for transboundary fisheries, climate resilience, policy alignment with market incentives, value-chain improvements, inclusive participation and access rights, innovative financing, and gender

equity. The session will then open to audience engagement, encouraging reflection on scaling lessons from the Gulf of Thailand and Bay of Bengal, leveraging GEF IW/LME platforms, strengthening ASEAN linkages, and advancing collaboration through GoTFish Technical Working Groups, with an emphasis on actionable outcomes and dynamic exchange rather than technical presentations.

### **SCENE 5 — Outcomes, key messages & closing**

The session concludes by reinforcing that sustainability depends on coordinated efforts across governance, ecosystems, and markets, while encouraging continued collaboration, knowledge exchange, and application of transferable lessons—including gender integration and climate resilience—across national and regional contexts.

## Session 5.2 – Wednesday, April 29

### Fishing communities at the edge: Rethinking the Blue Economy from the shoreline

#### Organizers

**José J. Pascual-Fernández**, ISTUR, University of La Laguna, Spain,  
[jpascual@ull.edu.es](mailto:jpascual@ull.edu.es)

**Cristina Pita**, Instituto de Investigaciones Marinas, CSIC, Spain, [c.pita@ua.pt](mailto:c.pita@ua.pt)

**Jaime Ramón Bruquetas**, ISTUR, University of La Laguna, Spain,  
[jramonbr@ull.edu.es](mailto:jramonbr@ull.edu.es)

#### Speakers

**Jose J. Pascual Fernández**, ISTUR, University of La Laguna, Spain

**Cristina Pita**, Instituto de Investigaciones Marinas, CSIC, Spain

**Jaime Ramón Bruquetas**, University of La Laguna, Spain

**Drazen Cepic**, Institute for Social Research in Zagreb, Croatia  
*Small vs. Large in the Adriatic Coastal Seafood Systems*

**Katina Roumbedakis**, Cinvestav-Merida | IIM-CSIC, Mexico  
*Intertwined Value Chains: The Hidden Connections of the Octopus Fishery in the Yucatán Peninsula, Mexico*

#### Synopsis

The Blue Economy has become a powerful policy paradigm in Europe and beyond since its formal adoption at the UN Rio+20 conference. Promising growth, innovation, and sustainability, it has mobilized political agendas, investment frameworks, and new governance architectures across the EU. Yet for coastal and fishing communities—the very actors historically bound to the sea—the consequences of this shift remain poorly understood. This symposium explores the impacts of global visions of marine industrialization on small-scale fishing communities. Fishing communities are often positioned at the margins of policy debates, even as they are directly affected by regulatory

reforms, new marine uses, and accelerating climate risks. Far from being relics of the past, these communities embody intricate forms of ecological knowledge, cultural reproduction, and social organization that are indispensable for building sustainable coastal futures.

We will explore how artisanal fisheries confront multiple pressures: the expansion of offshore energy and aquaculture, shifting governance regimes that reallocate access rights, and, crucially, the transformation of seafood markets. Small-scale fishers now operate within increasingly constrained commercial environments, where local distribution channels are displaced by global supply chains, certification regimes, and consumer trends that privilege standardized products over local diversity. New actors—from large retailers to aquaculture corporations—reshape how seafood circulates, while changing tastes and expectations around food quality and sustainability. Some of these trends further marginalize traditional products. Yet, artisanal fishers are not merely resisting these dynamics; they are experimenting with alternative strategies of stewardship and commercialization, from direct-to-consumer sales and short value chains to community-based conservation and innovative co-management practices. In doing so, they defend not only customary rights and ecosystems but also the cultural and economic spaces that sustain artisanal fisheries.

By focusing on fishing communities, the symposium seeks to highlight the contradictions of the Blue Economy. While presented as a path to sustainability, its policies often exacerbate exclusion and erode traditional practices. Yet these same communities reveal pathways for rethinking the paradigm itself. Their strategies foreground equity, cultural continuity, and ecological care—dimensions largely absent in dominant economic framings. We invite reflections on how research can engage with fishing communities beyond extractive models of knowledge. Participatory approaches and co-production with local actors open possibilities for both critical analysis and practical innovation, aligning academic inquiry with the urgent challenges of climate change, marine governance, and food security. In short, this symposium will emphasize the creative responses and organizational innovations emerging from the shoreline.

## Session 5.3 – Wednesday, April 29

### Supporting inclusive governance in small-scale fisheries through action research

#### Organizer

**Marc Léopold**, IRD, AMURE laboratory, France, [marc.leopold@ird.fr](mailto:marc.leopold@ird.fr)

**Thierry Razanakoto**, CERED - UMI SOURCE, Madagascar, [thierry.razanakoto@gmail.com](mailto:thierry.razanakoto@gmail.com)

#### Speakers

**Jennifer Beckensteiner**, IRD, AMURE laboratory, France

**Deutz Zafimamatrapehy**, IH.SM, University of Toliara, Madagascar

**Nina Razafimalala**, University of Antananarivo, Madagascar [*recording*]

**Duolah Fanambinantsoa**, IH.SM, University of Toliara, Madagascar

**Andrinirina Jovial Mbonny**, IH.SM, University of Toliara, Madagascar

#### Synopsis

Small-scale fisheries (SSF) are critical for the local livelihoods of millions of people globally. They face significant resource sustainability and equity challenges, due to complex social ecological interactions, limited availability of relevant knowledge, and inappropriate governance, particularly in developing countries. This session will focus on how these challenges can be addressed through equitable, participatory governance supported through action-research, building on the experience of small-scale but export-oriented mud crab fisheries of Madagascar, a Low-Income Food-Deficient Country.

The session will be based on the results of an ongoing action-research initiative, with the presenters and the participants exploring the three following complementary questions (i.e., one during each 25-minute block):

Knowledge co-production (Block 1): How can action-research structure knowledge co-production regarding complex SSF problems, associating scientists, diverse stakeholders and government, at multiple scales?

Multi-stakeholder groups (fishers, community members, fisheries administration, NGOs, buyers, exporting firms, and researchers) identified critical management issues in the SSF, e.g. the non-compliance with national rules (fishing closure and minimum size limit), and fishers' claim for increased landing prices, seeking fair rent distribution. Research activities were then defined collectively and refined adaptively through successive meetings. The session will discuss the extent of knowledge exchange within and between fishing communities and researchers, and how this can be affected by social networks, capacity, and pervasive poverty.

Collective action (Block 2): How can participatory action processes contribute to build trust and social learning, and create incentives for collective decision and action, whether or not sustainability problems are solved?

Stakeholders agreed to investigate the effectiveness of the national fishing closure and gear selectivity, among other actions, to sustain fishery wealth. Participatory experimental fishing was implemented in two villages and showed that increasing gear mesh size would effectively decrease undersized catch and immediate socioeconomic benefits. Up-scaling of this experiment was then validated through a national workshop in 2022 with government support. A bioeconomic model was also developed using a participatory approach to predict likely long-term impacts on both resource biomass and fishers' income compared to the status quo. Subsequently, two collaborative projects were launched in 2024 to assess and compare both the biological and economic impacts and the acceptability of improving gear selectivity in real-world conditions. We will discuss how these steps have helped progress towards inclusive governance.

Formalization (Block 3): How can the institutionalization of science-society-policy interactions within collaborative projects, help understand and address the social-ecological processes that drive equity in SSF?

- The visible and hidden aspects of apparent inclusive governance of the fisheries will be discussed. Participatory fishery monitoring and evaluation provided reliable data stored and processed through a collaborative online information system and quantitative and qualitative knowledge relevant for policy. Key bioeconomic indicators revealed major social ecological concerns all linked to equity issues (e.g., resource overexploitation, fishers' low bargaining power). However, decision-making has remained under state control.

In each block, the audience will provide experience on the topic selected (5') prior to the presentation (10') and feedback about the results (10'). Diverse materials including posters and a video will be used.

## Session 5.5 – Wednesday, April 29

### Decolonizing small-scale fisheries: Power, knowledge, and governance across scales

#### Organizer

**Shanta Soheli Moyna**, Oxfam, Bangladesh, [SMoyna@oxfam.org.uk](mailto:SMoyna@oxfam.org.uk)

#### Speakers

**Enamul Mazid Khan Siddique**, Oxfam in Asia

**Deepa Joshi**, International Water Management Institute (IWMI)

**Sushmita Mandal**, Stockholm Environment Institute (SEI)

**Shanta Soheli Moyna**, Oxfam, Bangladesh

**Md Mokhlesur Rahman Chowdhury**, Center for Natural Resource Studies (CNRS)

**Santanu Chakraborty**, Society for Direct Initiative for Social and Health Action

#### Synopsis

Small-scale fisheries carry the means of livelihood, culture, and sustainability. Yet, beneath this narrative lies a more complex reality shaped by structural inequalities and enduring legacies of past and ongoing injustices. Historical patterns of control that are rooted in colonial governance, centralized state authority, and exclusionary economic systems continue to influence who has access to resources, whose knowledge is valued, and who ultimately makes decisions.

In response, contemporary fisheries governance has increasingly embraced the language of participation, inclusion, and sustainability. However, many of these approaches rely on simplistic, technical solutions to deeply political problems. Efforts to “improve management” often overlook the underlying dynamics of power, reducing complex socio-ecological systems into issues of efficiency, compliance, or capacity gaps, while leaving decision-making structures largely unchanged.

At the same time, small-scale fishing communities are not passive recipients of governance. Across contexts, they continue to organize, resist, and adapt, asserting rights, maintaining customary systems, and negotiating space within formal frameworks. These processes are often contested, uneven, and constrained by legal, institutional, and economic barriers, highlighting the challenges of moving from recognition to real control.

This raises critical questions for the future. If current systems continue to reproduce inequities, what would it take to reimagine fisheries governance in ways that genuinely redistribute power? What shifts are required, not only in policy and practice, but in how institutions understand authority, knowledge, and accountability?

This session invites participants to move beyond familiar narratives and engage with these tensions directly; exploring not only what is broken, but also what persists, and what must fundamentally change.

### Learning Questions:

1. How do global fisheries governance frameworks, markets, and conservation agendas reinforce colonial power structures at national and local levels. And who benefits versus who is marginalized?
2. In what ways have state-led fisheries management systems displaced or reshaped customary tenure, local institutions, and fisher knowledge. What forms of resistance or adaptation have emerged?
3. What would it take to shift from extractive, top-down fisheries management to genuinely decolonized, community-led governance? What structural barriers must be dismantled across scales to enable this transition?

### Expected outcomes:

- A deeper, shared understanding of how colonial and centralized governance structures persist in small-scale fisheries.
- Identification of key structural barriers to community-led decision-making.
- Practical insights into how power can be redistributed across governance systems.
- Strengthened cross-sector dialogue on transformative approaches to fisheries governance.

### Session plan:

- Power, history, and legacies in the fisheries frame
- Whose fisheries? Whose knowledge? Who governs?!
- Lived Realities: Displacement, exclusion, and resistance
- Audio visual session: Fisherfolks' statements from Bangladesh
- *Reimagining Governance: Pathways to redistribution of power*
- *Q&A session & Closing remarks*

## Sessions 5.6 & 6.5 – Wednesday, April 29

### Transitioning between Vulnerability to Viability (V2V): Insights from small-scale fisheries of Africa and Asia

#### Organizer and moderator

Prateep Nayak, University of Waterloo, Canada, [pnayak@uwaterloo.ca](mailto:pnayak@uwaterloo.ca)

#### Keynote reflections and discussant

Fikret Berkes, University of Manitoba, Canada

#### Speakers

##### Part 1

Yama Khady Sarr, Cheikh Anta Diop University of Dakar, Senegal

*Vulnerability factors of fishing communities to climate change and response strategies in the Commune of Dionewar, Saloum Delta*

Samiya Ahmed Selim, University of Liberal Arts, Bangladesh

*Inclusive Incentives for Coastal Stewardship: Advancing Blue Justice for Small-Scale Fishers in Bangladesh*

Evans Kwasi Arizi, University of Cape Coast, Ghana

*Assessment of the vulnerability of two coastal fishing communities in Ghana and the pathways to their viability and resilience*

Jenia Mukherjee, Indian Institute of Technology, India

*Numbers and narratives: Exploring viability transitions in small-scale fisheries in island villages of Gosaba, Indian Sundarbans*

Indah Susilowati, University of Diponegoro, Indonesia [recording]

*Livelihood transition strategies of small-scale fishers in Batang, Demak and Pati Regencies in Central Java, Indonesia*

Short presentations:

**Yinji Li, Tokai university, Japan**

*Improving small-scale fisheries viability through cooperative initiative: A case study of sumaura fisheries in Kobe City, Hyogo Prefecture, Japan*

**Moenieba Isaacs, University of the Western Cape, South Africa [recording]**

*The pathways from vulnerability to viability are not often paved with good intentions - the case of Abalone Poaching in the Buffeljagsbaai community, South Africa*

**Julius Francis Woiso, University of Dar es Salaam, Tanzania**

*From vulnerability to viability: Temporary octopus closures as viable options for gender empowerment in coastal communities of Tanzania*

**Suvaluck Satumanatpan, Mahidol University, Thailand**

*Regulatory injustice in small-scale fisheries - A need for critical examination*

## Part 2

**Gazi Md Nurul Islam, University of Tun Abdul Razak, Malaysia**

*Social-ecological vulnerability and social equity in the small-scale fisheries: Case study of marine protected islands in east Coast Malaysia*

**Shehu L. Akintola, Lagos State University, Nigeria**

*Turning tides: Climate adaptation and circular bioeconomy in Nigeria's small-scale fisheries*

**Aliou Sall, CREDETIP, Senegal**

*Transitions between vulnerability and viability: Iterative and multifaceted movements as an integral part of the socio-ecological system of Senegalese SSF*

**Mohammad Mahmudul Islam, Sylhet Agricultural University, Bangladesh**

*Livelihoods in transition: Vulnerability and responses of mangrove-dependent fishing communities of the Bangladesh Sundarbans*

## Synopsis

Vulnerability and viability are among some of the many realities small-scale fisheries grapple with in their day-to-day existence. There are several dimensions to consider in this context. First, just as vulnerable communities can strive to move towards viability, already strong and

viable communities can revert back towards being vulnerable under pressures from internal and external dynamics and drivers. Second, it is seldom the case that an entire system of small-scale fishery becomes vulnerable or viable at a given point in time and place; instead, it is the components of a fishery that first undergo experiences of vulnerability and viability before system level impacts occur. Third, vulnerability and viability are understood not just in an economic sense but includes social, political, and ecological aspects of small-scale fisheries that involves the full spectrum of human life and ecological process. Fourth, despite scholarly attention, vulnerability and viability are hard to define, these concepts have almost always been treated exclusively, and their inherent linkages have largely remained unexamined.

These considerations highlight the inherent uncertainty, unpredictability, variability, and the overall complex nature of small-scale fisheries where transitioning between vulnerability and viability is seen as multidimensional, two-way feedback oriented, complex, highly dynamic, and relative.

This session focuses on Vulnerability To Viability (V2V) Transitions as a novel approach to highlight their interconnected nature, explore the potential for vulnerable small-scale fisheries to transition towards viability and the process through which these communities can retain their hard-earned viability without having to revert back towards vulnerability. Researchers from the twelve V2V Global Partnership countries in Africa and Asia will present case studies focusing on various dimensions of the Vulnerability to Viability (V2V) Transitions within the context of small-scale fisheries. Our emphasis is on a three-dimensional view of V2V transitions that includes key measures such as changes in material, subjective and relational wellbeing, differential access to capitals (e.g., natural, financial, social) and shifts in the levels of resilience (e.g., adaptive and transformative capacity). The sessions will emphasise that while small-scale fisheries will continue to remain vulnerable to multiple challenges, developing on their existing strengths and capacities may be an effective strategy to increase viability. Further conceptual and methodological development of the V2V transitions approach is essential in this regard.

## Sessions 5.6 & 6.5: Individual abstracts

### **Vulnerability factors of fishing communities to climate change and response strategies in the Commune of Dionewar, Saloum Delta**

Clément Sambou, **Yama Khady Sarr**, Ahmadou Aly MBAYE, Alassane Sarr  
Cheikh Anta Diop University of Dakar, Senegal, [khadyyama@gmail.com](mailto:khadyyama@gmail.com)

The objective of this study is to explore the perceptions of the population of the Dionewar commune regarding the factors contributing to their vulnerability to climate change and

their resilience strategies. The methods used include field observations, document analysis, and interviews with fishermen and women involved in shellfish harvesting. The interviews were conducted using focus groups organized in the villages of Dionewar, Niodor, and Falia. The results show that flooding and submersion, coastal erosion, and overexploitation of fish stocks are the main threats contributing to vulnerability. Fishermen are the most affected by climate change. Meanwhile, the infrastructure installed along the coastline is the most impacted economic asset. At the village and residential level, the main climate-related impacts raised by respondents are coastal erosion and sea level rise. Coastal erosion is more pronounced and visible on the island of Dionewar. Regarding fishing activities, the main impact of climate change is the depletion of fish stocks. The effects of climate change on fishing include the degradation of fish stocks, pollution of the seabed, the disappearance of certain fish species, the destruction of shellfish harvesting areas, and the silting up of habitat and breeding sites for scallops. Climate change adaptation practices adopted by local stakeholders include biological rest periods, the construction of walls and dikes, reforestation with forest trees and mangroves, seeding of mudflats with scallops, regulation of fishing gear, the use of selective shellfish traps, fish and oyster farming, and awareness campaigns.

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**Inclusive Incentives for Coastal Stewardship:  
Advancing Blue Justice for Small-Scale Fishers in Bangladesh**

**Selim, Samiya Ahmed**

University of Liberal Arts, Bangladesh, [samiya.selim@ulab.edu.bd](mailto:samiya.selim@ulab.edu.bd)

Bangladesh's small-scale fisheries are central to coastal livelihoods and food security, yet current management approaches often marginalize those most dependent on marine resources. Women and informal fish workers - who make up a significant share of the fisheries value chain - remain largely invisible in policy design and are systematically excluded from state incentives during seasonal bans. Drawing on legal and policy analysis and perspectives from fishing communities, this paper examines the role of incentive-based mechanisms in enhancing compliance and equity in small-scale marine fisheries management in Bangladesh. Despite progressive legislation, current governance remains predominantly regulatory, with seasonal fishing bans and marine protected areas generating short-term livelihood shocks for coastal households. Through institutional analysis, policy review and 30 semi-structured interviews with state and non-state actors, findings reveal three structural limitations: (i) exclusionary eligibility criteria arising from a narrow legal definition "fisherman," (ii) inadequacy and weak targeting of compensation schemes such as rice distribution, and (iii) institutional fragmentation across fisheries, social welfare and climate policy domains. The analysis argues for integrating fisheries incentives into national adaptive social protection systems.

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## **Assessment of the vulnerability of two coastal fishing communities in Ghana and the pathways to their viability and resilience**

**Arizi, Evans Kwasi**

University of Cape Coast, Ghana, [evans.arizi@ucc.edu.gh](mailto:evans.arizi@ucc.edu.gh)

**Richard Adade, Richmond Korang, Vinolia Pitris Pawar, Selorm Awiah Dzantor,  
Pèlèbè Edéya Orobiyi, Esinam Attipoe, Denis Worlanyo Aheto**

University of Cape Coast, Ghana

The livelihoods of many coastal small-scale fishing communities in Ghana have been threatened by overfishing, environmental degradation, pollution and climate change. Among the key fishing communities that have been heavily affected by those threats are Anlo Beach and Ankobra. Having recognized that these communities are vulnerable, it is critical to mobilize adequate knowledge about their vulnerabilities as well as explore possible ways of making those communities viable and resilient. So, this study sought to ascertain the factors that contribute markedly to the vulnerabilities of the two fishing communities and also explore the possible pathways of making these communities viable. During the study, the mixed method was employed for data collection. Specifically, a household survey and interviews were conducted in the two fishing communities to obtain relevant information on the social-ecological resilience and adaptive capacity of the coastal communities to hazards. A drone or unmanned aerial vehicle was employed to map the human settlements, and the vegetation covers of the two communities as well as water bodies that surround the communities for future references and planning. While quantitative data were analyzed using descriptive statistics, qualitative data were first transcribed, coded and thematically analyzed. From the results, tidal floods, erosion, water pollution and food insecurity were the main factors that contributed to the vulnerabilities of the two communities. Nevertheless, construction of rocky groynes, responsible gold mining, proper disposal of refuse, sustainable agricultural and fishing practices, and beneficial social protection programs can potentially make the fishing communities viable and resilient.

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## **Numbers and narratives: Exploring viability transitions in small-scale fisheries in island villages of Gosaba, Indian Sundarbans**

**Jenia Mukherjee**

Indian Institute of Technology, India [jenia@hss.iitkgp.ac.in](mailto:jenia@hss.iitkgp.ac.in)

**Souradip Pathak**, Indian Institute of Technology, India

**Amitrajit Chakraborty**, Indian Institute of Technology / Disha, India

The Indian Sundarbans identifies itself as a vulnerable ecology exposed to multifarious risks including the climate change-induced disasters. Communities residing in the region are severely impacted by the disproportionate effects of disaster risks. Mitigation measures often fail to address this escalating issue as they overlook the community aspiration, agency, and participation from planning to implementation and evaluation and reworking. The current study presents the viability transitions for the small-scale fishing community in a remote island village in the Indian Sundarbans through situated adaptations, with local community as adaptive managers. This study involves a mixed method of quantitative household survey with 400 HHs, complemented with qualitative ethnography to map the community disaster perceptions and followed by participatory multi-actor workshops to co-envison localized adaptation strategies to disaster risks. Presenting the test case from the Kumirmari island village, Gosaba, Indian Sundarbans, this study shows how the local canals are utilized as socio-ecological commons to address viable pathways for climate adaptation through a collective canal fishing experiment (CCFE) in a transdisciplinary engagement. This study also explores the local gender roles in co-curating options for local risk-informed livelihood through scaling up, out, and around the situated allied livelihood enhancement activities centering the CCFE. The CCFE and the allied scaling activities further reveal the potential of replicability across similar geographies and social settings towards transitioning to viability from the climate change-induced disaster risks inducing livelihood vulnerability to the community.

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### **Livelihood transition strategies of small-scale fishers in Batang, Demak and Pati Regencies in Central Java, Indonesia**

**Indah Susilowati**

**Hapsari Ayu Kusumawardhani, Waridin Waridin, Ika Suciati, Zulfikar Al Hafidz, Jubakti Anggoro, Nur Shafika**

University of Diponegoro, Indonesia, [prof.indah@gmail.com](mailto:prof.indah@gmail.com)

Central Java is one of Indonesia's most densely populated provinces, with both northern and southern coastlines. The northern coast's blue economy plays a larger role in sustaining coastal livelihoods than the southern coast, where exposure to high waves from the Indian Ocean constrains marine activities. Building on the Vulnerable to Viable (V2V) research programme, this paper draws on evidence from three case studies in Batang, Demak and Pati Regencies to identify strategies for transitioning small scale fishers' livelihoods from vulnerable to viable conditions. Three potential drivers of transition are hypothesised: Local Wisdom, Culture and Tradition (LWCT); Information, Communication and Technology (ICT); and Gender Participation (GP). Primary and secondary data from the three sites are analysed using mixed quantitative and qualitative methods, complemented by photovoice and ethnographic approaches; infographical analysis is also used to address part of the study

objectives. Preliminary findings indicate that fishers' response behaviours differ across sites in relation to transition 'shocks' associated with LWCT, ICT and GP, and that subsequent improvements in livelihoods and fisheries resource quality may also vary. Nonetheless, a common pattern is observed across all three case studies. As the study is currently in year one of a three-year project, these results should be interpreted cautiously and do not yet support definitive conclusions on the most effective transition pathway. The findings nevertheless imply that policies for managing people and resources in Batang, Demak and Pati should be tailored to the distinctive characteristics of each fishing community and its fisheries resources, while safeguarding progress through a sustainable blue economy, blue growth and blue justice for people and nature to strengthen resilience and well-being.

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**Improving small-scale fisheries viability through cooperative initiative:  
A case study of sumaura fisheries in Kobe City, Hyogo Prefecture, Japan**

**Yinji Li**

Tokai University, Japan, [ringi@tokai.ac.jp](mailto:ringi@tokai.ac.jp)

**Ryo Wakabayashi**, Sumaura Fisheries, Japan

Despite their roles and importance in securing fisheries sustainability, Japanese small-scale fisheries face numerous challenges today, including unstable household income among fishers, aging populations, a lack of successors, and a decline in community vitality. In addition to these challenges, a recent policy change that allows private capital to enter the coastal fisheries sector has raised significant concerns about the situation. Under these circumstances, efforts are being made to improve the viability of small-scale fisheries through collaboration. A good example is the Sumaura Fisheries Limited Liability Partnership Association in Kobe City, Hyogo Prefecture. This association was established in 2014 by small-scale farmers of nori seaweed. According to the association's contract, its members shall be persons with fishery rights belonging to the Sumaura District of the Kobe City Fisheries Cooperative Association and their spouses, who shall engage in the business conducted by the association and invest a specified amount, as determined by the association. In addition to nori aquaculture, it is involved in the processing and selling of marine products and other fisheries, as well as tourism. It not only contributes to the income of fishers but also contributes significantly to the local economy. This study aims to analyze the specific mechanisms and socioeconomic significance of such cooperative initiatives, as well as the reasons for their success, considering them a significant indicator of the transition from vulnerability to viability in small-scale fisheries.

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**The pathways from vulnerability to viability are not often paved with good intentions - the case of Abalone Poaching in the Buffeljagsbaai community, South Africa**

**Moenieba Isaacs**

University of the Western Cape, South Africa, [misaacs@plaas.org.za](mailto:misaacs@plaas.org.za)

Buffeljagsbaai is a rural fishing village on the south-west coast of South Africa, 170 km from Cape Town. This is a small, extremely vulnerable small community. Many depend on social welfare, and live in makeshift dwellings. There is insufficient running water, sanitation or medical facilities, and the nearest school is forty kilometres away. The shellfish abalone, known locally as perlemoen, is in high demand, particularly from the Far East. In South Africa, abalone is heavily restricted, but illegal harvesting by organised criminal networks has caused stocks to plummet and dramatically impacted the legal abalone farming industry. Buffeljagsbaai is at the centre of the abalone poaching activities and with the high levels of desperation and a lack of viable alternatives, compounded by the lure of easy money. The young men in the community are attracted towards participation in illegal poaching activities. We found many women in the Buffeljags community have husbands, sons, partners, and brothers who are engaged in illegal abalone poaching. Traditional engendered roles thus entrap them in supporting these poaching activities by preparing food, cleaning wetsuits, storing catch bags in their freezers and permitting boats to park on their properties. One of the biggest challenges has been the shift from poaching as a small-scale local activity, to the invasion of highly organised external gangs and crime syndicates, destroying local livelihoods and increasing fear and despair. In this presentation we will speak to the illegal pathways to viability and how it can easily result in vulnerability with an arrest, imprisonment, and even death. Discuss why community members engage in criminalized livelihoods? How does the loss of livelihood impact on women and what do they do to survive when their households fall back into vulnerability? To what extent can one situate the criminalised livelihoods to the governance of fishing rights, their land being leased to large-scale abalone aquaculture farms, and access to fishing restricted due to the southern right whale sanctuary.

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**From vulnerability to viability: Temporary octopus closures as viable options for gender empowerment in coastal communities of Tanzania**

**Victor Kasindi**, Ardhi University, Tanzania

**Zanira S. Mpendu, Mwanahija Shali, Masoud Dauda, Rosemarie Mwaipopo, Batuli Yahya, Julius Francis\***

University of Dar es Salaam, Tanzania

Artisanal octopus fishing is widely practiced along Tanzania's coastline by the coastal communities and is an important economic and subsistence activity, traditionally being women's dependable source of income and food. Fishing by hand is a common method implemented by artisanal fishermen and fisherwomen who adopt two approaches: on-foot collection and skin-diving using spears as principal fishing tools. In recent decades, the artisanal octopus fishery in Tanzania has expanded due to a rise in demand and prices in the international market for octopus. Consequently, artisanal fishers have intensified their fishing efforts, expanding their focus from local markets to meet global demand. Declining octopus stocks are posing a direct threat to the livelihoods of local fishers. Periodic closures, also referred to as temporary, short-term, rotational, periodically harvested, or non-permanent closures, temporarily restrict the harvesting of marine resources in specific areas. In Tanzania and other countries in the Western Indian Ocean region, periodic closures have primarily focused on managing the reef octopus *Octopus cyanea* (Gray 1849), a species that is both locally consumed and exported to southern Europe. The primary benefit of periodic closures for fisheries is the accumulation of stock in the closed area and ecological rejuvenation of spawning areas in the reef, all with social and ecological benefits.

Despite the demonstrated ecological and socio-economic benefits of temporary octopus closures, the sustainability and long-term success of such initiatives in Tanzania remain uncertain. Octopus fisheries are among the few coastal activities accessible to people of all genders and age classes. The breakdown of measures associated with such rotational closure systems highlights the need to understand better the factors influencing their effectiveness, community buy-in, and compliance, as well as the socio-economic implications for men and women, and the resilience of these management approaches. Through the V2V project, studies were commissioned to evaluate the implementation (design considerations and operations of periodic octopus closures), the factors (socio-economic and environmental) that favor their sustainability, outcomes, and challenges of these closure systems in Tanzania. The aim was to inform more sustainable and community-driven fisheries management strategies and improve the livelihoods of octopus fishers.

Findings from the studies reveal that while women's participation in the management of octopus closures has increased over time, the level of their benefit has remained constrained by entrenched gender norms, limited training opportunities, minimal powers in decision-making in harvest modalities, and being overburdened by domestic work. Men continue to dominate leadership and decision-making spaces, whereas women are more involved in post-harvest activities and, in some cases, enforcement patrols. Economic benefits from closures were unevenly distributed, as women, who were more reliant on octopus harvesting for income, faced reduced access to alternative livelihoods during closure periods. The potential of inclusive governance to enhance both resource sustainability and community well-being is recognized. The study concludes that temporary octopus closures can contribute to ecological recovery and livelihood improvement. Still,

their success depends on integrating gender-sensitive strategies, strengthening women's leadership capacities, and addressing structural inequalities in resource access and decision-making.

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### **Regulatory injustice in small-scale fisheries - A need for critical examination**

**Suvaluck Satumanatpan**

Mahidol University, Thailand, [suvaluck.nat@mahidol.ac.th](mailto:suvaluck.nat@mahidol.ac.th)

**Ratana Chuenpagdee**, Memorial University, Canada

Injustice in small-scale fisheries encompasses a range of issues, including limited access to resources and markets, inequitable distribution of benefits in the value chain, and lack of participation and representation in decision-making. While the root causes may vary, injustice is often intertwined with policies and regulations, which could benefit one sector while making things worse for another. A comprehensive understanding of why rules and laws are established, what they intend to do, and how they operate can help reveal the underlying cause of injustice and foster thoughtful discussion about pathways forward.

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### **Social-ecological vulnerability and social equity in the small-scale fisheries: Case study of marine protected islands in east Coast Malaysia**

**Gazi Md Nurul Islam**

University of Tun Abdul Razak, Malaysia, [gazi@unirazak.edu.my](mailto:gazi@unirazak.edu.my)

The impact of climate change has negative implications for the livelihoods of coastal communities. Fisheries in coral reef ecosystem in marine protected areas (MPAs) provide economic, social and cultural support to the fisher community. Ecological and social vulnerability are linked, and the level of vulnerability vary by the specific community context. Social-ecological vulnerability framework is utilized to understand how the social and ecological changes affect social equity of fishing dependent communities in East Coast Malaysia. The data for the study was obtained through face-to-face interviews with 250 local fishers from two marine islands (MPA) of East Coast of Peninsular Malaysia using a structured questionnaire. A set of biophysical and socio-economic indicators was used to examine the influence of these factors on social equity of small-scale fisher communities in MPA. The fisher communities were determined to be vulnerable to ecological change due to economic dependence on fishing particularly in Perhentian marine park. Fisher communities were found to be less vulnerable due to high influence of social factors and adoptive capacity particularly in Kapas marine park. Fisher communities were the most

vulnerable, both economically and ecologically due to lack of equitable access to fishing and tourism activities particularly in Tioman marine park. The integration of ecological, social, and economic data reveals that the level of vulnerability varies across fishing communities in the East Coast Peninsular Malaysia. The results indicate that contribution of social factors is essential in improving the social equity of small-scale fisher households in MPA. The results suggest the need to develop flexible well-aligned strategies to adapt to the social ecological impacts of MPA. The results of the study suggest that relevant agencies need to give priority to encouraging local participation and develop flexible well-aligned strategies to adapt to the social ecological impacts. Equitable benefits from MPAs could be realized if fishing communities receive support for human and institutional capacity building and empowerment.

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**Turning tides:  
Climate adaptation and circular bioeconomy in Nigeria's small-scale fisheries**

**Shehu L. Akintola**

Lagos State University, Nigeria, [shehu.akintola2@gmail.com](mailto:shehu.akintola2@gmail.com)

**Kafayat A. Fakoya, Ayorinde Kappo, Agnes O. Godwin**

Lagos State University, Nigeria

Small-Scale Fisheries (SSF) in Lagos face mounting biophysical threats from climate change and invasive aquatic weeds, placing artisanal livelihoods at risk while revealing pathways to resilience. A two-phase Nigeria case study assessed climate vulnerability and weed proliferation. Across ten coastal stations in Badagry and Lekki, oceanographic, climatic, and shoreline variables were analyzed using digital shoreline tools, statistical methods, and machine learning—including PCA and ANN modeling - to evaluate net primary productivity (NPP) and forecast future trends. Findings revealed rising sea temperatures, declining NPP, and rapid coastal erosion, particularly in Lekki, signaling urgent threats to SSF viability. However, Badagry exhibited higher resilience, suggesting that localized interventions such as ecosystem-based management, early warning systems, and climate-smart infrastructure could mitigate risks and support long-term sustainability. The second phase focused on aquatic weed invasions – specifically Water Hyacinth (*Eichhornia crassipes*) and Sargassum (*Sargassum spp.*) – which disrupt ecosystems and exacerbate socio-economic challenges. Field surveys and interviews with 79 fishers across eight communities in Badagry revealed varying vulnerability levels, with proximity to weed-infested waters and limited access to alternative fishing grounds as key risk factors. Fishers reported reduced catch rates, gear damage, and rising operational costs. Notably, the study identified promising valorization opportunities, such as converting Water Hyacinth into household products, offering circular bioeconomic solutions aligned with UN sustainability goals. In conclusion, these findings offer a strategic blueprint for transforming Lagos's small-scale fisheries through integrated,

community-led resilience, climate adaptation, and sustainable innovation - shifting from vulnerability to long-term viability.

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**Transitions between vulnerability and viability: Iterative and multifaceted movements as an integral part of the socio-ecological system of Senegalese SSF**

**Aliou Sall**

CREDETIP, Senegal, [badousall2005@yahoo.fr](mailto:badousall2005@yahoo.fr)

Navigating between vulnerability and viability is generally and mistakenly perceived as a one-way, time-bound movement. This assertion does not stand up to factual analysis. Indeed, vulnerability and transitions in their various forms are two intrinsic values of this socio-ecological system. This can be explained by the correlation between the risks inherent in such an activity on the one hand and the tribulations of its surrounding environment, namely seasonal variations, on the other. This contribution aims to use illustrative cases to demonstrate the dialectical relationship between vulnerability and viability and to characterise transitions as meandering paths for navigation depending on highly changeable contexts and present opportunities. The relationship between vulnerability and viability on the one hand and certain factors related to this socio-ecological system on the other will be chosen to illustrate this dialectic, which is at the root of the iterative nature of these movements. In this way, we will see whether factors such as the market and technology, among others, are factors of vulnerability, transition, or both at the same time. The characterisation of transitions is essential in that it demonstrates the ingenuity of fishing communities in their perpetual search for adaptation, even on a temporary basis, in the face of uncertainty, which is also one of the values of this socio-ecological system. However, transitions for adaptation come at a societal cost, which leads to other forms of vulnerability that should not be overlooked.

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**Livelihoods in transition: Vulnerability and responses of mangrove-dependent fishing communities of the Bangladesh Sundarbans**

**Mohammad Mosarof Hossain**

**Mohammad Mahmudul Islam\***

Sylhet Agricultural University, Bangladesh, [mahmud.cmf@sau.ac.bd](mailto:mahmud.cmf@sau.ac.bd)

Small-scale fisheries (SSF) in Bangladesh are central to food security, employment, and rural livelihoods, yet they remain trapped in persistent vulnerability shaped by interacting socio-economic, environmental, governance, and technological stressors. This paper examines

how these vulnerabilities evolve and, more importantly, how SSF systems can transition toward long-term viability. Guided by the V2V Transitions framework, the analysis integrates mixed-method evidence from an extensive fieldwork (490 interviews, 21 focus groups, 70 key informant interviews). Findings show that coastal fisheries experience the highest vulnerability, followed by riverine and floodplain systems. Key drivers include market volatility, asset poverty, weak governance, climate-related hazards, and limited access to appropriate technologies. Responses are dominated by short-term coping strategies - informal borrowing, asset liquidation, reduced consumption, and temporary migration - primarily at household level. Collective and institutional responses remain limited. While these actions demonstrate adaptive capacity, they remain reactive and often reinforce long-term precarity rather than enabling transformation. The analysis identifies a transition pathway from vulnerability to viability characterized by three shifts: from reactive coping to anticipatory adaptation; from individual responses to collective and institutional action; and from livelihood dependence to diversified, resilient socio-ecological systems. Enabling this transition requires coordinated multi-level interventions, including secure tenure through fisher identification systems, strengthened co-management institutions, access to affordable credit and insurance, skills development and livelihood diversification, and nature-based solutions such as ecosystem restoration. These measures could move SSF beyond survival-oriented responses toward sustainable livelihoods, improved governance, and resilient ecosystems. The chapter submits that viability emerges when social protection, adaptive governance, and ecological sustainability converge.

## Session 6.1 – Wednesday, April 29

### Small but Powerful: Harnessing the diversity of small-scale fisheries to solve sustainability challenges at the food-climate-biodiversity nexus

#### Organizers

**William Cheung**, University of British Columbia, Canada, [w.cheung@oceans.ubc.ca](mailto:w.cheung@oceans.ubc.ca)

**U. Rashid Sumaila**, University of British Columbia, Canada, [r.sumaila@oceans.ubc.ca](mailto:r.sumaila@oceans.ubc.ca)

#### Speakers

**William Cheung**, University of British Columbia, Canada

**U. Rashid Sumaila**, University of British Columbia, Canada

**Alfred Paarlberg**, Wageningen University, The Netherlands

**Olusola O. Ogunfeitimi**, University of Lagos, Nigeria

**Kaylie Jones**, University of Victoria, Canada

**Vinolia Pitris Pawar**, University of Cape Coast, Ghana

**Folalu Awe**, Lagos State University, Nigeria

#### Synopsis

Small-scale fisheries (SSF) are vital for food security, livelihoods, culture, and biodiversity across the globe, yet they are disproportionately vulnerable to climate change, ecosystem degradation, and competing ocean uses. This proposed special session, organized by the international Solving Sustainability Challenges at the Food-Climate-Biodiversity Nexus (Solving-FCB) Partnership, will bring together researchers, early-career scholars, and community partners from Africa, Canada, Costa Rica, and the Netherlands to exchange knowledge and experiences on how SSF can drive solutions at the nexus of food security, climate change, and biodiversity conservation.

The Solving-FCB partnership works through case studies across five continents, including Ghana-Nigeria, Costa Rica, Canada, China, and the Netherlands, to co-develop equitable, transdisciplinary approaches for climate-resilient fisheries and seafood systems. This session will showcase insights from these collaborations for SSF, highlighting innovative pathways

such as nature-inclusive seafood approaches, circular aquaculture, small-scale fisheries-oriented marine planning, and Indigenous-led governance.

A central theme is North–South exchange: the session will emphasize how diverse contexts generate both shared challenges and unique innovations for SSF to navigate through the food-climate-biodiversity nexus. The format will be interactive and participatory, including presentations, followed by a moderated discussion that probes lessons learned, trade-offs and synergies, and opportunities for policy innovation. The proposed session has strong representation from the Global South and early-career participants.

By linking experiences across continents, the session will address Congress themes of fostering sustainable fisheries management, leveraging ocean–climate–biodiversity interlinkages, and promoting cooperation across regions. It will illustrate how SSF, though “small,” are powerful agents of sustainability when their multidimensional values are recognized and supported. Participants will leave with concrete insights into how transdisciplinary research and equitable partnerships can enhance the resilience of SSF and contribute to global Sustainable Development Goals.

## Session 6.4 – Wednesday, April 29

### Protecting people, fish and food through social protection: Lessons from Zanzibar, Bangladesh and Tunisia

#### Organizer

**Annabelle Bladon**, IIED, UK, [annabelle.bladon@iied.org](mailto:annabelle.bladon@iied.org)

#### Speakers

**Annabelle Bladon**, IIED, UK

**Ramphueng Tisa**, Federation of Thai Fisherfolk Association, Thailand

**Julius Francis Woiso**, WIOMSA, Tanzania

**Yassine Ben Arfa**, FAO, Tunisia

#### Discussants

**Samiya Selim**, University of Liberal Arts Bangladesh, Bangladesh

**Eddie Allison**, WorldFish, Malaysia

#### Synopsis

Small-scale fishers and fish workers play a central role in managing fisheries and conserving ecosystems, making significant contributions to global goals such as food and nutrition security. Yet fish stocks are in decline globally, and people in the small-scale sector often bear the greatest costs of conservation and management efforts, while benefits flow elsewhere. Given their mandate to protect people and promote better opportunities, social protection interventions have untapped potential to enable and incentivise environmental stewardship in small-scale fisheries, while upholding human rights and addressing the needs of vulnerable people. As demonstrated by work from the World Bank, IIED, FAO, and country partners, the opportunities include conditional cash transfers during closed seasons, tailored social insurance schemes, and – where longer term measures are required to reduce pressure on a specific fishery, area, or subsector – economic inclusion approaches and labour market programs that combine re-skilling with grants and complementary financial services.

However, short-term mindsets and narrow policy visions prevail, meaning that there is still relatively little investment in joined-up approaches to social protection and fisheries management globally. Where these approaches are taken, evidence of outcomes—particularly fisheries management and ecological outcomes—is usually limited. This session will share research and policy efforts to better connect social protection with fisheries management and related conservation measures across several countries. Through discussion of these efforts and their own experiences, participants will reflect on the opportunities and challenges for connecting social protection with fisheries management and exchange ideas on priority actions needed to realize the potential of this approach.



April 27-May 1, 2026

Hua Hin, Thailand

**Science Café**

## Science café #1 – Wednesday, April 29

### Governing the ocean together: From local management measures to legal recognition in the SWIO

#### Hosts

**Maíra Ferreira Valladares Soares**, WWF Germany, [maira.valladares@wwf.de](mailto:maira.valladares@wwf.de)

**Edson José**, WWF Mozambique, [ejose@wwf.org.mz](mailto:ejose@wwf.org.mz)

**James Antilahy**, WWF Madagascar, [jantilahy@wwf.mg](mailto:jantilahy@wwf.mg)

#### Synopsis

Small-scale fisheries (SSF) in Mozambique and Madagascar are undergoing pivotal changes. New national legal frameworks (Mozambique's REPMAR, Madagascar's Fisheries Resource Management Transfers) offer unprecedented opportunities to formally recognize community rights in marine governance. At the same time, the process of elaborating formal fisheries governance plans is often lengthy, complex and costly. What does it take to move from informal community management to formal state recognition? This Science Café will explore what it takes to bridge policy frameworks with local realities in the Southwest Indian Ocean (SWIO), with lessons that resonate globally across SSF contexts.

This session will draw on experiences of the project SWIO Fisheries – Improving governance, livelihoods and ecosystems, financed by the German Federal Ministry for Economic Cooperation and Development (BMZ). The project started in 2019 currently works with SSF communities in Madagascar and Mozambique to improve the governance of fisheries resources. Participants will engage in interactive games and discuss how co-management can work in practice, how monitoring data informs decision-making, what strategies ensure that formal legal recognition is meaningful for communities and challenges related to these three topics.

Guiding questions for discussion include:

From Measures to Plans and practice: What are the potential opportunities and real challenges of the process of transitioning from informal to formal state-recognized governance? How can communities retain agency while engaging with national legal frameworks? How are formalized management measures implemented on the ground?

Participatory Monitoring: How does community-led monitoring strengthen governance, enforcement, and adaptive management? What lessons emerge from connecting locally collected data to broader decision-making frameworks?

Lessons and Transferability: What governance lessons from Mozambique and Madagascar can inform SSF elsewhere? How can context-specific challenges be addressed while ensuring equitable, effective management?

Using short field stories, visuals, and interactive prompts, the Café will foster discussion that highlights practical strategies for aligning meaningful community action with existing opportunities in national legal frameworks. Participants will leave with insights on co-management and participatory monitoring that strengthen small-scale fisheries governance in the SWIO and beyond.

### **Format**

Considering we are proposing a Science Café, we would use the initial 2 minutes to briefly present the context of the session and highlight our work in Inhambane (Mozambique) and Ambaro Bay (Madagascar). The discussion will then be guided by short field stories, visuals, and interactive prompts, designed to engage participants and explore the questions outlined in the session synopsis. If we have access to two roundtables, the first table could focus on the development and implementation of fisheries management plans, while the second could center on participatory monitoring and how communities use data to inform governance decisions.

## Science café #2 – Wednesday, April 29

### Capacity-building of small-scale fisher organizations – perspectives from International Collective in Support of Fishworkers (ICSF)

#### Hosts

**Maarten Bavinck**, University of Amsterdam, The Netherlands, [j.m.bavinck@uva.nl](mailto:j.m.bavinck@uva.nl)

**Beatriz Mesquita**, Joaquim Nabuco Foundation, Brazil, [beatriz.mesquita@fundaj.gov.br](mailto:beatriz.mesquita@fundaj.gov.br)

**Lina M. Saavedra-Díaz**, Universidad of Magdalena, Colombia,

[lsaavedra@unimagdalena.edu.co](mailto:lsaavedra@unimagdalena.edu.co)

#### Synopsis

The International Collective in Support of Fishworkers (ICSF) has played an important role in realizing the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (FAO, 2014). It is now collaborating with other organizations and movements, including TBTI, to implement the Guidelines in the context of different countries and regions. After all, the circumstances of small-scale fishers (men/women) differ from one place to the next. The current action programme focuses on capacity-building for small-scale fisher organizations at different scale levels (local/national/regional). After all, these organizations are frequently unaware of the national and international dynamics affecting the sector.

This science café will include members of ICSF from different parts of the world who will speak about the capacity-building activities that they are involved in.

#### How does this session contribute or is related to one or more of the congress themes?

The science café is geared toward discussing the various ways in which small-scale fisher communities – and particularly the younger generation – can be assisted in improving their capacities for representing SSF interests in local, national and international arenas. All participants are members of ICSF.

## Science café #3 – Wednesday, April 29

### Integrating traditional ecological knowledge and science for rights-based fisheries governance in Palau, Indonesia, and the Philippines

#### Hosts

**Kevin Mesebeluu**, Melekeok Managed Access + Reserve Management Association, Palau,

[kmesebeluu@rare.org](mailto:kmesebeluu@rare.org)

**Raymond Jakub**, Rare Indonesia, [rjakub@rare.org](mailto:rjakub@rare.org)

**Jam Tabing**, Rare Philippines, [jtabing@rare.org](mailto:jtabing@rare.org)

#### Synopsis

This science café will highlight how Traditional Ecological Knowledge (TEK), customary leadership, and modern science are being woven together across Palau, Indonesia, and the Philippines to create resilient, rights-based fisheries management. Using examples from the Melekeok community in Palau, the Pasi Kolaga community in Indonesia, and a community from Southern Palawan in the Philippines, the session will showcase how reviving and adapting ancestral practices strengthens food security, restores ecosystems, and safeguards cultural heritage, while increasing resilience and securing livelihoods. We also hope to include women and indigenous fisher voices from the region in our session, pending funding.

In Palau, customary leaders, elders, and women fishers continue to steward reef systems through time-tested practices such as seasonal closures, traditional weirs, and reef gleaning. These practices are being revitalized and complemented by coral reef restoration, community-based surveillance, and eco-tourism linked to cultural heritage.

Similar currents run through the Philippines and Indonesia. In the Philippines, customary knowledge guides seasonal closures and marine sanctuary management, often strengthened through indigenous cultural communities, small-scale fisherfolk organizations and local governments. In Southeast Sulawesi, Indonesia, Traditional Ecological Knowledge is integrated with modern science through an adaptive fisheries management process and tool, ensuring that communities lead informed decision-making about their marine resources.

The theme of ‘Young Futures’ is central across these experiences. Youth inherit ancestral knowledge, but they also bring fresh perspectives and tools that reimagine how fisheries can be sustained. In all four countries, young fishers and community leaders are not only learning traditional practices but also pioneering innovation, from digital monitoring

systems to coral reef restoration initiatives. Their involvement ensures that fisheries management is not only intergenerational but also forward-looking, with young people actively shaping the future they want for their oceans and communities.

The theme of 'Regenerative Wisdom' anchors these efforts. Small-scale fishers possess deep knowledge that restores ecosystems while sustaining food systems. Their practices embody regenerative food production: delivering nutritious, climate-friendly seafood while protecting habitats and cultural traditions. From Palauan women maintaining intertidal gleaning practices, to some Indonesian communities making the no-take zone decision in their customary houses, these examples illustrate how ancient wisdom, combined with modern tools, regenerates ecosystems and strengthens social bonds.

By weaving together these stories from Palau, Indonesia, and the Philippines, the session will show how TEK and science can be harnessed to advance resilient small-scale fisheries, inform policy, and inspire global action toward sustainable and equitable ocean futures.

## Science café #4 – Wednesday, April 29

### How well does fisheries legislation address small-scale fisheries issues?

Come and find out!

#### Hosts

**Julia Nakamura**, Development Law Service, Legal Office, FAO, [julia.nakamura@fao.org](mailto:julia.nakamura@fao.org)

**Ana Suarez Dussan**, Equitable Livelihoods Team, Fisheries and Aquaculture Division, FAO, [anamariasuarezd@gmail.com](mailto:anamariasuarezd@gmail.com)

#### Synopsis

In this interactive Science Café, FAO will launch the second edition of the **Policy and Legal Diagnostic Toolbox for Sustainable Small-Scale Fisheries**. This toolbox features 3 tools designed to assess the national policy and legal framework of a country at different levels of governance: international, national and community. This assessment aims to identify the strengths and gaps in the national policy and legal framework for better implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines), endorsed by the Committee on Fisheries of the Food and Agriculture Organization of the United Nations (FAO) in 2014. It also contributes to clarifying how laws and policies are perceived and understood by fishing communities on the ground.

The toolbox will assist users to:

- Identify national policy and legal instruments that implement relevant international and regional frameworks;
- Carry out a preliminary assessment of how national fisheries policies and laws address key small-scale fisheries issues in line with the SSF Guidelines;
- Identify strengths and gaps in the national legal and policy frameworks, and support the development of recommendations to improve alignment; and
- Collect information, views and experiences from small-scale fishers and their communities on how policies and laws are understood and applied in practice.

The toolbox includes three components, which can be used separately or together depending on needs and priorities:

- **Tool 1 (global/regional level):** identifies relevant legally binding international instruments that a country has signed, ratified or adhered to;
- **Tool 2 (national level):** assesses how national policy and legal frameworks address key small-scale fisheries issues in line with the SSF Guidelines;
- **Tool 3 (local level):** gathers views from small-scale fishers and their communities on how laws and policies are understood and implemented in practice.

### **Format of the session**

This will be a hands-on, participatory, and interactive session. In each round of the science cafe (25-30 minute), participants will carry out a role-play exercise and work together to:

**First round:** identify actions for applying the toolbox from a government perspective, and from a community perspective;

**Second round:** examine the identified actions and order them by priority for each stakeholder group (government, and community);

**Third round:** examine the priority actions for government (from a community perspective) and the priority actions for communities (from a government perspective).

In all 3 rounds, participants will also be asked to reflect and share how the toolbox could support their own work.

**Come and join us to explore how this toolbox can be used in practice!**

## Science café #5 – Wednesday, April 29

### The crucial nexus of access and stewardship in small-scale fisheries

#### Hosts

**Anthony (Tony) Charles**, Saint Mary's University, Canada, [tony.charles@smu.ca](mailto:tony.charles@smu.ca)

**Lena Westlund**, FAO, Italy [lena.m.westlund@telia.com](mailto:lena.m.westlund@telia.com)

#### Rationale

The inextricable linkage of rights and responsibilities in small-scale fisheries requires simultaneously ensuring the rights of fishers, while facilitating the stewardship and sustainability practices of those fishers. This duality of access and stewardship is a core aspect of the Small-Scale Fisheries Guidelines and the Code of Conduct for Responsible Fisheries. The Science Café will contribute to implementation of the SSF Guidelines as the first session at any major gathering to explore the access-and-stewardship duality, contributing directly to current work of FAO. The Science Café builds on work of FAO on two major themes: (1) environmental stewardship by small-scale fisheries (see “Environmental Stewardship by Small-Scale Fisheries” report and <https://ssf-stewardship.net>) and (2) fishery aspects of strengthening small-scale producers’ equitable access to resources. Participants will have the opportunity to contribute to FAO’s new educational material being developed on the access-and- stewardship linkage.

#### Format

The Science Café will involve three 30-minute sessions, each covering the same 5 components:

1. A report on current work on strengthening small-scale producers’ equitable access to resources, to look at practical and policy strategies on access to resources, space, markets, financing and credit, information and knowledge, technology, social protection, and legal services.
2. A report on work relating to environmental stewardship by small-scale fisheries, including fishers and fishworkers, their communities and organizations – as effective contributors to safeguarding aquatic resources and environments, supporting sustainable livelihoods.

3. A first interactive component in which participants discuss, in small groups, aspects of SSF access, including any particular experiences or case studies.

4. A second interactive component in which participants discuss, in small groups, aspects of SSF stewardship, including any particular experiences or case studies.

5. A group exploration of the interaction of access and stewardship, specifically how access (to resources and fishing space, as well as other aspects) facilitates stewardship, and vice versa, i.e., how responsible stewardship actions of fishers support the case for better access.

Each session will close with a final summary along with a discussion of next steps.

## Science café #6 – Wednesday, April 29

### Preferential access for small-scale fisheries

#### Hosts

**Sonia Sharan**, Oceana, USA, [ssharan@oceana.org](mailto:ssharan@oceana.org)

**Roberto Ballon**, Fisherfolk Leader, Ramon Magsaysay Awardee, Philippines,  
[ngos4fisheriesreform@gmail.com](mailto:ngos4fisheriesreform@gmail.com)

**Marita Rodriguez**, NGOs for Fisheries Reform, Philippines,  
[ngos4fisheriesreform@gmail.com](mailto:ngos4fisheriesreform@gmail.com)

#### Synopsis

As global demand for coastal and marine spaces increases, small-scale fisheries face increasing pressures and competition for access to nearshore waters—the areas that secure and sustain their livelihoods, cultures, and communities. Burgeoning ocean economies, marine spatial planning, area-based conservation, and pressure from fisheries and aquaculture alike, all contribute to the problem. Preferential access areas (PAAs) – also known as inshore exclusion zones or artisanal stewardship areas – are potentially powerful tools to ensure tenure and access rights to small-scale fisheries, especially in areas of intense competition with industrial fisheries and other development interests. However, the design and implementation of PAAs often occurs in isolation, with best practices rarely shared across different fishery and geographic contexts. This lack of horizontal exchange can limit the effectiveness of preferential access efforts, leaving communities and those policy-makers and practitioners who support them to “reinvent the wheel” when designing new PAAs, rather than build on collective experience.

Leading into the World SSF Congress, we will hold/ held a workshop on preferential access for small-scale fishers - a collaborative event that features fisher voices on “Just Harmony.” The workshop embodies the principle of science by and for fishers and features community-led initiatives on preferential access in research and policy.

This session will report outcomes from the workshop and showcase community-based, small-scale fisher led, and Indigenous models of preferential access areas. It will show how preferential access areas that fully engage with fishers (including women, youth, and Indigenous representatives), the primary beneficiary, can address equity, secure tenure, and address intergenerational justices.

## Science café #7 – Wednesday, April 29

### Navigating the future: Early-career perspectives on just and sustainable small-scale fisheries research, policy and practice

#### Hosts

**Md. Ruyel Miah**, University of Waterloo, Canada, [mrmiah@uwaterloo.ca](mailto:mrmiah@uwaterloo.ca)

**Richard Nyiwung**, University of Waterloo, Canada, [rnyiwun@uwaterloo.ca](mailto:rnyiwun@uwaterloo.ca)

#### Synopsis

The future of small-scale fisheries (SSF) research and practice is connected to the thoughts and perspectives of the next generation of emerging scholars and practitioners. Youth and **early-career researchers (ECRs)** (students, post-docs, and professionals within 5 years of their PhD or equivalent experience) are at the forefront of reimagining methodologies, theories, and policies applied in small-scale fisheries research. Their work is crucial to advancing the field and shaping the future of the small-scale fisheries research agenda/programs. As emerging scholars, Youth and ECRs often pioneer the use of new ideas, emerging technologies and interdisciplinary approaches to understand “just” sustainable and equitable transformation of small-scale fisheries.

At the 5<sup>th</sup> World Small-Scale Fisheries Congress, we are organizing a special Science Café drawing from some of the graduate students’ and ECRs’ activities (e.g., students’ webinar, thinktank session, etc.) hosted by the V2V Global Partnership. This will be a dedicated space to amplify the voices of youth and ECRs, as well as established scholars, to exchange ideas and perspectives from different geographies and localities. The Science Café is open to all, offering fresh, critical, and often different perspectives on the future of small-scale fisheries and ocean sustainability. This unique session aims to create a platform for youth and ECRs to share their thoughts and interests, build new collaborative networks, and engage in a forward-looking dialogue with the broader field of small-scale fisheries research, policy and practice.

#### Format and flow

This Science Café format will allow for deep, conversational engagement. The 90-minute session will be divided into three 25-minute rotation blocks, enabling participants to join the conversation at multiple entry points. Before the session starts, the organizing team will deliver a brief invitation to the full Congress audience, explaining the purpose of the table and encouraging attendance.

At the table, each rotation will be facilitated by a team of 2-3 ECRs. The structure of each table is designed to be self-contained and participatory. First, the table hosts will greet participants, introduce themselves, and share the session's main goal. Second, the table will engage in a facilitated discussion guided by two questions: (i) As an early-career voice, what is one established practice in small-scale fisheries research, policy, or management that you think needs to be changed or rethought? (ii) What alternative approach are you proposing, and what gives you hope that this change is possible? Third, the hosts will invite participants to share their ideas, write their key ideas on sticky notes, and add them to a growing "idea wall" at the table.

## **Outcomes**

Throughout the session, ECR hosts will take notes on the conversations and capture ideas from the idea wall. This will help capture the diversity of perspectives shared by both ECRs and established scholars who visited the table. The summary of the themes, insights, and forward-looking ideas generated during the Science Café will be prepared for submission to a journal as a perspective piece.

Science café #8 – Wednesday, April 29

## The SSF Curriculum: Awe-Inspiring learning experiences for young "fishful" futures

### Host

Emi Koch, Coast 2 Coast Movement, Peru, [emi@coast2coastmovement.com](mailto:emi@coast2coastmovement.com)

### Synopsis

This interactive session brings together educators from small-scale fishing communities in Nigeria, India, Madagascar, and Peru, who have co-created and are now piloting the Small-Scale Fisheries (SSF) Guidelines Curriculum in their local contexts. Developed in alignment with the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries, this curriculum offers an innovative educational framework for fostering equity, Blue Justice, and intergenerational learning in fishing-dependent coastal and inland rural villages.

The SSF Guidelines Curriculum reimagines education as a tool for social-ecological transformation, rural innovation, and community revitalization. It engages formal and non-formal teachers as co-researchers and facilitators who guide young people to cultivate their aspirations through meaningful relationships with their natural and built surroundings. Drawing on Common Worlds pedagogies, the curriculum emphasizes learning with the world – education grounded in entanglement with others – rather than learning about the world from a distance.

The session will open with short presentations from educators representing each country, who will share how they have co-created and adapted lesson plans with their students and communities. In Nigeria, teachers have guided students in interviewing elders – including women in fisheries – to document traditional practices and stories that strengthen intergenerational learning. In Madagascar, learners have conducted biodiversity surveys to understand local marine ecosystems and connect these findings to conservation practices. In India, students have interviewed fishers and vendors at the local marketplace to trace the fisheries value chain and reflect on social, economic, and gender equity. In Peru, the curriculum has inspired art projects that express youth perspectives on ocean care, community health, and tenure rights. Together, these experiences demonstrate how education can transform the SSF Guidelines from policy into a participatory practice.

After these brief presentations, participants will embark on a “learning journey” through four to six interactive stations facilitated by the educators. Each station will offer a hands-on activity drawn directly from the curriculum – from a role-playing game on fisheries

governance to ecosystem connections to “capturing” Blue Carbon as mangroves. These experiential micro-workshops invite participants to engage directly with the curriculum’s methods and experience how investigation, imagination, and immersion can cultivate care and critical thinking within small-scale fishing contexts.

The session will conclude with an open discussion circle, where participants will reflect on how these approaches could be adapted in their regions or organizations. Together, we will explore two central themes:

Designing Young Futures – How educators can engage youth in envisioning sustainable small-scale fisheries through locally grounded teaching and relationship building.

Regenerative Wisdom – How the SSF Guidelines Curriculum can serve as a framework for reweaving human and ecological relationships through intergenerational “edutainment” approaches and youth action research.

The session imagines a way forward for integrating the SSF Guidelines as a framework into teacher training and professional development. It aims to build educators' capacity to design place-responsive, justice-oriented learning experiences that engage future generations in cultivating their aspirations in alignment with the well-being of their small-scale fishing communities for sustainable or epic futures.

Science café #9 – Wednesday, April 29

## Art Café: Wall of Life Below and Above Water

### Hosts

**Alice Joan Ferrer**, University of the Philippines Visayas / TBTI Philippines,  
[agferrer@upv.edu.ph](mailto:agferrer@upv.edu.ph)

**Benedict Mark Carmelita, Jem Celyn Ferrer, Pearl Aljean Santacera, Jovy Fluer  
Elpos, Thea Marie Segurigan**  
University of the Philippines Visayas, Philippines

### Synopsis

This session invites participants to move beyond discussion and collectively envision the future of small-scale fisheries and coastal communities. Art helps us imagine the future we want, while science helps us make that future possible. This Art Café brings these together through a shared process of creativity, reflection, and meaning-making. At the center of the session is the “Wall of Life,” a collaborative activity where congress delegates take on three roles. The first group (creators) will illustrate their vision of life above and below water. The second group (interpreters) will reflect on the artwork, identifying key themes, meanings, and insights. The third group (message-makers) will synthesize these into clear messages, highlighting what this vision represents and the actions it calls for. Each group will have 20 minutes, building on the work of the previous group. Through this process, the Wall of Life demonstrates how collaboration, coordination, and shared understanding can generate meaningful insights for research, policy, and practice. It reinforces the role of small-scale fisherfolk and stakeholders as co-creators of a sustainable and equitable future. Ultimately, the session underscores that the future we envision is only possible when we create it— together.

## Science café #10 – Wednesday, April 29

### Reading Small-Scale Fisheries

#### Host

**Svein Jentoft**, Professor Emeritus, UiT - The Arctic University of Norway,  
[svein.jentoft@uit.no](mailto:svein.jentoft@uit.no)

#### Synopsis

This session will showcase the three books written by Svein Jentoft that are part of the TBTI Global Book Series. In 2019, Svein Jentoft wrote 'Life Above Water', a book that brought to the fore the meaning and value of small-scale fisheries and why we should care about them. Through the essays, Svein expertly and humbly provided a way for the readers to understand the 'why' question of social science research, at the same time encouraging fellow social and transdisciplinary scientists to continue to work towards making real change in small-scale fishing communities. Building on these insights, Svein's second book 'The Gift of Community: More Essays on Human Experiences of Small-Scale Fisheries' (2023) places a sharp focus on communities and the intricate connections and embedded relationships between the fisheries and the community. As he explains: "To exist, small-scale fisheries communities need fish and fishers. There are also things that communities offer that small-scale fisheries cannot do without. These are the gifts of community that I talk about in this book." Svein recently released his third book in the series, titled 'Reading Small-Scale Fisheries: Essays on Human Experiences in the Blue Transformation' (2025). As the last book of the trilogy, it is fitting that the book reads like an autobiography, with Svein reflecting on his life experiences and the lessons he learned about small-scale fisheries over the years. These essays reveal how Svein brings wisdom from philosophers and big thinkers in social sciences into fisheries discourse, which helps broaden our understanding about small-scale fisheries and transform how we approach them in research, and in governance.

## Science café #11 – Wednesday, April 29

### Visible voices, vital value: Centering African women in small-scale fisheries for a sustainable blue future

#### Host

Lovin Kobusingye, AWFishNET, Uganda, [lovien2001@yahoo.com](mailto:lovien2001@yahoo.com)

#### Synopsis

Small-scale fisheries (SSF) are a cornerstone of food security, nutrition, and livelihoods for millions in African coastal and riparian communities. Within this sector, women are the backbone of the post-harvest segment, constituting up to 60% of the workforce. Yet, their critical contributions remain consistently overlooked in data, policy, and investment frameworks. They confront systemic barriers, including limited access to finance, technology, and markets. These challenges are increasingly exacerbated by climate change and resource depletion.

The African Women Fish Processors and Traders Network (AWFISHNET), a pan-African network established with the support of AU-IBAR and operational in 44 countries, exists to counter these trends. Through advocacy, capacity-building, and strategic networking, AWFISHNET empowers women by addressing gender inequality, improving resource access, reducing post-harvest losses, and promoting sustainable, inclusive development. This work is also amplified through vital multi-stakeholder partnerships with organizations like the FAO and national fisheries ministries, which support the implementation of frameworks such as the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (SSF Guidelines) and the Continental Strategy for Gender Mainstreaming.

This session, “Visible Voices, Vital Value: Centering African Women in Small-Scale Fisheries for a Sustainable Blue Future,” is designed to create a dedicated platform to move from identifying challenges to co-creating workable solutions. It directly addresses the Congress themes of “Just Harmony,” “Young Futures,” and “Regenerative Wisdom” by positioning African women not as beneficiaries, but as indispensable leaders and agents of change.

The session has five core objectives:

1. Amplifying Lived Experiences through showcasing the realities, innovations, and leadership of African women in SSF directly through their own voices.

2. Bridging Policy Gaps by showing how AWFISHNET's collaboration with AU-IBAR, FAO, and governments advances gender equity and youth engagement in SSF governance.
3. Unlocking Economic Opportunities to explore innovative models for improving women's access to finance, climate-resilient technologies, and equitable value chains.
4. Strengthening regional collaboration and global alliances among AWFISHNET, governments, AU-IBAR, FAO, and development partners to advance women-centered initiatives.
5. Showcasing Regional Learning using concrete examples from National Plans of Action (NPoA-SSF) in Tanzania, Namibia, Uganda, Malawi, and Madagascar that demonstrate the successful integration of women's empowerment into SSF governance and livelihoods.

We believe that centering the voices of African women in this session will contribute to useful partnerships and commitments that enhance their resilience, economic power, and decision-making influence for a truly sustainable and inclusive blue future.

## Science café #12 – Wednesday, April 29

### All my relations: Exploring family resemblance for regenerative fisheries and coastal communities

#### Hosts

**Lawrence Nditsi**, Memorial University, Canada, [Inditsi@mun.ca](mailto:Inditsi@mun.ca)

**Evan Andrews**, Memorial University, Canada, [evana@mun.ca](mailto:evana@mun.ca)

#### Synopsis

In the face of accelerating climate change, small-scale fisheries and coastal communities are confronted with profound environmental, social, economic, and policy challenges. Addressing these challenges requires more than technical fixes; it calls for a rethinking of assumptions and frameworks that guide how we understand, relate to, and care for communities and the oceans. Around the world, cultural traditions may offer powerful teachings that link people, place, and responsibility. In Newfoundland, Canada, the Mi'kmaq hold dear the concept of Msit No'kmaq, loosely translated to “all my relations”, which conveys accountability to human and non-human relationships. In Southern Africa, Ubuntu reminds us that “I am because we are”; the Lakota speak of Mitákuye Oyás'iy (“all are related”). In Hawai'i, Aloha 'Āina emphasizes love and care for the land. These diverse philosophies are distinct, but may share a “family resemblance”: each highlights relational accountability, interconnectedness, and the inseparability of community well-being from ecological health, for generations to come.

This Science Café will create dialogue for learning about and exploring these resonances. During the round tables, people from different cultural, disciplinary, and community backgrounds will introduce relational worldviews from their own contexts as well as share stories that highlight synergies. Speakers and attendees will reflect on how such worldviews can inform practical approaches to climate action, fisheries governance, and community vitality, while foregrounding overlapping insights, shared responsibilities, and respect to the specificity of each tradition. By drawing on the family resemblance among relational worldviews, this Science Café will illuminate how diverse cultural perspectives can collectively reframe climate action for small-scale fisheries and fishing communities. It will show that sustainable futures are about recognizing and reweaving relationships — between people, communities, and the living ocean.

## Science café #13 – Wednesday, April 29

### Empowering women in small-scale aquaculture and fisheries for resilient food systems

#### Hosts

**Mashebane Thosago**, AWFISHNET, South Africa, [womenininfisheries@gmail.com](mailto:womenininfisheries@gmail.com)

**Mathema Makola**, SANWFA, South Africa, [dihlaping.aquap@gmail.com](mailto:dihlaping.aquap@gmail.com)

#### Synopsis

Aquaculture and fisheries have long supported food security, livelihoods, and economic growth worldwide, from subsistence to commercial activities. However, the small-scale fisheries and aquaculture sector's growth has been limited, largely constrained by gaps in data to guide policy and decision-making. Participation has also fallen short of its potential, as available information is often inaccessible, leaving key stakeholders – who could strengthen and expand the sector – unaware of the opportunities and benefits for themselves and their communities.

Over the past few decades, progress has been made in community awareness, research, training, and capacity building. Governance structures have also been improved and advancements made in policy and legislative frameworks. However, this progress remains gradual and requires substantial support, as well as robust, intentional, and dedicated interventions. Challenges around climate change and other anthropogenic pressures also need to be considered in decision-making. Evidence-based approaches are fundamental to advancing equitable, inclusive, and sustainable development in small-scale fisheries and aquaculture.

This document presents a strategic framework to enhance the visibility, rights, and economic participation of women in the global fisheries and aquaculture sectors, particularly in Africa and the broader Global South. Recognizing that women are critical but often undervalued actors – comprising up to 50% of the workforce in pre- and post-harvest activities – the framework addresses systemic gender inequality, which poses a significant threat to food security and climate resilience.

The approach is grounded in international and continental policy frameworks, including the FAO's Small-Scale Fisheries Guidelines, AU-IBAR's Continental Strategy for mainstreaming Gender in Aquatic Biodiversity Conservation and Environmental Management, AUDA-

NEPAD's Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa, the AU Agenda 2063 and the African Union's Africa Blue Economy Strategy.

This Policy Brief Policy makes key recommendations including:

- Secure Tenure and Governance, Economic Empowerment, Capacity and Leadership, Data and Accountability towards women empowerment.

By adopting the recommendations, countries can unlock the full potential of women in fisheries and aquaculture, thereby strengthening food systems, advancing gender equality, and building a more inclusive and climate-resilient blue economy.



April 27-May 1, 2026

Hua Hin, Thailand

## **Individual Abstracts**

**Indigenous stewardship:  
A catalyst for conflict resolution in small scale fisheries in Epe. Lagos**

**Abiodun-Solanke, Ayojesutomi**

Mundus Maris Sciences and Arts for Sustainability, Nigeria, [t.solanke@mundusmaris.org](mailto:t.solanke@mundusmaris.org)

**Fakoya K. A., Mangai E. O., Williams S.**

Mundus Maris Sciences and Arts for Sustainability, Nigeria

Nigeria's small-scale fisheries (SSF) sector is plagued by conflict driven by competing interests among artisanal fishers, industrial trawlers and other actors within the Marine Blue Economy. Despite their vital role in livelihoods and food security, SSF communities are often marginalized in governance structures, leading to resource degradation and social tension. A paper presented by Mundus maris asbl argues that traditional stewardship, rooted in local and traditional ecological knowledge, can serve as a powerful tool for conflict resolution and sustainable governance. The paper presents a replicable model for transforming conflict into collaboration, drawing from participatory engagements like a World Ocean Day 2025 workshop in Lagos. During a role-play exercise titled "Saving Our Seas Together," stakeholders collectively navigated a shared management scenario. The results showed that restorative insight, informed by the lived experiences of coastal communities, can form the basis for inclusive and ethical decision-making. The exercise also embodied two other core themes: Just Harmony, which was evident in the creation of safe, multi-stakeholder dialogue platforms emphasizing respectful engagement and active youth engagement, which highlighted the role of young leaders in promoting continuity, innovation and long-term resilience. The ultimate argument is that embedding traditional stewardship into the application of the SSF Guidelines offers a practical, community-driven path toward equity and sustainability. By linking ecological wisdom, inclusive governance and youth participation, Nigerian coastal communities can move from fragmentation to co-creation, securing their ecosystems and way of life.

**How does this paper contribute or is related to one or more of the congress themes?**

This paper makes several important contributions to the ongoing discussion around small-scale fisheries (SSF) governance and conflict resolution. It provides a practical, real-world example of how to implement theoretical concepts. The research advances the conversation on three key themes:

It moves the discussion from simply acknowledging Indigenous knowledge to demonstrating how it can be practically applied as a tool for conflict resolution within the framework of the SSF Guidelines. The paper introduces and validates the principle of **Just Harmony**, which goes beyond mere consensus building. It shows how creating safe dialogue platforms can lead to respectful engagement, offering a new measure of success for participatory governance. It positions young leaders not as passive beneficiaries but as active agents of continuity, innovation, and long-term resilience, showcasing their vital role in co-creating a sustainable future for their communities.

## Strengthening governance and livelihoods through community-led fisheries co-management in Kenya's North Coast

Adero Ojwang, Jeniffer

Fauna & Flora, Kenya, [Jeniffer.Adero@fauna-flora.org](mailto:Jeniffer.Adero@fauna-flora.org)

Joshua Oginda, Northern Rangelands Trust, Kenya

Food security, income, and cultural identity around the Kenya coastline are largely anchored on small-scale fisheries (SSF) that are, however, affected by weak governance, devastating gears, and lack of access to markets, making them vulnerable. The paper will analyze the ways in which community-based co-management of fisheries in Pate – Kiunga seascape enhances governance, sustainable fishing and livelihoods. The information was gathered in 2022-2025 in the form of community discussions, systematic surveys, patrol records, and participatory observation in collaboration with Beach Management Units (BMUs), governmental institutions, as well as conservation organizations. The consultations with stakeholders resulted in the substitution of the Gear Exchange Programme by post-harvest loss (PHL) reduction support. Between 2023-2025, more than 180 fishers were positively impacted by distribution of cold-chain equipment and market partnerships with an average reduction of 45% in average maximum PHL and market access. The sales increased to 135.38 tons (KES 24.77 million) in Year 3, as a direct result of the sales increase as a result of Fish-to-Market programme, which boosted sales to 35.4tons (KES 6.84 million) in Year 2, benefiting 155 fishers. Patrol reports indicate that criminal actions were almost stopped in LMMAs and the numbers of arrests decreased. Capacity-building improved BMU governance and gender inclusiveness, which formed better community stewardship. Community-based and integrated conservation, governance, and livelihood strategies achieve practical outcomes in terms of livelihoods and biodiversity as well as SSF communities. The implementation of co-management throughout the Southwest Indian Ocean needs a long-term partnership among different stakeholders, gender equity, and capacity-building.

### How does this paper contribute or is related to one or more of the congress themes?

The Community-led Governance/ Co-management:

**Contribution:** The article presents an evidence-based case study of co-management in Kenya, on the North Coast, which highlights how successful community-based co-management can be. Rather than theorizing about co-management it provides practical evidence as to how co-management enhances governance, decreases unlawful activities (as indicated by a decline in number of arrests and criminal offenses), and establishes community stewardship.

**Moving the discussion forward:** It changes the discussion on whether or not to implement co-management. to "potentially how do we make it more effective? by specifying the particular processes such as capacity-building and gender inclusiveness which are the keys to success. It

demonstrates that successful co-management does not only revolve around regulations, but also the development of social and institutional abilities of the communities in question.

**Contribution:** The paper dispels the conventional perspective on conservation and livelihoods being different or even antagonistic objectives. It gives a clear illustration of an integrated strategy in which conservation strategies (e.g. decreasing the destructive gear and preventing unlawful activities) is directly connected with livelihood (e.g. post-harvest loss is reduced and the accessibility and sales into the market is boosted).

**Moving the discussion forward:** It gives other projects a precedent to look at and it demonstrates that conservation can in turn be an incentive through sustainable livelihoods, such as in the case of the Fish-to-Market and the cold-chain equipment programs. This shifts the debate to one that is more holistic and incentive-oriented as opposed to mere enforcement of the resources.

**Contribution:** BMU governance and gender inclusiveness were given as the explicit mentions in the abstract. This implies that this paper is not just an abstract discussion of the concept of community, but it also focuses on the narrower and little-known role of gender in effective co-management. Moving the Discussion Forward: Incorporating this finding, the paper highlights that gender equity is not merely a social justice question, but a viable requirement to good governance. It proposes that going forward, co-management initiatives should deliberately adopt and embrace gender equity to create and establish a better community custodianship.

Market Access: Post-Harvest Loss (PHL):

**Contribution:** The paper presents a certain and innovative solution - the replacement of a "Gear Exchange Programme" with a post-harvest loss (PHL) reduction support. It gives strong quantitative information, including a 45 percent decrease in PHL and a massive growth in sales, to demonstrate that this approach is effective.

**Moving the discussion forward:** This shifts the agenda out of merely controlling the fishing activities (which in itself may be a challenging task) to offering the economic solutions that would directly benefit the fishers. It emphasizes the use of the whole value chain, catch to market, and demonstrates that solving the economic vulnerability can be more of a powerful force of sustainable behavior than simply sustainability conservation rules. Overall, it can be stated that this paper is not a mere descriptive study, but a well-documented and results-oriented case study that contains clear evidence and practical lessons. It advances the debate further by showing how co-management can be well implemented in a holistic manner, which encompasses governance, livelihoods and gender equity in order to get both biodiversity and socio-economic gains.

## Perceptions of coastal urbanization impacts among Kenyan gleaners: Insights from a hierarchical cluster analysis

Alizadeh Ashrafi, Tannaz

Uppsala University, Sweden, [tannaz.ashrafi@uit.no](mailto:tannaz.ashrafi@uit.no)

Lina Mtwana Nordlund, Uppsala University, Sweden

The growth of human populations along the coast, together with the pressures of coastal urbanization, puts significant stress on key coastal ecosystems such as seagrass meadows. These pressures act as a major driver of environmental and socio-economic change in coastal regions. Gleaners, who collect shells and mollusks by hand in intertidal and shallow seagrass meadows, are in close contact with these ecosystems. As a result, they may perceive the impacts of coastal urbanization on their primary sources of food and income more directly than other resource users. The objective of this paper is to examine how Kenyan gleaners, across various settlement types (rural, semi-urban and urban) with different socio-economic conditions, perceive the impacts of coastal urbanization on seagrass meadows and their gleaning activities. A total of 21 gleaners were interviewed across seven coastal settlements along the Kenyan coast. Hierarchical cluster analysis identified four distinct groups of gleaners differing in settlement type, age, household characteristics, training, ease of access to seagrass areas, direct exposure to environmental change, and perceptions of urbanization impacts. The urbanization perception ranges from no perceived impact to limited perceived impact, mixed perceptions, and highly negative perceptions. The heterogeneity in gleaners' perceptions of urbanization, indicates a tailored and context-specific interventions are necessary to effectively manage coastal ecosystem.

### **How does this paper contribute or is related to one or more of the congress themes?**

Understanding gleaners' perceptions is important because perceptions influence gleaning practices, compliance with management measures, and willingness to engage in conservation of coastal ecosystems. Furthermore, incorporating gleaners' perspectives into decision-making can support more inclusive and sustainable coastal management. Finally, our study raises awareness of the ecological and socio-economic importance of seagrass ecosystems, which are often overlooked compared to other coastal ecosystems.

## Participatory management and security of tenure rights in small-scale fisheries

**Andreu-Cazenave, Miguel**

Sustainable Fisheries Partnership, USA, [miguel.andreu@sustainablefish.org](mailto:miguel.andreu@sustainablefish.org)

**Patricia Amorim, Susana Segurado**

Sustainable Fisheries Partnership, USA

A novel tool was developed to help protect the rights of small-scale fishers. This instrument, aligned with the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and the United Nations Sustainable Development Goals, assesses two fundamental dimensions of fisheries governance: the implementation of participatory management and the security of tenure rights. Within each dimension, the tool focuses on various characteristics, including the presence and effectiveness of appropriate mechanisms and possible risks threatening each feature. This approach is highly dependent on government transparency, as it is based on secondary data. Since 2023, nearly 50 fisheries in 7 countries (Chile, Peru, Mexico, Senegal, Mauritania, India, and Indonesia) have been evaluated using this methodology by FishSource. The analysis of these fisheries allows a deep understanding of the mechanisms used by management systems to a) include fishers in decision-making processes, b) ameliorate their livelihoods, and c) assure social and cultural equity. Additionally, common traits are identified among fisheries within each country that would allow specific issues to be tackled with great impact for all small-scale fishers. Therefore, social progress, such as the small-scale fleet formalization process in Peru, triggers improved scores in several fisheries simultaneously. The application of this framework enables comparisons to be made between different governance approaches within and among countries. Furthermore, this information could facilitate collaboration among research and implementation teams (e.g., managers, seafood industry members, and other stakeholders), fostering progress in management strategies and, ultimately, improving the quality of life for fishers.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our research is clearly aligned with the **Just Harmony** theme of the congress, as it provides neutral indicators of how adequately fisheries management is considering small-scale fishers, involving them in the management process, and safeguarding their tenure rights. Our methodology aims to highlight any weaknesses and offer recommendations that would facilitate the resolution of conflicts through better considering small-scale fishers' needs, as raised in the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries.

## **Towards a transdisciplinary network for just and sustainable fisheries and oceans in Canada**

**Andrews, Evan**

Memorial University, Canada, [evana@mun.ca](mailto:evana@mun.ca)

**Tony Charles**, St. Mary's University, Canada

**Derek Armitage**, University of Waterloo, Canada

**Brennan Lowery**, St. Thomas University, Canada

With the world's longest coastline and hundreds of coastal communities, Canada has immense complexity, diversity, and dynamism across three coasts and inland waters. Meanwhile, Canada has committed to working with provinces, territories, and Indigenous Peoples to address complex challenges through collaborative approaches. Traction is gaining for a new vision grounded in sustainability, justice, and well-being for coastal communities. To that end, Canada has endorsed important agendas like the Small-Scale Fisheries Guidelines, which supports sustainable small-scale fisheries, and has begun to develop a national Blue Economy strategy, which promotes sustainable ocean economic development. However, one year into the UN Decade of Sciences for Sustainable Development it has never been clearer that traditional sectoral approaches confined to disciplinary or departmental silos are insufficient. Advancing sustainable fisheries in equitable oceans, especially for coastal communities, demands new forms of research and governance collaboration. One possibility is through a transdisciplinary network that can mobilize alternative futures for fisheries and oceans governance. This paper shares efforts to forge a national network for just and sustainable oceans and coastal communities in Canada. The network builds on national and regional dialogues and a partnership between social science and humanities researchers and Fisheries and Oceans Canada. We outline emerging themes of the network, such as linking knowledge and practices across Canada's diverse fisheries, access rights, intergovernmental and interregional collaboration, community-driven social innovation, and linking to other livelihoods and sectors like land-based food systems. The presentation also invites experiences from other network-building initiatives at national, regional, and global levels.

### **How does this paper contribute or is related to one or more of the congress themes?**

The proposed paper aligns to the themes of the 5<sup>th</sup> World Small-Scale Fisheries Congress in several ways. It advances Just Harmony by outlining opportunities for greater connectivity between diverse regions and coastal peoples in Canada, grounded in a social justice-based approach that centers Indigenous rights and the need for greater recognition of small-scale fisheries. Young Futures are prioritized through the network's emphasis on community-based social innovation in coastal communities and ocean sectors, which are abundant and often driven by young people returning or relocating to small coastal communities, as well as exploration of alternative career opportunities to appeal to youth in coastal communities. Finally, the paper highlights the importance of Regenerative Wisdom reflected in Indigenous Peoples' knowledge systems and discussing efforts to build an inclusive network that encourages mutual learning and cross-cultural exchange.

**Artisanal fishing in Mesoamerica:  
Regenerative wisdom, just harmony and young futures**

**Arce Ibarra, Minerva**

Universidad Autónoma de Sinaloa, Mexico, [arwenypepper@gmail.com](mailto:arwenypepper@gmail.com)

**Martín Correa-Arce**, Universidad Autónoma Comunal de Oaxaca, Mexico

This study aims to identify what are the dynamics of small scale-fishing related to regenerative wisdom, just harmony and young futures which are so far sustaining Zapotec and Maya livelihoods in two areas of Mesoamerica. We used a mixed methods approach including social surveys as well as anthropology-based participatory observation which involves taking part in different activities while casting a critical view of the unfolding of different community practices. Our data were analyzed and compared with the description made by native authors such as Floriberto Diaz, Jaime Luna and Aura Cumes regarding the hidden roles of social practices strengthening social fabric. On regenerative wisdom, our results demonstrate that shared responsibilities such as the Mayan “Kanan kaax”, an ancient task of caring for life in local territories that involves casting a deep glance at the different components of ecosystems to actively restore them, are crucial to both having an updated diagnose of ecosystem health and teaching the young commoners the needs and risks of such environments. Likewise, communal feasting is important, for it contributes to maintaining awareness of the state of the resources needed to elaborate the traditional recipes. Regarding just harmony, it is also in daily life where we found respect, solidarity and equity, such as when the catch of fishing expeditions are shared among the participants, a practice found both in Zapotec and Maya communities, even though they are from separate linguistic families and their territories being almost 1000 km apart. Lastly, young community members have been undertaking leading roles in revitalizing cultural practices, and highlighting the importance of ancient knowledge, such as the use of mother tongues, by creating social media content which is consumed by audiences from all ages. Our study concludes that to maintain ecosystem health in Mesoamerica, all of the strings which weave the social fabric on cultural-specific territories must be taken care of.

**How does this paper contribute or is related to one or more of the congress themes?**

It identifies the dynamics of small scale-fishing related to **Regenerative Wisdom, Just Harmony** and **Young Futures** which are so far sustaining Zapotec and Maya livelihoods for scholars and decision makers to take them into account.

## Capacity-building by and for small-scale fishers in South Asia – the route of formal education

**Bavinck, Maarten**

University of Amsterdam, Netherlands, [j.m.bavinck@uva.nl](mailto:j.m.bavinck@uva.nl)

This paper assesses the adaptation strategies of small-scale fisher populations in South Asia by reference to Arun Agrawal's (2008) analysis of local institutions in the context of vulnerability. The paper pays special attention to the efforts of individual small-scale fisher youth (and their parents!) to improve their educational qualifications. Statistical data demonstrates that educational achievements of fisher youth (men and women) have advanced rapidly in recent decades. Many small-scale fishers are using this newly acquired 'human capital' to migrate temporarily or more permanently to other locations and vocational fields, outside fishing. What is motivating this adaptation strategy? And what implications does it have for the future of small-scale fishing and for the capacities of their organizations and movements? I argue that as long as economic development does not provide sufficient alternative employment, small-scale fishers may largely remain locked into their present occupations.

**How does this paper contribute or is related to one or more of the congress themes?**

This paper - that focuses on youth and their parents - is in line with theme 2 (young futures).

## Just transitions to sustainable fisheries

**Bennett, Nathan**

WWF / People and the Ocean Specialist Group, IUCN, [nathan.bennett@wwf.org](mailto:nathan.bennett@wwf.org)

Healthy oceans and sustainable fisheries are foundational to the livelihoods, food security, and prosperity of millions of people worldwide. Yet in many places around the world, fisheries are unsustainable – fish productivity, stocks and catches are below optimal levels and in decline. At the same time, fisheries are often highly unjust – in that small-scale fishers are often marginalized and excluded, and benefits are inequitably distributed among sectors and groups. Therefore, there is a need to simultaneously pursue sustainability and justice in fisheries. Yet, conservation and management actions intended to improve fisheries can further entrench injustices, when those who have rights to or depend on fisheries are not included or considered in decision-making and action-taking. For example, the existing tenure and access rights of Indigenous Peoples and small-scale fishers, and the livelihoods of women, are often not adequately understood and incorporated into fisheries policies and management. This paper explores the challenge of how to facilitate just transitions and transformations to sustainable fisheries – with a particular focus on coastal small-scale fisheries. To do so, it will draw from a combination of theory and illustrative case studies.

## **“Yote tuliyonayo”: Sense of place and the intergenerational transfer of traditional knowledge in small-scale fishing practices in Lake Nyasa, Tanzania**

**Bikuba, Anastazia**

Sokoine University of Agriculture, United Republic of Tanzania, [anastazia.bikuba@sua.ac.tz](mailto:anastazia.bikuba@sua.ac.tz)

**Victoria Gowele**, Sokoine University of Agriculture, United Republic of Tanzania

People and communities along Lake Nyasa have for centuries settled and utilised the lake’s resources to support the local economy, food security, and other related sociocultural activities. Fishing has been a mainstay for locals with the intergenerational transfer of practices, i.e., fish harvest, conservation, processing, and preservation. How locals have remained attached to fishing and a deep sense of place has been a focus of our exploratory research with community elders, women, and youths. Through participatory storytelling approaches and interviews, we found varying attributes that have shaped community practices, place attachment, and social learning that have helped secure viability in the face of changing and unfolding environmental and socioeconomic challenges. Here we posit three key factors shaping the present and future of fishing along Lake Nyasa. First, exposure of young people to fishing practices at an early age has helped promote the intergenerational knowledge transfer and continuous engagement in fishing for food and livelihoods. Second, limited livelihood options and overall attachment to fishing have led a significant number of locals to choose fishing as a first livelihood choice over other secondary economic activities. Locals proudly engage in fishing regardless of their education and status. Third, locals feel neglected by the government in terms of support and investments in programs that elevate the capacity and skills of the people for fishing and non-fishing activities. Fishing in Lake Nyasa presents a resilient and dependent ecosystem that has maintained a strong sense of place and harmony among the people and communities.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper's arguments are centered around the importance of intergenerational knowledge transfer and cultural practices that have shaped and maintained a sense of place among people and communities along Lake Nyasa, Tanzania. These arguments fall between the regenerative wisdom and the youth's futures. It is evident that youth acquire fishing knowledge most effectively through hands-on experiences with their elders, such as boat building and fish net making. Beyond that, they also embrace environmentally responsible practices such as planting trees along the lake and conservation of breeding sites. Overall, these practices highlight the importance of regenerative wisdom passed on to the younger generation. Moreover, given that youth constitute the primary participants in fishing activities, they should be actively engaged in shaping conversations about the future of the fishers and the role they envision for themselves. Unfortunately, this has not been the case along Lake Nyasa, where young people, despite being central to the sector, are often excluded from such discussion, particularly by the local government authorities along the lake area.

**The ocean equity index:  
A framework to assess equity in ocean initiatives, projects, and policies**

**Blythe, Jessica**

Brock University, Canada, [jblythe2@brocku.ca](mailto:jblythe2@brocku.ca)

**Joachim Claudet**, CNRS, PSL-EPHE-UPVD, CRIOBE, Maison de l'Océan, France

**David Gill**, Duke University, USA

**Natalie Ban**, U. of Victoria, Canada

**Graham Epstein**, Blue Range Solutions / U. of Waterloo, Canada

**Georgina G. Gurney**, James Cook University / U. of Tasmania, Australia

**Stacy D. Jupiter**, Wildlife Conservation Society, USA

**Shauna L. Mahajan**, WWF, USA

**Sangeeta Mangubhai**, Talanoa Consulting, Fiji

Rachel Turner, U. of Exeter, UK

**Nathan J. Bennett**, WWF, USA / International Union for the Conservation of Nature,

Switzerland/ U. of British Columbia, Canada

**Stéphanie D'Agata**, UMR ENTROPIE (IRD, University of Reunion, CNRS, U. of New Caledonia,

Ifremer), c/o IUEM, France

**Phil Franks**, IIED, United Kingdom

**Jacqueline Lau**, James Cook University, Australia

**Gabby Ahmadia**, WWF, USA

**Mark Andrachuk**, ReConnect Consulting, Canada

**Pavane Annasawmy**, CESAB-FRB, France

**Victor Brun**, CNRS, PSL-EPHE-UPVD, CRIOBE, France

**Emily S. Darling**, Wildlife Conservation Society, USA / U. of Toronto, Canada

**Antonio Di Franco**, Stazione Zoologica Anton Dohrn, Sicily Marine Centre, Palermo and

National Biodiversity Future Center (NBFC), Italy

**Louisa Evans**, U. of Exeter, UK

**Natali Lazzari**, James Cook University, Australia / U. of Santiago de Compostela, Spain

**Josheena Naggea**, Stanford University, USA / Charles Telfair Centre, Mauritius

**Veronica Relano**, U. of Santiago de Compostela, Spain

**Maria C. Pertuz**, Fair Carbon, Switzerland

**Sebastian Villasante**, U. of Santiago de Compostela, Spain

**Noelia Zafra-Calvo**, U. of the Basque Country, Spain

Small-scale fishers play a crucial role in sustaining livelihoods, food security, and coastal social-ecological systems worldwide. Yet, inequities affecting small-scale fisheries are widespread and accelerating. Fisheries governance aimed at advancing equity for small-scale fishers requires a systematic approach to measure equity and track progress over time. Here, we present the Ocean Equity Index (OEI), a framework consisting of 12 criteria

designed to assess the equity of initiatives, projects, and policies affecting small-scale fishers and fish workers, and to identify actionable pathways for improving equity. We apply the index to case studies at local, national, and global scales, demonstrating how the OEI generates structured, comparable data to support evidence-based decision-making across development, conservation, and fisheries governance contexts. The OEI provides a theoretically grounded and widely applicable tool to guide the design, implementation, and evaluation of more equitable small-scale fisheries governance, contributing to inclusive development outcomes, strengthened rights, and the long-term viability of small-scale fisheries.

**How does this paper contribute or is related to one or more of the congress themes?**

Our paper directly engages with the **Just Harmony** theme, highlighting the importance of equity and justice in fisheries governance while providing a free, accessible tool to advance this agenda.

**Ecosystem-based management:  
A path towards more just decisions?**

**Bundy, Alida**

Fisheries and Oceans Canada, [alida.bundy@dfo-mpo.gc.ca](mailto:alida.bundy@dfo-mpo.gc.ca)

**Shelley Denny, Suzanne Dobson, Melissa Nevin, Allie Rivers, Heidi Weigand, EBM WG  
Members**

Ecosystem-based management (EBM) is a holistic, inclusive approach to sustainably co-manage aquatic systems. Among its rich body of principles, the values of transdisciplinarity, diverse knowledges, justice and equity are recognised. We have developed an EBM Framework that articulates a comprehensive suite of core objectives and values that considers management issues and problems across Governance, Ecological, Economic and Social and Cultural spectrums. Critical to addressing marine management issues are the rights and stakeholders themselves with user and stewardship roles over aquatic ecosystems and their resources. Through EBM implementation, we have been exploring diverse mindsets and relationships between rights and stakeholders and how a path toward EBM embraces an inclusivity of Indigenous knowledge and values in governance and management processes. We first provide a brief background of the collaborative development of the EBM Framework, led by Fisheries and Oceans Canada, and associated research, led by the Atlantic Policy Congress of First Nations Chiefs Secretariat (APC) in eastern Canada, then explore the potential alignment of Indigenous knowledge and values and the principles of EBM. Through the identification of the common values and principles, we further explore how those commonalities can serve as a bridge toward co-governance. We submit that embracing multiple knowledge systems and developing and implementing shared and equitable decision-making processes can build stronger foundations rooted in trust, respect, and reciprocity and better co-management. Finally, we discuss how the EBM framework can be used to develop advice that includes the identification and quantification of trade-offs and the implications for small-scale fisheries.

**How does this paper contribute or is related to one or more of the congress themes?**

Through the identification of the common values and principles underpinning ecosystem-based management and Indigenous knowledge systems, we explore how those commonalities can serve as a bridge toward co-governance.

## **Transforming fisheries value chains through entrepreneurship and innovation: Lessons from EmpredeMar (Galapagos, Ecuador)**

**Burgos, Felix**

Charles Darwin Foundation, Ecuador, [felix.burgos@fcdarwin.org.ec](mailto:felix.burgos@fcdarwin.org.ec)

**César Viteri, Carlos Silva**

Charles Darwin Foundation, Ecuador

Entrepreneurship and innovation can be powerful drivers of resilience and transformation in small-scale fisheries, particularly in places vulnerable to economic disruption. In the Galápagos Islands, the COVID-19 pandemic exposed the fragility of an economic model that heavily depends on tourism and food imports, reinforcing the need to reimagine the seafood system with social fairness, ecological stewardship, and systemic resilience at its core. This study presents how, using Theory U, multiple local stakeholders, including youth, co-created a shared vision for the Galápagos Seafood System to make it more resilient, prosperous, just, and autonomous. This vision has guided the development of new seafood business models that generate financial, environmental, social, and inspirational returns. Since 2021, five ventures have collaborated within an Entrepreneurship Community, later expanding to 25 businesses committed to responsible fishing and value-chain transformation. The program EmpredeMar supports this process by strengthening local capacities through incubating, accelerating, and de-risking ventures, with innovations in funding, partnerships, and ethical value propositions. The Galápagos experience has been replicated in mainland Ecuador through collaborations among government, NGOs, the private sector, and local fishers. The program aims to connect responsible fishing initiatives with conscious consumers, demonstrating that small-scale fisheries can chart just, harmonious, and regenerative futures. Galápagos stands as a beacon of what Young Futures, Just Harmony, and Regenerative Wisdom can look like in practice.

### **How does this paper contribute or is related to one or more of the congress themes?**

Sharing success stories of entrepreneurship and innovation in the small-scale fisheries value chain, led by women and young fishermen from the Galapagos Islands who seek to highlight the work of the fisherman, responsible fishing in harmony with the ecosystem, and connect their seafood products with the market and conscious consumers.

**Breaking the chains:  
Small-scale fishers' access to value-added markets**

**Calosso, Marta C.**

FisherFolkFirst, Turks and Caicos Island, [marta.calosso@fisherfolkfirst.org](mailto:marta.calosso@fisherfolkfirst.org)

**John A.B. Claydon**, FisherFolkFirst, Turks and Caicos Islands

Globally, small-scale fishers struggle to maximize returns from their landings because they cannot access higher value markets directly. Instead, out of necessity, they often sell their catch to intermediaries at lower prices. This dynamic can lead to a poverty trap from which fishers are unable to escape especially when it is reinforced by loans, advances, and gear purchases that need to be repaid. With no incentive to focus on quality, fishers maximize the quantity of their landings which further keeps prices low while also jeopardizing sustainability. To address these challenges, we tested two complementary approaches in the Turks and Caicos Islands, a luxury tourist destination where small-scale fisheries are marginalized and most seafood is imported: (1) Empowering fishers through an inclusive, multi-lingual web app that links fishers directly to customers while catering to users with limited digital (and actual) literacy, and (2) Establishing ethical intermediaries embracing principles of social enterprise that benefit fishers and fish workers alike. Both approaches promoted high quality, sustainable, responsibly sourced seafood and allowed fishers to profit from higher value markets. While the app had the potential to provide better returns, more choices, and a greater level of independence, the most marginalized fishers struggled with the digital 'fisher-to-market' model. For them, an intermediary was a practical necessity. Thus, focusing solely on fishers' direct access to markets may not be the most equitable solution, but should be combined with efforts to encourage intermediaries to embrace more ethical practices.

**How does this paper contribute or is related to one or more of the congress themes?**

**Just harmony:** Our paper describes two complementary approaches designed to improve fishers' access to high value markets. In theory, bypassing intermediaries in the supply chain would be the ideal solution. However, we concluded that the most marginalized fishers would not be able to benefit from this approach, and that a more equitable solution requires intermediaries to persist but operating in a more ethical manner.

**Assessing changes perception:  
Urbanization and small-scale fishery in two coastal lagoons**

**Cánovas-Molina, Almudena**

IRD UMR MARBEC Université Montpellier, France, [almucanovass@gmail.com](mailto:almucanovass@gmail.com)

**Jean Wencélius**, CRIOBE, French Polynesia

**Teriitutea Quesnot**, Université Côte d'Azur, France

**Jennifer Beckensteiner**, AMURE, France

**Adrien Comte**, LEMAR, France

**Olivier Thebaud**, AMURE, France

**Jose Maria Bellido**, IEO, Spain

**Sophie Gourguet**, AMURE, France

Small-scale fisheries (SSF) are complex socio-ecological systems in often highly dynamic contexts facing disturbing events, challenges and stressors that are often cumulative. Indicators are useful tools to evaluate system's status and changes as they reduce the complexity of a system into manageable units. In this study, socio-ecological indicators of change have been defined to ultimately build a COmmon Framework for the Assessment of Changes (COFAC) with the aim of understanding the effects of disturbing events in SSF, improve the capability to address changes, and provide small fishers with tools to assess their own strategies. In this study, a place-based approach was applied with the selection of two coastal lagoon case studies: Mar Menor in Murcia (Spain) and Paea in Tahiti (French Polynesia). Situated in very different geographical regions they share nonetheless a context of rapid urbanization in the last decades. The perception of these transformations have been analysed through interviews and direct observations together with existing fishery data and grey literature. COFAC integrates key concepts as: Variability, Management, Equity and Adaptability and is ready to be applied in very different SSF contexts worldwide.

**How does this paper contribute or is related to one or more of the congress themes?**

- In COFAC there is a look into **Just Harmony** among stakeholders that shape collective action and ultimately equity of the fishery system. Conflicting views regarding future or existing fishing regulations and certain fishing practices appeared during the assessment and have been analysed.
- In COFAC there is also a look into the **Regenerative Wisdom** hold by fishing stakeholders. Through interviews, this study has gained insight in how SSF perceive and face socio-ecological changes.

**Small-scale fisheries in the Upper Paraná River basin, Brazil:  
Experience and future paths**

**Castro Campanha, Paula Maria**

Instituto de Pesca/SAA-SP, Brasil, [paulagc08@gmail.com](mailto:paulagc08@gmail.com)

**Maria Letizia Petesse**, Instituto de Pesca/SAA-SP, Brasil

**Luciana Carvalho Bezerra de Menezes**, Instituto de Pesca/SAA-SP, Brasil

**Maria José Alencar Vilela**, Universidade Federal do Mato Grosso do Sul -UFMS/Câmpus  
Três Lagoas, Brazil

**Fernando Rogério de Carvalho**, Universidade Federal do Mato Grosso do Sul – Câmpus  
Três Lagoas – UFMS/Câmpus Três Lagoas, Brazil

**Lidia Sumile Maruyama**, Instituto de Pesca/SAA-SP, Brazil

**Maria Helena Carvalho da Silva**, Independent consultant, Brasil

**Denilson Burkert**, SAA-APTA REGIONAL de Adamantina, SP, Brasil

Small-scale professional fisheries in Brazil, which supply nearly 60% of the fish consumed nationally, have historically faced continuous processes of social and economic devaluation. As a result, they remain largely invisible within public policy frameworks. The Upper Paraná basin, home to rivers of high ichthyological diversity, also represents one of the most ecologically transformed regions due to the cumulative impacts of dams, invasive species, pollution, and habitat loss. This study provides a historical review of artisanal fisheries, drawing on participatory research and field observations to document regenerative practices developed and articulated by artisanal fishers. Our approach integrates sustainability, ecology, and citizenship, emphasizing the role of local knowledge in shaping adaptive strategies. The findings highlight diverse regenerative initiatives, including the use of specific gear and technologies, participatory revision of fisheries regulations, and recovery of marginal, spawning, and recruitment habitats. These practices emerged from local demands in response to intense environmental pressures that have significantly altered the abundance and composition of fish stocks, profoundly reshaping the livelihoods of fishing communities. Regenerative fisheries thus emerge as a viable and necessary pathway, combining sustainable production with active ecological restoration. By acting as interpreters of ecosystem changes and advocates for adaptive measures, fishers reinforce their cultural heritage and territorial rights while contributing to biodiversity conservation, income generation, and food security at both local and global scales. Furthermore, recognizing these initiatives allows a deeper understanding of the real conditions faced by fishers, facilitating the development of public policies that support resource management and strengthen community resilience.

**How does this paper contribute or is related to one or more of the congress themes?**

The abstract presents a historical overview of small-scale artisanal fishing in regions of the Upper Paraná River basin, based on results from participatory research and field observations. It seeks to identify, through the voices of artisanal fishers, processes involving regenerative practices related to fishing activities.

**Actor or spectator:**

**The role of local and Indigenous communities' knowledge in research**

**Cavallo, Marianna**

IRD, UMR 6539 LEMAR (Univ Brest, CNRS, IRD, Ifremer), France, [marianna.cavallo@univ-brest.fr](mailto:marianna.cavallo@univ-brest.fr)

**Sarah Joly**, IRD, UMR 6539 LEMAR (Univ Brest, CNRS, IRD, Ifremer), France

**Teriitutea Quesnot**, Université Côte d'Azur, CNRS, ESPACE – UMR 7300 / Universitaire de France, France

Indigenous and local communities are increasingly involved in scientific research in the context of climate vulnerability evaluation, natural resources management (conservation) or to fill gaps in knowledge, for instance, in fish stocks assessment. While their valuable contribution is widely recognized, there is debate around the way such knowledge is collected and used. In June, we carried out interviews with such communities, researchers, administrations and NGOs in French Polynesia to know more about the way local (traditional) knowledge is collected, integrated and recognized in science. Such study falls into the thematic of ethical participatory science and have explored issues like 1) transparency in research objectives, researcher affiliation and funding institution; 2) the recognition of the intellectual property of the knowledge holders; 3) the identification of any risk for the participants and the protection of sensitive information; and 4) definition of the impact of the research for the participants and the communities they belong to. The themes identified in the interaction community-researcher includes fisheries, pearl farming, climate change, conservation, marine protected area, traditional medicine, archeology etc. and the researcher profiles span from anthropology to chemistry. Preliminary results indicate a growing demand of locals to participate in research projects, the redundancy of the questions, and the little access or understanding of results.

**How does this paper contribute or is related to one or more of the congress themes?**

This presentation will contribute to the discussion around the relationship between fisheries communities and researchers (**Just harmony**) as well as the role of local and traditional knowledge in fisheries management and conservation (**Regenerative Wisdom**). The Regenerative Wisdom topic is particularly relevant for our case study since we would like to highlight the complementarity of scientific and local knowledge.

**Role of principles and values in fisheries management:  
Normative foundations of community rulemaking in small-scale fisheries of West Bengal**

**Chackraborty, Amitrajit**

National Federation of Small-Scale Fishworkers (NFSF), India,  
[amitrajit.chakraborty@gmail.com](mailto:amitrajit.chakraborty@gmail.com)

Rulemaking have long been an integral part of community-based fisheries management, critical for ensuring community harmony and equity over access to resources. However, increasing pressures stemming from biodiversity loss, climate change, and state-endorsed “blue grabbing” of coastal and marine spaces for promotion of tourism, trade and commercial fisheries have intensified conflicts and disputes among marine fishing communities over access to increasingly scarce fisheries resources. In this context, I draw from ethnographic case studies of community rulemaking processes in the ‘khoti(s)’ of West Bengal to understand what kind of values and principles are demonstrated by the community institutions in making of the rules and regulations related to fisheries management. To approach the study, I critically reflect on the literature on community-based natural resource management, adaptive co-management, and interactive fisheries governance, while driving the fieldwork based on the following empirical questions – How do community-based rulemaking processes evolve and address changes arising from ecological, political, technological, and market-based factors? How are intra-community disputes over access to resources adjudicated through community rulemaking? What values and principles serve as the normative basis in making of rules and regulations? Ethnography of the principles underlying community rulemaking processes in relation to management of fisheries can enrich the literature on legal pluralism and potentially contribute with key policy insights in marine fishing regulation to ensure the long-term sustainability of marine fisheries resources, local livelihoods of small-scale fishing communities and food security.

**How does this paper contribute or is related to one or more of the congress themes?**

Understanding community-based rulemaking processes contribute to the broader literature on fisheries management while answering whether the processes uphold **Just Harmony** within the community. In this paper, specifically looking at the values and principles which support the rulemaking processes helps in understanding the basis by which the rules are formed and implemented in the community to ensure access to resources in a just and equitable way.

## Balancing seafood sovereignty and sustainable livelihoods in a small-island nation

Claydon, John A.B.

FisherFolkFirst, Turks and Caicos Islands, [john.claydon@fisherfolkfirst.org](mailto:john.claydon@fisherfolkfirst.org)

Marta C. Calosso, FisherFolkFirst, Turks and Caicos Islands

The right of peoples to healthy and culturally appropriate food is threatened throughout the world. In small-island nations, access to local seafood is largely supported by their small-scale fisheries. However, striving to maintain seafood sovereignty can conflict with multiple local and external agendas. National policies to develop tourism around SCUBA diving, snorkeling, and recreational (catch-and-release) fishing promote the live value of charismatic but traditionally consumed species such as sharks, turtles, and bonefish (*Albula vulpes*) at the expense of fishers' livelihoods and local food availability. Global and regional initiatives often campaign for bans on threatened species regardless of their local conservation status and cultural importance as food. Strategies to develop higher-value markets for small-scale fishers may also jeopardize seafood sovereignty when consumers can no longer afford traditional seafood, or if fishers switch to more profitable species. We used the Turks and Caicos Islands, a small-island nation in the Wider Caribbean Region, as a model to assess the impact of these competing agendas on small-scale fisheries and seafood sovereignty. We also identified equitable approaches to maintain traditional access to local seafood while also supporting sustainable livelihoods for small-scale fishers within the context of national, regional, and global conservation priorities.

**How does this paper contribute or is related to one or more of the congress themes?**

**Just harmony:** Our paper specifically addresses the role of small-scale fisheries to resolve conflict and bring balance to coastal communities around the issue of diminishing seafood sovereignty as small-island nations pursue sustainable livelihoods and address broader conservation agendas.

## Estimating global vulnerability of small-scale fisheries to conflict with industrial fishing

**Cronin, Melissa**

Duke University, USA, [melissa.cronin@umassd.edu](mailto:melissa.cronin@umassd.edu)

**Elena Finkbeiner**, Center for Oceans, USA / University of California, USA

**John Virdin**, Duke University, USA

**Gabrielle Carmine**, Duke University, USA

**Kathryn H. Dalton**, Center for Oceans, USA

**Juno Fitzpatrick**, Center for Oceans, USA

**Christina C. Hicks**, Lancaster University, UK

**Maria del Mar Mancha-Cisneros**, Michigan State University, USA

**Xavier Basurto**, Duke University, USA / Stanford University, USA

Achieving coupled goals for food security and conservation in coastal areas requires equitable and sustainable governance of small-scale fisheries (SSF). However, conflict between coastal large-scale fisheries (LSF) in increasingly industrialized oceans threaten the critical contributions of SSF to the UN Sustainable Development goals. To assess these risks, we estimate global vulnerability of coastal fisheries using a novel Small-scale and Industrial Fisheries Interaction Index of vulnerability and applied it to 135 countries using two recently available global datasets of SSF and LSF activity. We find that vulnerability is highest in countries where SSFs are most important for nutrition, but governance is weak and nearshore LSF activity is high, particularly in Africa and Asia. But we also identify low-exposure outlier countries with unexpectedly low risk of SSF-LSF interactions, offering insights into potential bright spots that can inform proactive policy and management. Notably, some of these countries have implemented SSF rights-based preferential access areas, suggesting that securing exclusive fishing zones for SSF may help reduce vulnerability. Our findings underscore the need to proactively strengthen SSF access rights and limit LSF overcapacity to mitigate SSF-LSF interaction vulnerability and make progress toward the Sustainable Development Goals.

### **How does this paper contribute or is related to one or more of the congress themes?**

My paper aligns closely with the **Just Harmony** theme by highlighting inequities in access to marine resources between small- and large-scale fisheries and identifying pathways to create more just and sustainable governance systems. By revealing global patterns of vulnerability and showcasing bright spots where policies like preferential access areas have successfully reduced conflict, this work provides actionable insights for regenerative governance that protects the livelihoods and food security of coastal communities. These findings contribute to building a future where SSF can thrive in balance with conservation and development goals.

## Community livelihoods and social capital drive participation in MPA management in the Philippines

**Dacillo, Joela Mizchelle**

Partido State University, Philippines, [dacillo.joela@parsu.edu.ph](mailto:dacillo.joela@parsu.edu.ph)

**Emma L. Ballad**, Department of Agriculture-Bureau of Fisheries and Aquatic Resources  
Region 2, Philippines

**Yoshinori Morooka**, Kochi University, Japan

**Teruyuki Shinbo**, Kochi University, Japan

Effective marine protected area (MPA) management in small-scale fisheries hinges on meaningful local participation, yet outcomes across the Philippines remain uneven. This study examines how community-based livelihoods and social capital shape residents' involvement in MPA management in Claveria, Cagayan. We conducted a survey to 195 randomly sampled fishers and local residents and estimated a probit model linking self-reported involvement in MPA management to four factors: (1) perceptions of fishery status, (2) exposure to livelihood programs, (3) civic participation in community activities, and (4) social capital-operationalized as trust and reciprocity. Results indicate that participation in livelihood programs, higher civic engagement, and stronger trust and reciprocity are each positively associated with involvement in MPA management. More favorable perceptions of fishery status are likewise correlated with greater involvement. These findings suggest that pairing co-designed livelihood initiatives (e.g., eco-tourism or value-added fisheries) with investments that cultivate trust and reciprocal norms – through fisher organization strengthening and inclusive community assemblies – can lower participation costs, align incentives, and broaden stewardship. By centering local knowledge and equitable decision-making, the study contributes practical pathways for co-governance in small-scale fisheries.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper advances **Just Harmony** by providing empirical evidence that community livelihood programs and social capital (trust and reciprocity) increase fair participation in MPA governance.

**Property rights education in small-scale fishing:  
Experiences on the Brazilian coast**

**de Freitas, Rodrigo**

Southern University of Santa Catarina, Brazil

[rodrigues.rodrico@ulife.com.br](mailto:rodrigues.rodrico@ulife.com.br)

While Indigenous and Afro-Brazilian populations have well-defined territorial rights established by the Brazilian constitution and implemented through Indigenous Lands and Quilombola Territories, small-scale fishers have access to vaguer and scattered legal instruments within the complex national legal framework. The rights to use and access fisheries resources can be implemented through protected areas, with varying levels of priority given to small-scale fisher depending on the category, via coastal management or urban planning instruments at the municipal level. In Brazil, fishing territories do not have their own specific legislation, so it is necessary to implement educational programs for small-scale fishers, with the aim of informing them and analyzing, on a case-by-case basis, alternative solutions to guarantee their property rights in the fishing industry. This study analyzes the results of a training program implemented in the coastal area of southern Brazil, which is part of a citizen science network involving small-scale fishers, indigenous and Afro-Brazilian communities. The collaboration between these three groups has enabled small-scale fishers to develop new ways to assert their identities and defend their territories. The aim of this presentation is to reflect on the challenges and opportunities for these educational processes to be scaled up along the Brazilian coast through a network that promotes the expansion of property rights for small-scale fishing communities.

**How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to the discussion on **Just Harmony** by identifying policies and regulations associated with the rights of small-scale fishers by territory. Considered traditional populations by Brazilian legislation, the discussion will focus on how training processes are supporting the organization of small-scale fishers, together with other social groups, in the search for equity and justice as key principles for fisheries governance.

**From control to care in small-scale fisheries:  
A grounded theory of suki patronage relationships in the Philippines**

**Drury O'Neill, Liz**

Stockholm Resilience Centre, Sweden, [druryoneill.elizabeth@gmail.com](mailto:druryoneill.elizabeth@gmail.com)

**Alice Ferrer**, University of Philippines Visayas, Philippines

**Simon West**, Australian National University, Australia

**Julie Nique**, University of Philippines Visayas, Philippines

**Robert Pomeroy**, University of Connecticut, USA

Small-scale fisheries (SSF) are often marginalised in marine policy as governance favours market-led modernisation, formal finance, global seafood trade and efficiency. The “informal” relational economies in which SSF operate – especially patron-client ties – are routinely framed as obstacles to Blue Economy development. Yet patronage frequently sustains SSF livelihoods by providing finance, assistance and market access. By adopting a Blue Justice lens that challenges industrialization-, productivity-, and profit-first frames, we underscore the need to engage with the value(s) of patronage to small-scale fisherfolk so that policy pathways become more just. We conducted in-depth, interpretive interviews on suki relations (a patronage system in Philippine markets) with 60 fishery actors in Iloilo to develop a grounded theory of suki. We subsequently conducted iterative feedback, discussion, and photovoice with the same participants. Socio-cultural concepts – huya (shame/embarrassment), salig (trust), and madalaganan (someone to run to) – illuminate mechanisms through which patronage functions and adapts to disturbance. We show that solutions for Blue Justice lie “beyond the blue”: patrons’ finance flows to schooling, nutritional security, and healthcare, intertwining social life with marine dynamics via obligations and repayment. More broadly, we argue for shifting SSF research and policy from control to care-based approaches grounded in the lived concepts and experiences of small-scale fisherfolk.

**How does this paper contribute or is related to one or more of the congress themes?**

Through grounded theory developed from ethnographic work in the Philippines, I explore sukianay – a pervasive form of moral-economic exchange rooted in concepts like utang nga kabalasan (debt of gratitude), huya (shame), and luoy (compassion). These relationships reveal how small-scale fisheries are managed not just through formal rules, but through deeply social and affective obligations. My work contributes to the theme of **Just Harmony** by showing how care, loyalty, and social reciprocity structure everyday trade and governance, while also risking exclusion and dependency. By proposing a care perspective on SSF management, I argue for approaches that regenerate rather than restrict – honouring **Regenerative Wisdom** and offering space for **Young Futures** by questioning whether new generations can sustain livelihoods within or beyond patronage.

## Assessing socio-economic dimensions in the governance of small-scale fisheries

Duku, Eric

University of Technology Sydney, Australia, [eric.duku@student.uts.edu.au](mailto:eric.duku@student.uts.edu.au)

Michael Fabinyi, Kate Barclay

University of Technology Sydney, Australia

The small-scale fisheries (SSF) sector makes crucial contributions to food security, livelihood, and the overall socio-economic wellbeing of various groups of people. These socio-economic dimensions represent the fundamental objectives and justifications for governing SSF. Nevertheless, the extent to which policy and legislative frameworks incorporate and operationalise socio-economic elements remains understudied. This paper aims to narrow this gap by critically assessing the content and implementation of Ghana's fisheries legislation and policies with specific reference to the socio-economic governance values enshrined in the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines). The paper draws on an interpretive analysis of policy documents and in-depth interviews with stakeholders from government institutions, civil society organisations, and fisherfolk associations. We found that the current legal and policy landscape still falls short of fully embracing socio-economic principles and priorities in sustainable SSF governance, as emphasised in the SSF Guidelines. Efforts to translate the limited provisions within national fishery legal and policy frameworks that correspond with socio-economic principles and priorities – such as access rights, tenure security, participation, equity and inclusivity, and social protection – have been hindered by insufficient institutional capacity, inadequate cross-sectoral coordination, and lack of legal support for certain provisions. The study offers insights into the barriers and opportunities for socio-economic coverage, and the extent of their implementation. It also contributes to global efforts to assess the implementation of SSF Guidelines and recommends that all stakeholders in fisheries governance collaborate and leverage opportunities to influence political will.

### How does this paper contribute or is related to one or more of the congress themes?

This research, which constitutes a component of the first author's Doctoral dissertation, critically evaluates the content and implementation of Ghanaian fisheries legislation and policies, with particular reference to the socio-economic governance principles embedded within the SSF Guidelines. Evaluating the current status of the SSF Guidelines' implementation represents an initial step towards establishing a baseline for prioritising investments and tracking progress. This study is significant for **Just Harmony** as it illustrates how fisheries governance can advance beyond ecological conservation to encompass participation and co-management, social equity and inclusion, social protection, and resilience enhancement, thereby ultimately fostering justice. This approach guarantees that the rights of small-scale fisherfolk are acknowledged, safeguarded, and that they can coexist harmoniously within the global blue economy.

## The changing landscape of Newfoundland fisheries after the cod collapse

Eddy, Tyler

Fisheries & Marine Institute, Memorial University, Canada, [tyler.eddy@mi.mun.ca](mailto:tyler.eddy@mi.mun.ca)

Fishing has long been an important socioeconomic activity in Newfoundland, Canada. Indigenous peoples have fished Northwest Atlantic waters for millennia and Europeans have crossed the Atlantic Ocean to fish for cod since 1497. The collapse of the northern cod stock and the 1992 fishing moratorium that put 30 000 Newfoundlanders out of work reshaped the social and economic fabric of the island. In the years that followed, fisheries for shellfish such as northern shrimp and snow crab became the most important, both in volume and value. Using information about Newfoundland fishing ports, vessels, fishers, targeted species, landings, and landed value, I explore the changing landscape of Newfoundland fisheries. From 1998-2023, the number of fishing ports, vessels, and fishers all declined by more than 70%, while the average number of species fished per port declined by 25%. Fisheries catches dropped by 25% from 1998-2023, with shellfish accounting for the greatest share throughout. The total value of the fishery was relatively stable from 1998-2023, although with more annual variation from 2015-2023. Overall, the social landscape of the Newfoundland fishery changed drastically from 1998-2023, in terms of the number of fishers, vessels, and ports, while the overall economic value of the fishery remained stable.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper addresses the aftermath of the cod collapse in Newfoundland, that put 30 000 put of out work overnight. Through analysis of Newfoundland fishing ports, vessels, fishers, and fisheries catches, this paper documents the changing landscape of Newfoundland fisheries.

**Fishing for Views:  
What Filipinos think about small-scale fisheries in the Philippines**

**Elpos, Jovy Fluer E.**

University of the Philippines Visayas, Philippines, [jeelpos@up.edu.ph](mailto:jeelpos@up.edu.ph)

**Michael Benjamin S. Ramirez, Alice Joan G. Ferrer**

University of the Philippines Visayas, Philippines

Municipal fishers in the Philippines, commonly referred to as small-scale fishers (SSF), number about 1.5 million, play a vital role in food and nutrition security as well as coastal livelihoods. Despite this, they are often excluded from policy discussions and lack sufficient protection. This descriptive study examined public perceptions of SSF through an online survey conducted from February 5 to March 15, 2025, supplemented by online focus group discussions. A total of 387 participants, coming from Luzon (42%), Visayas (33%), and Mindanao (25%). Most survey participants associated SSF with passive fishing gear (88%), nearshore fishing (85%), subsistence fishing (85%), small catch (82%), one-day fishing activities (81%), fishing alone or with few helpers (81%), poverty (81%), vulnerable (79%), small boats (78%), and marginalized (74%). Almost all participants agreed to SSF's significant contributions to food security (94%), nutrition (88%), income (93%), and livelihoods along the fish supply chain (92%). Most of the participants (96%) showed awareness of municipal waters and preferential rights of municipal fishers. Almost all agreed that municipal waters should be exclusively reserved for small-scale fishers (94%), the use of monitoring technologies in the municipal waters (94%), commercial fishing in municipal waters can lead to overfishing (93%), and strict enforcement of fisheries laws (93%). There is strong public recognition of the role of small-scale fishers and the widespread support for protecting municipal waters. These are important results that can inform policy discussions for the protection and ensuring the viability and sustainability of SSF in the Philippines.

**How does this paper contribute or is related to one or more of the congress themes?**

- This paper contributes to the theme of **Just Harmony** by providing empirical evidence of public perceptions of small-scale fishers (SSF) in the Philippines. The findings highlight strong recognition of SSF's vital contributions to food and nutrition security, income, and livelihoods, while also acknowledging their vulnerability and marginalization.
- The results show widespread support for reserving municipal waters exclusively for SSF, preventing commercial overfishing, and enforcing fisheries laws. This demonstrates that equity and protection for SSF are not only policy necessities but are also aligned with public sentiment.

By documenting these perspectives, the paper advances the discussion on inclusive and fair fisheries governance. It underscores that protecting SSF and ensuring their preferential rights is a socially supported path toward achieving harmony between people, communities, and marine resources.

## Coastal fisheries and livelihood dynamics in Mabuhay, Zamboanga Sibugay

**Espadero, Anabelle Dece**

Mindanao State University at Naawan, Philippines,  
[anabelledece.espadero@msunaawan.edu.ph](mailto:anabelledece.espadero@msunaawan.edu.ph)

**Adzel Adrian G. Baldevieso, Kaent Immanuel N. Uba, Raisa Marie H. Bacasnot, Jomar F.**

**Besoña, Noeme F. Baldevieso, Renoir A. Abrea**

Mindanao State University at Naawan, Philippines

The Participatory Coastal Resource and Socio-Economic Assessment (PCRSA) conducted in Mabuhay, Zamboanga Sibugay in December 2024 established a baseline profile of the municipality's coastal fisheries. Seventeen coastal barangays, with fishing as a primary livelihood for nearly half (49%) of residents, were surveyed through focus group discussions, key informant interviews, and site assessments. Results show that small-scale fisheries dominate, with fishers relying mainly on hook-and-line, gillnets, fish corrals, and fish traps. Seasonal calendars revealed that peak fishing productivity occurs during the calm dry season (January-April), while strong monsoon waves (July-December) constrain offshore activities, damage aquaculture structures, and disrupt post-harvest handling. Catch composition is largely composed of small pelagic species, sardines, scads, and anchovies, supplemented by reef-associated fishes such as groupers and siganids. Fishing households, averaging 4-7 members, report declining catch rates due to competition, encroachment of commercial fishers, and destructive practices such as blast fishing. Despite these pressures, fisheries remain central to food security and household income. Community consultations identified limited enforcement capacity, lack of alternative livelihoods, and vulnerability to climate-driven changes as major challenges. At the same time, strong willingness among fisherfolk to engage in co-management, compliance with Marine Protected Areas (MPAs), and skills training was noted. The assessment highlights the urgent need for integrated fisheries management, investment in enforcement and livelihood diversification, and the strengthening of community-based governance to ensure long-term sustainability of Mabuhay's fisheries and coastal resources.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper contributes by providing a baseline of Mabuhay's coastal fisheries that links ecological status with fisherfolk livelihoods. It advances the discussion on sustainable small-scale fisheries by highlighting resource decline, governance challenges, and community-driven solutions, thereby supporting evidence-based management and co-management initiatives.

## **Reframing small-scale fisheries governance in the Bay of Bengal: A human rights-based approach to climate change, iuu fishing, and environmental justice**

**Faiyaz, Tarique**

Vidyashilp University, India, [tariquecounsel@gmail.com](mailto:tariquecounsel@gmail.com)

**Balraj Kaur Sidhu, India**

The impacts of climate change on the world's oceans are profound, influencing marine ecosystems, biodiversity, and fisheries dynamics; affecting marine species' distribution, abundance, and behaviour. These alterations potentially disrupt established fishing patterns, leading to economic and sociocultural consequences for fishing communities, intensifying marine resource conflict and an increase in overfishing and illegal, unreported, and unregulated (IUU) fishing activities in the Bay of Bengal. IUU fishing is linked to human rights violations at sea, particularly in the form of labour exploitation, human trafficking, and unsafe and inhuman working conditions. This article advances the argument that addressing the multidimensional vulnerabilities facing small-scale fisheries (SSFs) in the Bay of Bengal necessitates a paradigmatic shift from security-centric governance to a human rights-based approach (HRBA). Building on the jurisprudence of HRBA in the domains of environmental protection and climate change, the analysis interrogates the role of human rights litigation in holding states accountable for regulatory (in)action, particularly with respect to addressing and resolving conflicts and bringing harmony through Just means.

The primary objective of this research is to shed light on the intricate challenges confronted by IUU fishing in the era of Anthropocene and its effects on the local fisher community. The article highlights the relevance of climate litigation as a normative and procedural precedent, elucidating states' tripartite obligations to respect, protect, and fulfill human rights in contexts of environmental degradation. Within the Bay of Bengal, one of the fastest growing regions in the world, SSFs form the cornerstone of livelihood security and food sovereignty for millions, yet they are acutely threatened by climate-induced shifts in fish distribution, biodiversity loss, and the persistent prevalence of IUU fishing. These risks are compounded by systemic governance deficits, inadequate monitoring structures, and the fragmented regulation of transboundary marine resources. The analysis demonstrates how the principles and legal strategies emerging from climate jurisprudence—both in procedural guarantees such as access to justice and in substantive recognition of human rights impacts—can be extended to confront the intersecting threats of climate change, IUU fishing, and other anthropogenic harms. By situating SSFs within this rights-based legal framework, the article contributes to a broader understanding of how international and regional legal regimes may be recalibrated to safeguard ecological sustainability, socio-economic resilience, and the human rights of coastal communities in the Bay of Bengal.

**How does this paper contribute or is related to one or more of the congress themes?**

The article advances the debate by framing the environmental and social challenges as interrelated human rights issues instead of solely as resource or conservation challenges. It underlines how the absence of effective governance and legal protections places these fishers at risk, alluding to a rights-based framework that addresses state responsibilities for climate change and IUU fishing. The article cites climate litigation-like approaches to place states' obligations for protecting human rights and the environment at the center of this work and proposes a new avenue toward just and sustainable fisheries governance in the Bay of Bengal. This pathway centers on the entitlements of fishing communities, connecting environmental justice, human rights, climate resilience and a cohesive legal and policy framework.

## Developing SOCIAL ENTERPRISES FOR NEWCOMERS and locals to access to culturally diverse food and ingredients: The case of “at home in the kitchen”

Fang, Tony

Memorial University, Canada, [tfang@mun.ca](mailto:tfang@mun.ca)

This paper examines the role of culturally diverse food accessibility in enhancing immigrant retention and life satisfaction in Newfoundland and Labrador (NL). Through consultations with newcomers, local residents, farmers, distributors, and stakeholders, the study identifies significant challenges in accessing cultural foods and explores the potential for social enterprises to address these gaps. Key findings highlight the economic, social, and environmental benefits of improving cultural food availability, including increased newcomer retention, local economic growth, and reduced carbon emissions. Recommendations include regulatory reforms, innovative exchange models, and the development of online platforms to bridge supply-demand gaps and support social enterprise development in the food sector.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper aligns closely with the conference theme by extending the discourse on sustainability, viability, and community-centered development from small-scale fisheries (SSF) to the analogous context of small-scale agriculture and local food systems.

The connection is articulated through several core thematic parallels:

1. **Focus on Localized, Small-Scale Systems:** Just as the congress focuses on small-scale fisheries, this study investigates small-scale farmers, vendors, and distributors within Newfoundland and Labrador's local food system. It highlights the challenges and opportunities faced by these small-scale actors – such as regulatory hurdles, market access, and economic viability – which are directly comparable to the issues confronting small-scale fishers globally.
2. **Community Well-being and Social Sustainability:** A central tenet of the SSF congress is improving the viability of fishing communities. This paper demonstrates that access to culturally appropriate food is not merely an economic issue but a critical factor of social sustainability and community well-being. It shows how supporting local food producers and connecting them to culturally diverse communities (including newcomers) strengthens social cohesion, improves life satisfaction, and fosters a sense of belonging—directly contributing to the viability and resilience of local communities.
3. **Knowledge Sharing and Co-Development of Solutions:** The paper's methodology and recommendations embody the congress's goal of sharing knowledge and co-developing solutions. It was built through consultations with a diverse range of stakeholders – from farmers and newcomers to government officials – effectively "sharing stories and experiences" from the local setting. Its recommendations, such as creating a "food

connector" role and facilitating cross-cultural exchanges, are practical examples of co-developed actions aimed at building a more sustainable and inclusive local food sector.

4. Addressing Pressing Issues through a Network Approach: The study was conducted in partnership with a network of community organizations (e.g., Food First NL, Association for New Canadians), mirroring the collaborative, network-based approach of TBTI Global. It addresses pressing issues like food insecurity, immigrant retention, and economic diversification, showcasing how research can be applied to elevate the profile of small-scale food producers and tackle systemic barriers to their success.
5. In essence, this paper applies the core principles of the small-scale fisheries movement – sustainability, viability, community focus, and collaborative problem-solving – to the adjacent domain of small-scale agriculture and local food systems. It demonstrates that the lessons learned and strategies developed for supporting small-scale fisheries are highly relevant and transferable to other small-scale food producers, reinforcing the congress's broader mission of advocating for sustainable and equitable food systems worldwide.

**Wind energy and socio-environmental conflicts in small scale fishery:  
Clean energy in Brazil Northeast**

**Ferreira, Beatriz Mesquita Pedrosa**

Joaquim Nabuco Foundation, Brasil, [beatriz.mesquita@fundaj.gov.br](mailto:beatriz.mesquita@fundaj.gov.br)

**Lima Silas**, Joaquim Nabuco Foundation, Brasil

The Northeast region of Brazil, due to its tropical climate and historical patterns of settlement, is home to half of the country's artisanal fishers. In recent years, wind farms have been established in the region at a pace that neither legal frameworks nor territorial planning can keep up with. As of 2024, there were 986 operating wind farms in the region and 96 requests for environmental licenses for offshore projects, which are not yet regulated, according to the Ministry of Mines and Energy. All of these projects impact artisanal fishing. This study is based on data collected from a larger research project aimed at analyzing municipal environmental governance in 33 coastal municipalities in the Northeast. It involved interviews with local managers and traditional communities and aims to analyze the impacts of wind energy on artisanal fishing through content analysis. The main conflicts are related to territorial issues: a) low land compensation; b) internationalization of profits; c) access restriction; d) occupation of common areas; e) lagoons covered with landfill; f) destruction of septic systems; g) real estate speculation; as well as the lack of consultation and participation. Regarding environmental impacts: a) groundwater depletion; b) erosion; c) deforestation; d) alteration of local fauna. In terms of health, there is mention of increased respiratory diseases, drug use, prostitution, single mothers ("children of the wind"), noise pollution, light disturbances, and an increase in psychological issues. It is crucial to highlight all the problems caused by this economic activity labeled as "clean" and "green" energy.

## **Value chain of gleaning fisheries in the Philippines**

**Ferrer, Alice Joan G.**

University of the Philippines Visayas, Philippines / TBTI Philippines

**Thea Marie Segurigan\***, [tmsegurigan@up.edu.ph](mailto:tmsegurigan@up.edu.ph), **Lylve Maliz L. Zeller**, **Pearl Aljean S.**

**Santacera**

University of the Philippines Visayas, Philippines

Although commonly practiced in the intertidal zones of the Philippines, gleaning as a small-scale fishery remains underrecognized and underdocumented. One area with particularly limited information is the value chain of gleaning produce. Understanding this value chain is essential for identifying opportunities to enhance viability and sustainability, while also supporting local food sufficiency and security. This study examined the value chain of selected high-value invertebrate species (hiant venus, spider conch, and tiger lucine) in three gleaning sites, Banate in Iloilo, Bolinao in Pangasinan, and Puerto Princesa City in Palawan, by mapping supply chains, documenting practices of key actors, and determining the value added at each node. Data were collected between June and September 2025 through surveys, key informant interviews, and focus group discussions. The findings contribute to broader discussions on the opportunities and constraints in gleaning and highlight potential interventions to strengthen local food security and supply.

### **How does this paper contribute or is related to one or more of the congress themes?**

The findings contribute to broader discussions on the opportunities and constraints in gleaning and highlight potential interventions to strengthen local food security and supply.

## The impact of the Pantawid Pamilyang Pilipino Program (4ps) in small-scale fishing households in Miagao, Iloilo, Philippines

Ferrer, Jem Celyne

University of the Philippines Visayas, Philippines, [jemferrer13@gmail.com](mailto:jemferrer13@gmail.com)

Harold Monteclaro, University of the Philippines Visayas, Philippines

The Pantawid Pamilyang Pilipino Program (4Ps) is a government-initiated Conditional Cash Transfer (CCT) program in the Philippines aimed at reducing poverty through health and education investments. While its general impact has been widely studied, limited attention has been given to its impact on gender roles and livelihoods in small-scale fishing communities. This study assessed how 4Ps influences the fishing-related roles and income-generating activities of men and women in small-scale fishing households in Miagao, Iloilo. Specifically, it examined the socio-demographic and economic profile of beneficiaries, evaluated the program's impact on household income and livelihoods, assessed changes in gender roles, and investigated community perceptions of the program's support for fishing activities. Using a mixed-methods approach, data were collected through structured surveys and focus group discussions. Descriptive statistics and qualitative content analysis were applied to interpret the findings. Results revealed that while 4Ps improved household welfare – particularly through enhanced access to education, food, and health services – it provided limited direct support for fishing livelihoods. Only a few beneficiaries used grants for fishing gear or boat maintenance. Traditional gender roles remained evident, with men primarily engaged in offshore fishing and physically demanding work, while women handled reproductive tasks and post-harvest activities. However, slight shifts were noted, as some women became more involved in decision-making and supplemental income activities. Respondents expressed satisfaction with the program's benefits but emphasized the need for more tailored livelihood assistance. The study underscores the importance of integrating gender-responsive and livelihood-oriented provisions into 4Ps for greater impact in coastal communities.

### How does this paper contribute or is related to one or more of the congress themes?

My paper contributes to the themes of **Just Harmony, Young Future, and Regenerative Wisdom** by analyzing the impact the Pantawid Pamilyang Pilipino Program (4Ps) has on the small-scale fishing households in the area of Miagao, Iloilo, Philippines. It indicates that the 4Ps adds to household welfare regarding education, food, and health support but contributes little direct assistance to fishing livelihoods. It describes the importance of valuing men's and women's contributions to Just Harmony, shows how investments in children's and young people's futures show a Young Future – however, it will lead to a larger transformation if we also value women's contributions – and suggests a gender-responsive, livelihood-driven policy approach to pursue Regenerative Wisdom.

**From reef to response:  
Tracking spatial effort and behaviour in a hand-harvested fishery**

**Forbes, Luisa**

University of Tasmania, Australia, [Luisa.Forbes@utas.edu.au](mailto:Luisa.Forbes@utas.edu.au)

**Malcolm Haddon**, University of Tasmania, Australia

**John Keane**, University of Tasmania, Australia

**Rich Little**, Commonwealth Scientific and Industrial Research Organisation (CSIRO),  
Australia

**Craig Mundy**, University of Tasmania, Australia

**Ruth Sharples**, University of Tasmania, Australia

Understanding how fishers distribute effort across space and time is critical for managing small-scale fisheries sustainably. This is especially true for fisheries prone to serial depletion, such as the Tasmanian abalone fishery – Australia’s largest wild abalone fishery and the state’s second most economically valuable – which has experienced persistent declines in catch over the past decade, prompting significant management interventions. Yet, the behavioural responses of fishers to ecological change and regulatory pressure remain underexplored. This study draws on 13 years of fine-scale geospatial data to analyse the spatial distribution of fishing effort. We aim to identify patterns in effort allocation that shift in relation to changes in stock status, management settings, economic conditions, and weather, and to assess whether individual fisher behaviour aligns with fleet-wide trends or diverges in ways that may influence sustainability. Our approach leverages a unique long-term dataset and applies emerging analytical techniques to characterise fisher behaviour and reef use at ecologically relevant scales. By uncovering nuanced patterns in effort distribution and their potential drivers, this research deepens our understanding of how small-scale fisheries respond to change. It also demonstrates the value of incorporating behavioural data into spatial management frameworks, particularly in hand-harvested fisheries where fisher decisions directly shape ecological outcomes.

**How does this paper contribute or is related to one or more of the congress themes?**

This research contributes to Just Harmony by examining how spatial effort patterns reflect equity and access in a quota-managed fishery. It supports Regenerative Wisdom by emphasising the role of fisher experience and behavioural adaptation in sustaining reef ecosystems and fishing traditions. By integrating behavioural data into spatial management, the study advances more inclusive and ecologically grounded decision-making in small-scale fisheries.

## A systematic review of benefits and impacts of small-scale fishery interactions with urban and global markets

Friedman, Whitney

The Nature Conservancy, USA, [whitney.friedman@tnc.org](mailto:whitney.friedman@tnc.org)

Rachel Zuercher, Monterey Bay Aquarium, USA

Julia Mason, Environmental Defense Fund, USA

Liliana Sierra Castillo, University of California Santa Barbara, USA

Kristin Kleisner, Environmental Defense Fund, USA

Jessica Gephart, University of Washington, USA

Small-scale fisheries increasingly participate in global trade markets; however, understanding of the impacts of trade on small-scale fisheries (SSF) is limited, and necessary for the development of policy and practices that can meaningfully support these communities. Through a systematic review on SSF interactions with international, urban, and tourist markets, we characterize the trade dynamics and outcomes reported in 193 studies representing 228 SSF systems in 67 countries. Our global review reveals that seafood trade from SSFs flows through diverse and complex networks, from fishers and processors to middlemen and exporters, with social relationships and power dynamics shaping the distribution of costs and benefits. We describe emerging costs, benefits, barriers and enablers of SSF-trade, including identifying key value-chain links that allow product to enter export markets, patron-client relationships that range from mutually-beneficial to exploitative, and which actors are targeted by current policy and enforcement. Understanding these trade systems and their social, economic, and environmental outcomes can guide the creation of fairer policies that secure equitable market access, protect marine ecosystems, and strengthen local food security. This knowledge also helps to identify where to focus support along the value chain, ensuring that fishers and community members are included and empowered in an increasingly globalized seafood market. Supporting small-scale fishing communities is not only vital for their social well-being but also for sustaining the seafood resources and ecosystems on which we all depend on.

### How does this paper contribute or is related to one or more of the congress themes?

**Just harmony:** We synthesize the literature on small-scale fisheries participation in with global trade and provide insights into how different actors along the value chain are impacted in beneficial and costly ways. Our analysis can be used to identify where to focus policy and support along the value chain, ensuring that fishers and community members are included and empowered in an increasingly globalized seafood market.

## Beyond One Equity: Exploring government and community notions of equity in small-scale fisheries co-management

**Gammage, Tom M.**

James Cook University, Australia, [tom.gammage@my.jcu.edu.au](mailto:tom.gammage@my.jcu.edu.au)

**Georgina G. Gurney**, James Cook University / University of Tasmania, Australia

**Siti Arieta**, Universitas Maritim Raja Ali Haji, Tanjungpinang, Riau Islands, Indonesia

**Amy D. Diedrich**, James Cook University, Australia

**Jacqueline D. Lau**, James Cook University, Australia

**Dedi S. Adhuri**, National Research and Innovation Agency, Indonesia

Equity is a crucial concern in small-scale fisheries (SSF), where diverse actors with competing values, interests, and influence navigate uneven recognition, participation, and distribution of costs and benefits. Despite global policy mandates positioning equity as a core goal, it remains difficult to define and operationalise. A key reason is that equity is plural and situated - subjectively perceived rather than a universal normative principle. While perceived inequities are at the core of many SSF conflicts, empirical comparisons of how different groups conceptualise equity ('notions of equity') remain rare. Using an empirical environmental justice lens, we compared the notions of distributional, procedural and recognitional equity held by coastal residents and government actors in a co-managed marine protected area (MPA) in Indonesia, revealing three key findings. First, recognitional equity was internally derived and relational for coastal residents but legalistic, conditional and externally conferred for government actors. Second, key criteria of distributional and procedural equity were broadly shared in principle yet carried divergent meanings in practice. Third, these misalignments fostered perceived inequities that eroded community commitment to SSF management and undermined co-management legitimacy. These findings highlight the central role of recognition in shaping notions of equity and show that agreement in principle doesn't ensure alignment in practice. Such misalignments often give rise to perceived inequities, which in turn weaken commitment to management. To foster more inclusive and sustainable SSF co-management, governance approaches must center local understandings of equity by aligning formal rules with community values, practices, and experiences.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper contributes to the theme of **Just Harmony** by demonstrating the plural and subjective nature of equity, and that building harmony depends on mutual recognition, respect, and integration of local conceptions of justice. By comparing how coastal communities and government actors in Indonesia conceptualise distributional, procedural, and recognitional equity, we show that misalignments in these notions often generate perceived unfairness, weaken cooperation, and erode legitimacy in co-management. Making these divergences visible reveals that conflict in SSF is not simply about resource scarcity, but about mismatched understandings of what is fair, who is recognised, and on what terms. This evidence advances the discussion on Just Harmony by highlighting that harmony must rest on governance arrangements that acknowledge plural moral orders and foster respectful coexistence between diverse actors. To this end, we argue that equity is not only a moral obligation but a pathway to peaceful, legitimate, and enduring fisheries governance.

## **Ikasavea:**

### **A digital transformation of sustainable coastal fisheries management in the Pacific Islands**

**Gilchrist, Hannah**

SPC (The Pacific Community), New Caledonia, [hannahg@spc.int](mailto:hannahg@spc.int)

**Franck Magron**, SPC, New Caledonia

**Leonore Page**, SPC, New Caledonia

**George Shedrawi**, University of Wollongong, Australia

**Tim Adams**, SPC, New Caledonia

Despite their importance to food security and livelihoods, coastal fisheries in the Pacific are widely regarded as data deficient. The volume and types of data are not suitable for classical stock assessment methods, and where information is available, it is bias to certain species, fisheries and geographies. This severely limits the extent to which fisheries can be managed to ensure their sustainability in the face of climate impacts. SPC has developed an AI-powered system to collect fisheries dependent data at seafood markets and landing sites. Users record information about markets or fishing trips in the Ikasavea application, take a photo of a fish or invertebrate on a standardised mat/ruler and upload it. Species are identified and measured using AI on a custom-built web-platform. This website also allows users to clean data and conduct basic analyses to inform fisheries management. The automated identification of species and lengths from images has streamlined the data collection process and has seen rapid uptake across the region. Today, 15 countries and territories in the Pacific Islands use Ikasavea and associated data systems to better collect and manage their fisheries data – transforming the ability of these remote island nations to adaptively manage coastal fisheries to ensure long-term food security. This paper showcases the functionality of Ikasavea and presents case studies of how data collected using this tool has improved management outcomes for small-scale fisheries in the region.

#### **How does this paper contribute or is related to one or more of the congress themes?**

This paper primarily contributes to the **Regenerative Wisdom** theme, in that it outlines how best practices in fisheries monitoring can contribute towards the long-term sustainability of small-scale fisheries for food security purposes.

**“The sea is ours to share”:  
The making of sea tenure rights in the southern Caribbean Sea**

**Gonzalez Perez, Jose Miguel**

York University, Canada, [migon@yorku.ca](mailto:migon@yorku.ca)

**Ana Isabel Marquez Perez**, National University of Colombia, Colombia

The governance of natural resources on which artisanal fishing and the human communities linked to it depend, requires adequate and clear institutional, political, and cultural conditions for fishers, as well as for authorities and the state institutions that regulate fishing activities. Of similar importance are the forms of self-governance that fishing communities establish in order to exercise their political autonomy and collective rights over the resources. In many cases, as the literature suggest, these rights, especially those related to customary maritime tenure, are not recognized or respected by states, or they exist in regions of transnational border disputes in marine areas claimed by multiple states. My presentation focuses on the institutional conditions for carrying out artisanal fishing activities by Indigenous and Afro-descendant communities that prevail in three contiguous maritime regions in the Central American Caribbean and the southwestern Caribbean Sea; it also seeks to better understand how forms of self-government and autonomy contribute to highlighting and advancing collective rights to maritime tenure.

**Gleaning as a coastal livelihood:  
Insights from Palompon, Leyte, Philippines**

**Guarte-Valida, Donna**

Visayas State University, Philippines, [donna.guarte@vsu.edu.ph](mailto:donna.guarte@vsu.edu.ph)

**Aila Marie A. Remellete**, Mindanao State University at Naawan, Philippines

**Venus E. Leopardas**, Mindanao State University at Naawan, Philippines

**Asuncion G. De Guzman**, MSU Naawan Foundation for Science and Technology  
Development, Inc., Philippines

Gleaning remains a vital yet underrecognized livelihood activity among coastal communities in the Philippines, often excluded from coastal resource management and policy frameworks. This study monitored daily gleaning activities in Cruz, Palompon, Leyte, from April to August 2025, generating baseline data on species composition, catch rates, effort, income, and fishing ground information. Gleaning was typically conducted during low tide for 1-5 hours in intertidal seagrass areas, using knives and handpicking methods. Gleaning group size ranged from 1 to 5. A total of 37 taxa were recorded, including bivalves, crustaceans, gastropods, holothuroids, and jellyfish. *Canarium* species (conch) dominated the catch (>80%) and were sold to buyers and middlemen at PHP 20-70/kg, depending on size. The mean monthly catch of *Canarium* was 1.4 metric tons, valued at PHP 70,295.2, with less than 3% retained for household consumption. Catch per unit effort (CPUE) averaged 2.1 kg/gleaner/hour, with male gleaners consistently recording higher CPUE (1.7-2.6) than females (1.6-2.1). Income per gleaner per hour averaged PHP 93.5, with males earning more (94-123.3 PHP/hour) than females (67.6-94.9 PHP/hour). Gleaning activities were concentrated in nearby seagrass beds, with occasional efforts in mangrove fringes. These preliminary findings highlight the economic relevance of gleaning in Cruz, Palompon, and underscore the need to integrate gleaning into coastal resource assessments. As the study is ongoing, additional data from the succeeding months will be incorporated and presented during the conference to provide a more comprehensive understanding of gleaning dynamics in the area.

**How does this paper contribute or is related to one or more of the congress themes?**

This study highlights the role of gleaning to food security and income diversification. The study also pushes for monitoring gleaning to contribute to more equitable fisheries governance, where small-scale actors are visible and valued.

**Lots in common:**  
**Inland fisheries co-management by communities in Cambodia and Myanmar**

**Gregory, Rick**

FAO, Cambodia, [rickgregory1@gmail.com](mailto:rickgregory1@gmail.com)

**Supin Wongbusarakam**, FAO, Cambodia

**Yin Nyein**, Myanmar

Small-scale fishing in floodplain areas remains an important activity for many rural households in SE Asia. In this paper, we compare the experiences of Myanmar & Cambodia in adopting different strategies to involve fishing communities in fisheries co-management. Through comparing the two countries, we discuss the limitations to and prospects for community fisheries co-management. Historically, in both countries, control of the most lucrative inland fishing areas was auctioned off to individuals, to the detriment of small-scale fishers whose livelihoods and food security depended on the commons. At the start of this century following social pressure, both countries recognised the need to allow fishers to have a voice on how floodplain areas were managed. From 2000, Cambodia began abolishing commercial fishing concessions (Lots) and by 2025, 516 community fisheries (CFi) had been established. From 2017, several Myanmar states passed laws that maintained the fishing concession system (Inn) but offered fishing communities annual leases at the auction floor price, resulting in more than 800 communities entering into co-management agreements with local governments. In recent years, Cambodia's CFi have strengthened as institutions but face challenges including generating sustainable finance, natural resource degradation and gender inequalities. Cambodia's 2025 Law on Fisheries now re-classifies community fisheries as 'agriculture cooperatives' suggesting a collective approach will now be promoted. In Myanmar, the fishery governance reforms favouring small-scale fishers were nullified following the political crisis in 2021, and currently, co-management is not seen as a preferred mode of inland fisheries governance.

**How does this paper contribute or is related to one or more of the congress themes?**

Our paper relates to **Just Harmony**, albeit in inland waters rather than oceans. By presenting a short history of community fisheries co-management experiences in these two countries, we highlight commonalities and differences in strategic approaches that should be of considerable interest to those involved in co-management initiatives in other countries.

**Building for the future in a tumultuous present:  
Prospects for ‘young futures’ in stewardship in the Gulf of Mottama, Myanmar**

**Htay, Yin Yin**

Myanmar Coastal Conservation Lab, Myanmar, [tara.whitty@gmail.com](mailto:tara.whitty@gmail.com)

**Su Su Maw**, Myanmar Coastal Conservation Lab, Myanmar

**Phyo Min**, Myanmar Coastal Conservation Lab, Myanmar

**Moe Kyaw Kyaw Hein**, Coastal Conservation Lab, Myanmar

**Chit Ko Ko Min**, NA, LCG of Aung Kan Thar Village, Myanmar

**Mg Chan**, NA, LCG of By Laung Village, Myanmar

**Hsu Po Po Aung**, LCG of Kar Te village, Myanmar

**Tara Sayuri Whitty**, Keiruna Inc., USA

Given the current political situation in Myanmar, local stewardship of marine resources is particularly critical to the future of Myanmar’s coastal communities and ecosystems. Illegal fishing practices have increased markedly in the Gulf of Mottama due to impacts from the COVID19 pandemic and the regime change in 2021, with negative impacts on local communities. Since then, Myanmar Coastal Conservation Lab (MCCL), a youth-led marine conservation organization, has worked to support sustained community-led marine resource stewardship among fishing communities in the Gulf, with a focus on amplifying the capacity and role of village youths as “Local Conservation Group” focal points and Youth Conservation Leaders. This work centers on community-led conservation of small cetaceans, for whom bycatch in local fisheries and illegal targeted catch are the primary threats. Participatory qualitative evaluation (Most Significant Change) indicates that local youths developed capacity, confidence, and pride in their role as stewards and as change agents in promoting stewardship, as well as increased passion for marine conservation and fostering collaboration within their communities. However, serious challenges exist to sustaining a role for youths in community stewardship: the ongoing threat of conscription into the Myanmar military, the need to migrate (domestically or internationally) for livelihood opportunities, and the context of high security risk and general instability. As a group of youths from MCCL and local villages, and their mentors from MCCL, we present our experiences, visions, and prospects for cultivating regenerative stewardship of the Gulf’s marine resources.

**How does this paper contribute or is related to one or more of the congress themes?**

This paper directly contributes to the discussion on **Young Futures**, as it focuses on the perspectives of village youths and their youth peers at a local conservation organization on how to sustain stewardship in Myanmar’s volatile context. There is a lot of interest among youths in marine stewardship, but limited opportunities, especially for rural youths, as well as two major challenges that particularly affect youths: military conscription (targeting ages 18-35) and the lack of work

opportunities that drives youths to migrate away from their communities. Our work also relates to **Regenerative Wisdom** and the role of youths in supporting their communities in organizing, sharing, and maintaining local knowledge and wisdom, and in the potential to establish regenerative “capacity building” for stewardship. The work presented here also touches on **Just Harmony** along the interface between cetacean conservation and fisheries, where just solutions to the issue of bycatch and illegal harvest require the involvement of local fishing community stewards – a role that youths can contribute to.

## **Formalizing fisheries co-management in the Maw Tin Coast of Myanmar through integration of traditional knowledge and scientific approaches**

**Htut, Thaug**

Myanmar Biodiversity Fund, Myanmar, [thtut@myanmarbiodiversityfund.org](mailto:thtut@myanmarbiodiversityfund.org)

**Thu Rein, Aung Than, Min Khant San, Antt Maung, Naw May Lay Thant**, Myanmar Biodiversity Fund, Myanmar

Myanmar's marine resources are essential for national development and the livelihoods of millions in coastal communities. On the Maw Tin Coast, small-scale fisheries contribute to livelihood, food security, and cultural identity. However, unsustainable fishing practices have led to declining fish stocks, threatening both ecosystems and local livelihoods. This study combines ecological assessments of inshore fisheries and key marine species, such as cetaceans, sea turtles, dugongs, and elasmobranchs, through participatory mapping across ten communities, documenting fishing grounds, gear usage, and local ecological knowledge. Concurrent socioeconomic surveys of 274 fisher households and a survey of 59 dried fish processing households provided detailed insights into income levels, material conditions, and post-harvest practices, elucidating the socioeconomic aspects of resource dependence. The results underscore the significant role of women in dried fish processing, which supports nutrition, income generation, and knowledge transmission. Participatory mapping identified resource use patterns that inform community rights and the delineation of co-management areas. The integration of traditional ecological knowledge with scientific data facilitated community-led fisheries management. The findings support the establishment of a co-management area on the Maw Tin Coast and inform marine spatial planning and conservation efforts. By integrating gender roles, cultural practices, and ecological stewardship, this research offers practical guidance for strengthening small-scale fisheries governance in Myanmar and promoting resilient food systems and ecosystems.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper advances the discourse on small-scale fisheries by addressing several key themes. It demonstrates a practical method for formalizing community-led co-management areas, integrating scientific data with traditional ecological knowledge to address resource depletion. The study highlights participatory mapping as a means to recognize community resource dependence and secure local fisheries management authority. It also emphasizes the importance of incorporating gendered roles and cultural practices into governance frameworks, particularly by examining the role of women in dried fish processing. Furthermore, the research advocates for biodiversity conservation and marine spatial planning by assessing key marine wildlife and linking ecosystem health with fisheries management. The findings illustrate how integrated governance can sustain both community livelihoods and ecosystem functions in dynamic environments. This multi-dimensional approach supports the development of inclusive, ecosystem-based, and socially responsive small-scale fisheries governance.

## Community perspectives of social and ecological changes for small-scale fisheries wellbeing in marine protected areas of Malaysia

Islam, Gazi Md Nurul

Universiti Tun Abdul Razak, Malaysia, [gazi@unirazak.edu.my](mailto:gazi@unirazak.edu.my)

The islands in the east coast of Peninsular Malaysia are well-known for the rich coral reef ecosystems. The fisheries and other reef based marine resources have been under severe stress due to increasing tourism and fishing activities. The government of Malaysia has established several Marine Protected Areas (MPAs) to enable overexploited marine resources to recover and to conserve coral reef ecosystems. This paper investigates how social-ecological, and governance factors influence the livelihoods of small-scale fisheries in the MPAs. The data for this study was obtained from face-to-face interviews with various stakeholders from two islands using a structured questionnaire. The results of the study found that sea water pollution, protection of coral health, enforcement of fisheries regulation, and limited local participation in MPA management contributed to the wellbeing of the local fisher community. The findings of the study suggest that strict restriction of legal fishing activities may encourage illegal fishing and will contribute negatively to coral health and fisheries resource abundance. Management of the MPAs may become more effective and efficient with the creation of separate zones within the MPA to provide fishing access for the affected fishers. These will increase local fishers' willingness to participate in the decision-making process of effective MPA management for improving wellbeing of small-scale fishers in Malaysia.

**Formalising the Fish Mammy:  
Unintended consequences of regulatory governance in West African small-scale fisheries**

**Jaiteh, Vanessa**

University of Bern, Switzerland, [vanessa.jaiteh@unibe.ch](mailto:vanessa.jaiteh@unibe.ch)

The push to formalise fisheries through regulatory governance – including labour contracts, vessel/canoe registration, and catch documentation – assumes that making informal practices legible to the state automatically improves sustainability and working conditions. Drawing on preliminary fieldwork in Ghana's industrial and artisanal fisheries, with comparative insights emerging from Senegal and The Gambia, this presentation examines how formalisation processes articulate with long-standing informal institutions that sustain fishing livelihoods. Initial findings from Ghana reveal paradoxical outcomes. The implementation of ILO C188 labour standards, while improving base wages for industrial fishers, disrupted longstanding, reciprocal relationships between fishers and women fish traders ('fish mammies'). Mandatory employment contracts eliminated traditional 'carton fish' payments, severing informal credit networks that provided financial security for both groups. Similarly, EU-driven efforts to eliminate illegal transshipment practices (saiko) between industrial trawlers and artisanal canoes have transformed rather than terminated these activities, as fishers in both sectors adapt to the ban on saiko. These observations suggest that formalisation, when implemented without understanding existing informal institutions, may undermine the very outcomes it seeks to achieve. This presentation will explore emerging patterns across West African small-scale fisheries, examining how different groups navigate 'gradients of formalisation' – that is, different degrees of being affected directly or indirectly by formalisation. It questions whether current approaches to transparency and accountability in fisheries governance adequately consider the complex social-ecological systems within which small-scale fisheries operate, and proposes alternative pathways that build on, rather than dismantle, functional informal institutions.

**How does this paper contribute or is related to one or more of the congress themes?**

This presentation contributes to **Just Harmony** by revealing how top-down formalisation can disrupt equitable resource access and long-standing social contracts in fishing communities. It speaks to **Regenerative Wisdom** by documenting how informal institutions have sustained small-scale fisheries through generations, offering insights for governance approaches that regenerate rather than replace these systems. For **Young Future**, it highlights how formalisation may inadvertently close pathways for young people entering fisheries through traditional apprenticeships and informal networks.

**Enabling change:**  
**A policy assessment framework for actioning the SSF Guidelines**

**Jeri, Juan Carlos**

Conservation International, Peru, [jujeri@conservation.org](mailto:jujeri@conservation.org)

**Finkbeiner, E.**, Conservation International, USA

**Dalton, K.**, Conservation International, USA

**Monteferri, B.**, Conservation International, Peru

**Castagnino, F.**, Independent consultant, Peru

**Grandez, P.**, Independent consultant, Peru

An enabling policy and legal environment is essential for promoting sustainable fishing practices and safeguarding the rights and livelihoods of coastal communities. The FAO Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) constitutes the first international framework for integrating a human rights-based approach into fisheries management. However, uptake by governments has been slow, and practical guidance for implementation remains limited, often hindered by resource and capacity constraints within fisheries agencies. To address this challenge, we developed a Policy and Legal Assessment Methodology to provide a structured and adaptable approach for evaluating how national policies and legal frameworks align with the SSF Guidelines. Developed as a complementary resource to the FAO's SSF Policy and Legal Diagnostic Tool, the methodology was designed to support professionals in government, civil society, and fisheries organizations in identifying strengths and gaps in legal instruments affecting small-scale fisheries (SSF) and supporting the development of effective measures to address them. Piloted in Peru, the methodology has generated valuable insights into the country's SSF policy landscape. The assessment identified opportunities for institutional strengthening, capacity development, and improved governance. These findings informed a policy roadmap to guide future actions and support sustainable SSF development. The methodology offers a replicable framework for other national contexts, fostering inclusive governance and enabling evidence-based decision-making to enhance sustainability and improve the wellbeing of SSF communities.

**How does this paper contribute or is related to one or more of the congress themes?**

The abstract aligns with the theme of **Just Harmony** by promoting equity and justice in fisheries governance through inclusive policy assessment. By identifying institutional gaps and supporting the development of fair legal frameworks, the methodology helps reduce conflict and foster respectful coexistence among ocean dependent communities. It empowers small-scale fisheries to participate meaningfully in decision-making, contributing to peace, stronger institutions, and sustainable coastal communities.

**Beyond compliance:  
Community-driven electronic monitoring in small-scale fisheries**

**Karbowski, Chelsey**

Teem Fish Monitoring, Canada, [chelsey@teem.fish](mailto:chelsey@teem.fish)

**Amanda Barney, Jillian DiMaio, Fraser Stobie**

Teem Fish Monitoring, Canada

The growing use of Electronic Monitoring (EM) systems in small-scale fisheries – including on-board cameras, gear sensors, and geospatial tools – presents new opportunities for Indigenous and local communities to strengthen their roles in fisheries governance, stewardship, and self-determination. This presentation explores how community-led or co-developed EM initiatives can enhance data sovereignty, expand local monitoring capacity, improve safety, and create space for Traditional Knowledge systems (TKS) within fisheries management. When EM is developed in alignment with community priorities and cultural values, it becomes more than a compliance tool. It can reinforce territorial rights, support food security, and advance equitable co-management, while bridging TKS with Western science. Drawing from global examples of EM projects co-designed with Indigenous and small-scale fishing communities, we highlight strategies for ensuring data ownership, embedding cultural relevance in monitoring systems, and co-producing knowledge that is trusted and actionable. We also address challenges such as securing sustainable funding, achieving regulatory alignment, and ensuring accessibility of technologies for small-scale fisheries. Ultimately, this presentation reframes EM as a mechanism for justice, equity, and sustainability in fisheries governance, and as a tool that empowers communities to shape their own futures.

**How does this paper contribute or is related to one or more of the congress themes?**

- This paper contributes to advancing the Congress themes of justice, equity, sustainability, and knowledge co-production by reframing Electronic Monitoring (EM) as a tool that empowers small-scale fishing communities, rather than as a top-down compliance mechanism. By centering data sovereignty, co-management, and community-driven design, it demonstrates how EM can shift power dynamics in fisheries governance toward greater equity and recognition of local priorities.
- The presentation highlights how EM, when co-developed with small-scale fishers, supports inclusive governance, strengthens local stewardship, and creates space for Traditional Knowledge Systems alongside Western science. This directly advances global discussions on how to ensure that new technologies contribute to social and ecological sustainability in SSF, while respecting the rights and knowledge of fishing communities.
- By addressing both opportunities and challenges – such as regulatory harmonization, funding sustainability, and cultural relevance – the paper offers practical insights for scaling equitable monitoring practices globally. In doing so, it moves forward the dialogue on how innovation can serve justice, empower marginalized voices, and build more resilient small-scale fisheries.

## How small-scale aquatic food systems transform: Global dynamics and drivers

Karumuri, Meghana

Michigan State University, USA, [karumuri@msu.edu](mailto:karumuri@msu.edu)

Abigail Bennett, Michigan State University, USA

Small-scale fisheries and aquaculture (i.e., aquatic food systems) are complex, dynamic systems undergoing rapid ecological, economic, and institutional changes, leading to the reconfiguration of the social-ecological relationships that underpin their functioning. In many contexts, these pressures appear to be pushing systems beyond incremental adjustment and towards radical transformation. Transformation in a social-ecological system is defined as a fundamental change in system identity, structure, function, feedbacks, and/or scale. Despite the centrality of this concept to contemporary resilience scholarship, empirical, cross-regional evidence on when and why such transformations emerge remains notably sparse. This study addresses this gap through a semi-quantitative, global survey explicitly designed to generate comparable observations of the types, trajectories, and drivers of transformation in small-scale aquatic food systems. The instrument elicits expert assessments of concrete ecological shifts, technological and market transitions, livelihood diversification processes, and governance or regulatory reconfigurations, as well as the distribution of benefits and burdens across user groups. It also documents underlying system characteristics linked to adaptive capacity while uncovering and contrasting indicators of transformation capacity, an emerging concept. Additional questions capture institutional contexts, regional patterns, and expert opinions on priorities for future intervention. By linking observed change processes to theoretical constructs of resilience, adaptation, and transformation, this research will generate a global evidence base that advances our ability to distinguish among these pathways. The resulting framework will improve understanding of why some systems persist, some reorganize, and others fundamentally shift, thereby guiding efforts to shape equitable, enduring social-ecological transitions under accelerating global change.

### How does this paper contribute or is related to one or more of the congress themes?

- This research directly advances the theme of **Just Harmony** by identifying the ecological, economic, and institutional drivers that generate tension and conflict in small-scale fisheries, and by using these insights to clarify how different transformation pathways redistribute benefits and burdens across user groups. The survey's comparative design foregrounds expert assessments of livelihood impacts, participation in governance, and equity in decision-making; key dimensions for evaluating whether emerging trajectories of change support just and effective social-ecological transformations. By systematically elevating the

perspectives of small-scale fisheries specialists, the study also strengthens the representation of these communities in global transformation and resilience scholarship.

- The work contributes to **Young Futures** by producing knowledge that will help the next generation of resource users anticipate, navigate, and shape the rapidly changing social-ecological conditions they will inherit.
- Finally, it supports the theme of **Regenerative Wisdom** by examining pathways that enhance the long-term viability of aquatic food production, emphasizing fish as food, and identifying transformation processes that maintain food security while avoiding ecological degradation.
- Together, these contributions move the conference themes forward by providing empirical, cross-regional evidence that integrates equity, future-oriented planning, and ecosystem stewardship into analyses of social-ecological change.

## Adaptive fisheries responses to invasive species in a changing climate: Global lessons and a Tasmanian case study

Keane, John

University of Tasmania, Australia, [john.keane@utas.edu.au](mailto:john.keane@utas.edu.au)

Aquatic invasive species (AIS) are expanding in distribution and impact under climate change, posing escalating ecological and socioeconomic challenges for fisheries. To support evidence-based responses, the FAO technical paper *Fisheries Responses to Invasive Species in a Changing Climate* synthesized 11 AIS case studies, a global survey of 101 scientists, and deliberations of 21 experts. The analysis identified nine management measures spanning targeted exploitation, market development, community engagement, spatial control, ecological restoration, and, in rare cases, considering biological control or “do nothing” approaches. These measures emphasise integrating ecological, economic, and social dimensions into adaptive frameworks for AIS fisheries management. A Tasmanian case study exemplifies these principles. The poleward range extension of the longspined sea urchin (*Centrostephanus rodgersii*) has driven widespread overgrazing of kelp reefs, undermining ecosystem function and threatening lucrative commercial and recreational fishing industries. In response, industry-initiated and now government funded harvest incentives enabled rapid scaling of an urchin fishery, overcoming prior barriers of processing infrastructure and market development. Annual harvests rose to ~500 t, preventing the formation of extensive barren grounds and enabling localised kelp recovery. Government co-investment, spatially adaptive incentives, and complementary culling strategies further enhanced control. Concurrently, spatial decision-support tools are being developed to optimise harvest effort relative to ecological and fishery values. This case demonstrates that, when supported adaptive governance, commercial harvest can represent an effective and cost-efficient management tool for climate-driven AIS. More broadly, it illustrates how global frameworks can be operationalised in regional contexts to maintain ecological resilience and fisheries productivity.

### How does this paper contribute or is related to one or more of the congress themes?

- This paper contributes to **Just Harmony** by illuminating how fisheries governance can integrate adaption and equity when dealing with invasive species — ensuring that removal actions, financial incentives, and stakeholder engagement respect small-scale fishers’ rights, value local knowledge, and distribute both benefits and burdens fairly.
- It also fosters **Young Futures** by demonstrating pathways for inclusion in decision-making, market innovation, and adaptive management of aquatic invasions, highlighting how emergent fisheries (such as the commercial urchin fishery in Tasmania) can provide opportunities for new enterprises.
- Lastly, the case study embodies **Regenerative Wisdom** through restoration of kelp ecosystems and revival of ecosystem services via strategies that work with ecological processes, local traditional know-how, and sustainable exploitation, rather than one-off control efforts — thereby contributing knowledge toward fisheries practices that regenerate rather than degrade.

**Between the pole and Line:  
Transitions in Lakshadweep's small-scale fisheries**

**Khan, Mahaboob**

Dakshin Foundation, India, [mahaboob@dakshin.org](mailto:mahaboob@dakshin.org)

**Kumar Sahayaraju, Naveen Namboothri,**

Dakshin Foundation, India

Small-scale fisheries (SSF) are vital to the livelihoods, food security, and cultural identity of island communities. Still, they face growing pressures from ecological change, resource depletion, inequitable governance, and external shocks. The Lakshadweep Islands are India's only coral atoll system. The islands also represent the only place where the pole-and-line tuna fishery is being practiced, with a longstanding example of sustainability rooted in local ecological knowledge. Historically, selective fishing practices, collective labor, and strong community institutions have ensured ecological balance, supported adaptive management through temporal and spatial regulations, and enabled the equitable sharing of benefits. The fishery, primarily focused on the export of dried tuna (referred to as Masmin) to Sri Lanka through mainland intermediaries, has played a crucial role in the economies of the islands. Currently, this system is undergoing a significant transition and is becoming increasingly unstable. The expansion of mechanised fleets, unsustainable baitfish harvesting, and the erosion of traditional and customary governance undermine ecological resilience. External shocks, including the collapse of Masmin markets, increasing operational costs, and the rise of tourism-oriented infrastructure, a lack of management systems, have further disrupted the fishery and associated livelihoods. These dynamics illustrate the multiple vulnerabilities of these fisheries systems: ecological fragility on one side and socio-economic dependence on volatile markets, as well as the lack of effective management systems on the other. This paper examines these transitions in Lakshadweep's SSF, focusing on the interplay of local knowledge, island systems, and external pressures. Building on our field-based interventions such as community-based fisheries monitoring (CBFM), participatory mapping, documentation of TEK and customary practices, and initiatives to strengthen local management systems and foster pathways toward co-management, we also reflect on the efforts to enable participatory governance, the challenges of putting these into practice, and the broader lessons for sustaining island fisheries through approaches that integrate traditional knowledge, community participation, and ecological resilience.

**How does this paper contribute or is related to one or more of the congress themes?**

- The paper contributes directly to the theme of **Regenerative Wisdom** by documenting how Lakshadweep's pole-and-line tuna fishery has historically drawn on local ecological knowledge, customary governance, and collective labour practices to sustain island ecosystems and livelihoods. By tracing how these knowledge-based systems are being

unsettled by mechanisation, market volatility, and external shocks, we highlight both the resilience and erosion of such regenerative practices.

- It also engages with **Just Harmony**, as the case study reveals inequities in governance structures and market linkages, particularly the dependency on mainland intermediaries and the limited voice of island communities in decision-making. We argue that sustaining small-scale fisheries in fragile island systems requires governance approaches that empower communities and rebalance power asymmetries in access to resources and market participation.
- Ultimately, our intervention is connected to **Young Futures** through a reflection on the challenges and opportunities for the intergenerational transmission of fishing knowledge during transitions toward tourism and alternative livelihoods. The paper highlights the importance of youth involvement in preserving local fisheries traditions and in shaping participatory governance frameworks that are responsive to evolving aspirations.
- By engaging across these themes, our work not only advances the discussion on the vulnerabilities and resilience of island SSF but also provides grounded insights into how participatory governance can bridge local knowledge systems with broader sustainability and justice agendas.

**Youth-led initiatives to reshape the future of a coastal fishing community:  
A case study from Daxi, Taiwan**

**Kuo, Ting-Chun**

National Taiwan Ocean University, Taiwan

[tckuo@mail.ntou.edu.tw](mailto:tckuo@mail.ntou.edu.tw)

Small-scale coastal fisheries in Taiwan face increasing pressure from declining marine resources, pollution, and an aging population. This paper presents a case study from Daxi, where young small-scale fishers are leading efforts to revitalize their community through collaborating with industry, government, and academia. Three key initiatives demonstrate this transformation: (1) In 2004-2005, the Fisheries Research Institute identified abundant Sakura shrimp resources near Guishan Island and partnered with local fishing vessels to assess stock conditions. This led to the formation of a Sakura Shrimp Production and Marketing Cooperative, where members collectively set closed seasons and negotiate prices, transforming local trawling practices. (2) Led by a second-generation young fisher, fishers in Daxi actively joined the government-promoted "Eco-Fleet," which brings back marine debris during fishing trips. The fisher also collaborated with researchers to survey marine debris, partnered with industry to recycle port-generated styrofoam into fiberboard, and guided public tours to raise awareness. (3) Descendants of fishers who relocated from Guishan Island to Daxi formed "Seabelongings," a cultural heritage team that documents and promotes traditional marine culture, seafood knowledge, and environmental education, reconnecting the public with ocean heritage. This case illustrates how bottom-up initiatives, youth leadership, and multi-sectoral collaboration can drive sustainable transformation in small-scale fisheries, revitalizing the environment, economy, and cultural identity of coastal communities.

## Tracing the Impacts of the SSF Guidelines: Insights from a global systematic review

**Lukanga, Editrudith**

Brock University, Canada, [gx23uk@brocku.ca](mailto:gx23uk@brocku.ca)

**Jessica Blythe**, Brock University, Canada

**Moenieba Isaacs**, University of Western Cape, South Africa

**Eddie Allison**, WorldFish

More than a decade after their endorsement, the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (SSF Guidelines) continue to shape global commitments on equity, sustainability, and human rights in small-scale fisheries. Yet, questions remain about what social and ecological outcomes have been associated with the implementation of the Guidelines across different contexts, and through what mechanisms or pathways do the Guidelines contribute to these outcomes. This paper presents preliminary insights from a global systematic review conducted as the first study of a PhD in Sustainability Science. Guided by PRISMA standards, the review synthesizes peer-reviewed and grey literature to examine reported outcomes associated with the adoption and implementation of the SSF Guidelines. The analysis focuses on governance processes, tenure security, gender equality, livelihoods and wellbeing, and ecological sustainability. While the broader PhD research includes two case studies in Tanzania on gendered marine tenure and occupational health and safety, this review paper focuses on consolidating the current state of knowledge and gaps about the SSF Guidelines at the global level. By clarifying existing evidence and identifying key gaps, the review aims to support more effective, learning-oriented implementation of the SSF Guidelines as the community looks toward the next decade of action.

### **How does this paper contribute or is related to one or more of the congress themes?**

- This paper directly contributes to Congress themes on governance, equity, human rights, and implementation of the SSF Guidelines by offering a systematic, cross-regional synthesis of evidence on how the Guidelines have been taken up in practice. By consolidating findings from peer-reviewed and grey literature, the paper advances discussions on learning from implementation, highlighting where the SSF Guidelines have strengthened participatory governance and policy recognition of small-scale fisheries, and where gaps persist, particularly in relation to gender equality, tenure security, and documented social and ecological outcomes.
- The review supports the congress priorities on bridging global commitments and local realities by identifying enabling conditions and structural barriers that shape outcomes across diverse contexts. In doing so, it provides an evidence-based foundation for dialogue among fishers' organizations, policymakers, practitioners, and researchers on how to strengthen rights-based, gender-responsive, and inclusive approaches to SSF governance as the community moves into the next decade of SSF Guidelines implementation.

## Leveraging Lake Victoria sardines to enhance food and nutrition security in Tanzania

Luomba, Joseph

University of Dar-es Salaam, Tanzania, [jluomba@gmail.com](mailto:jluomba@gmail.com)

Lake Victoria sardines (*Rastrineobola argentea*), known locally as dagaa, represent an important yet underutilized small indigenous species with great potential to improve food and nutrition security in Tanzania. Dagaa is an important source of high-quality protein, essential fatty acids, calcium, iron, zinc, and vitamin A that are vital for tackling micronutrient deficiencies among children under five years and pregnant women. In addition, Dagaa is also important in providing income to significant population across the value chain within and beyond Lake Victoria. Despite these nutrition and economic benefits, it remains underutilized to combating malnutrition. This study seeks to assess their role in enhancing food security and alleviating malnutrition by investigating consumption patterns, value chain dynamics, affordability, and policy environment. Using a mixed-methods approach, the research will collect data through household surveys, key informant interviews, focus group discussions, value chain analysis, and policy review across selected sites with Lake Victoria Tanzania. By linking socio-economic, nutritional, and governance perspectives, the study highlights pathways for strengthening the dagaa's fishery contribution to sustainable food systems and reducing malnutrition in Tanzania

### How does this paper contribute or is related to one or more of the congress themes?

This paper highlights how Lake Victoria (dagaa) can foster **Just Harmony** through equitable access to nutritious food and livelihoods. It also contributes to regenerative wisdom by promoting the sustainable use of a locally abundant small indigenous species.

## **Building Blue Justice in small-scale fishery territory**

**Machado, Ingrid**

Instituto de Pesca, Brazil, [ingrid.machado@sp.gov.br](mailto:ingrid.machado@sp.gov.br)

**Mayra Jankowsky**, Instituto de Pesca, Brasil / Observatório de Literacia Oceânica - OLO,  
MARE - Center, NOVA University, Portugal

Small-scale fisheries face multiple conflicts that have come to characterize a scenario of blue injustice. Our study was conducted in a fishing territory affected by ocean grabbing driven by port expansion. To address this issue, we adopted a transdisciplinary co-construction approach, organizing workshops with fishers to examine the consequences of the overlap between fishing and port territories, and conducting interviews with institutional actors to explore their perceptions of the conflict and their roles in local governance. The findings revealed cross-scale institutional shortcomings that produce a governance vacuum in the territory, including the absence of a dedicated governance body. Building on these results, we convened stakeholders in a scenario workshop to design governance-oriented strategies for transforming this reality. The scenario identified four priority spheres – Negotiation Body, Environmental Licensing, Social Participation, and Regulation of port activities – considered decisive for transformation, and for which specific strategies were developed with the aim of co-constructing an action plan. However, this goal was undermined by the lack of engagement from institutional actors and the difficulty in establishing a formalized governance body to mediate the conflict. In response, efforts shifted toward strengthening fishers' participation as a pathway to enabling a future governance body. Through this process, we observed important gains, including increased recognition of fishing communities affected by the port and greater engagement among fishers. We also noted that all actors need literacy to support the plural governance of the territory, grounded in the recognition of diverse knowledge systems and interests.

### **How does this paper contribute or is related to one or more of the congress themes?**

The paper speaks about Brazil, but the experience can be useful for other contexts of small-scale fisheries under pressure from big development drivers. The article discusses the co-construction of inclusive efforts aimed at developing solutions to improve the governance of fishing territories under the pressure of large-scale development drivers. Its contribution lies in the debate on the transformation of vulnerability scenarios in small-scale fisheries towards viability, highlighting the importance of participation and the strengthening of fishers' agency, as well as the challenges faced by institutions in adopting more committed and justice-oriented approaches within the sector.

**Limits to adaptation:  
Experiences of small-scale fisher communities in the Gulf of Kutch, India**

**Makwana, Monika**

Indian Institute of Technology, India, [monika.makwana@sopp.iitd.ac.in](mailto:monika.makwana@sopp.iitd.ac.in)

**Unmesh Patnaik**, Tata Institute of Social Sciences, India

Climate change poses enduring challenges, disproportionately affecting small-scale fishing communities that rely on ocean resources. This study examines the limits of adaptation within one such community, analyzing how biophysical and socioeconomic factors shape their capacity to cope with changing climate. By assessing the thresholds beyond which adaptation becomes insufficient, this research contributes to a deeper understanding of vulnerability and the need for transformative resilience strategies. Using primary data collected through semi-structured questionnaires for in-depth interviews from five villages in Gujarat, India, we identify various socioeconomic and political challenges hindering the community's ability to adapt. Factors such as marginalization, illiteracy, lack of capacity building, debt traps by fish traders, and inadequate infrastructure emerge as significant barriers to adaptation. Despite the community's efforts to increase fishing hours and trips, limitations imposed by the natural system remain insurmountable. Diversification of livelihoods is constrained not only by financial capital but also by a lack of skills. The absence of social protection nets exacerbates their vulnerability, pushing them towards reliance on exploitative lending practices. Technological barriers impede adaptation, with limited awareness of new fishing techniques and degraded equipment. The findings call for the need for targeted interventions to build capacity and transformative adaptation strategies to address fisher communities multifaceted challenges.

**How does this paper contribute or is related to one or more of the congress themes?**

The study aligns meaningfully with all three themes of **Just Harmony**, **Young Future** and **Regenerative Wisdom**, to varying degree. It explores the disproportionate impacts of climate change felt by the small-scale fishers, addressing the deep structural vulnerabilities such as marginalization, caste and religion-based inequalities, lack of infrastructure, debt traps etc. The study emphasized on justice-oriented approach and transformative resilience strategies to address these deep structural inequities.

## Quantitative and qualitative post-harvest losses of three marine small pelagic fish in small-scale fisheries of Bangladesh

Mamun, Abdullah-Al

Noakhali Science and Technology University, Bangladesh, [mamun@nstu.edu.bd](mailto:mamun@nstu.edu.bd)

Noor Ahmed Chowdhury, Zobaer Masum, Noakhali Science and Technology University, Bangladesh

Post-harvest fish losses (PHFLs), present a significant barrier to sustainable fisheries management, especially in small-scale fisheries (SSF) where empirical evidence is scarce. In Bangladesh, escalating quantities of nutritionally significant small pelagic fish are diverted from human consumption to feed ingredients, leading to considerable physical, nutritional, and economic losses. This study quantified PHFLs by assessing both quantitative and qualitative nutrient losses between SSF-derived food fish and feed fish. Among many three SSF species, *Sardinella longiceps* (sardine), *Thryssa dussumieri* (thryssa), and *Coilia dussumieri* (anchovy) were selected from Cox's Bazar, Bangladesh for detailed loss assessment. Results revealed substantial physical losses (13.6–28.4%) during handling and processing, accompanied by pronounced qualitative nutrient degradation. Protein losses ranged from 21.9–34.9%, whereas lipid losses exhibited significant species specificity, peaking at 81.6% in sardines. Micronutrient depletion was severe, with losses of calcium (38–69%), iron (21–66%), zinc (83–89%), and selenium (~95%). Critically important omega-3 fatty acids declined markedly, with EPA losses of 78.7–86.2% and DHA losses of 75.2–85.3%. Nationally, feed fish use caused an estimated yearly loss of 4,406.5 metric tons of nutrients, or USD 3.46 million, of which protein and lipid losses amounted for USD 0.62 million. These findings highlight a critical trade-off between animal feed availability and human nutrition security, underscoring the urgent need for alternative feeds and targeted policy interventions to reduce nutritionally inefficient fish-to-feed pathways in Bangladesh

## **CoastAll: A community-based approach to coastal law enforcement**

**Marin, Gemma Rita**

John J. Carroll Institute on Church and Social Issues (ICSI), Philippines,  
[gemmarin22@gmail.com](mailto:gemmarin22@gmail.com)

**Marvee Anne M. Ramos**, ICSI, Philippines

**John Carl R. Salavarria**, ICSI, Philippines

**Dennis F. Calvan**, Rare, Philippines

**Dane Erlo Matorres**, Rare, Philippines

**Jam Tabing**, Rare, Philippines

Illegal, unregulated and unreported (IUU) fishing by both municipal and commercial fishers persists in the Philippines, resulting in coastal degradation and decline in fish production. This is notwithstanding the enactment of the Philippine Fisheries Code in 1998 (RA 8550) and an amendment law in 2015 for the prevention and penalization of IUU fishing (RA 10654). Coastal law enforcement (CLE) needs to be strengthened to abate the unceasing IUU fishing activities in the country. In line with the 10th year of implementing RA 10654, this study looks into the role and contribution of communities in CLE which has long been mandated to the local government unit (LGU). Specifically, it documents two cases of CLE, one by the municipality of Hinundayan in Southern Leyte and the other by an alliance of five LGUs in Negros Oriental called BaTass (Bais City, Tanjay, Amlan, Sibulan, San Jose). Varying degrees of community-based practices are described in the two cases. Prior to case documentation, the study reviews existing tools on fisheries management to identify CLE indicators relevant to regulation and enforcement, networking and collaboration, and budget and financing. These areas are used to depict the participation of communities in law enforcement and protection of their municipal waters. Findings have produced additional indicators to gauge community-based practices, e.g., presence of area-based enforcers, community reporting system. It also presents policy recommendations aimed at promoting just and sustainable fisheries, e.g. passage of the Bantay Dagat Bill and upholding the preferential rights of small fishers over municipal waters.

### **How does this paper contribute or is related to one or more of the congress themes?**

The research paper titled CoastAll: A Community-Based Approach to Coastal Law Enforcement (CB-CLE) documents various ways that small fishers and other members of the fishing community, such as the women and the youth, participate in law enforcement to protect and preserve the seas and marine resources. CB-CLE brings together and promotes cooperation among the local government, community members and non-government organizations to collectively enforce coastal laws and help one another in combating illegal, unregulated and unreported (IUU) fishing activities. While not always in agreement, these stakeholders continually strive to communicate and come up with relevant policies and measures for joint implementation. After all, in the end, their collaborative efforts in coastal law enforcement and overall fisheries development and management are seen to lead to better lives and a healthier environment for all, especially for the members of the fishing communities.

## Effect of sustainable fishery on local community livelihood in coastal areas

Maung, Su

Fauna & Flora, Myanmar, [maungmaungsoe111199@gmail.com](mailto:maungmaungsoe111199@gmail.com)

Tin Zar Ni Win, Fauna & Flora, Myanmar

In Done Pale Aw village, located on Thayawthahan Gyi Island in Tanintharyi Region, diverse ethnic groups such as Moken, Karen, and Bamar coexist and rely heavily on marine resources for their livelihoods. Approximately 70% of the population engages in fishing, utilizing various traditional and gear-based methods including air compressor diving, crab trapping, and sea cucumber harvesting. However, after 2010, the influx of illegal fishing boats severely impacted local nearshore fishers, threatening food security and income stability. In response, the community, with support from Fauna & Flora, established a Locally Managed Marine Area (LMMA) in 2017. This initiative introduced no-take zones, seasonal closures, and regulated fishing practices, empowering locals to manage their resources sustainably. As a result, illegal fishing has declined, livelihoods have improved, and marine biodiversity has begun to recover. Systematic and community-led conservation efforts have not only restored fish stocks but also ensured long-term resource availability for future generations. This case highlights how sustainable fishery practices can strengthen local economies, enhance food security, and foster environmental stewardship in coastal communities.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to the SSF Congress themes by showcasing how community-led sustainable fishery practices in Done Pale Aw village, Myanmar, have improved local livelihoods and protected marine biodiversity. Through the establishment of a Locally Managed Marine Area (LMMA), the community implemented no-take zones and seasonal closures, reducing illegal fishing and enhancing food security. The paper highlights the role of traditional knowledge, youth engagement, and participatory governance, offering a practical model for empowering small-scale fishers and ensuring long-term resource sustainability.

## Bioeconomic interactions shape Madagascar's peri-urban coral reef fishery and protected area

**Mbony, Andrinirina Jovial**

University of Toliara, Madagascar, [mbonyjovial001@gmail.com](mailto:mbonyjovial001@gmail.com)

**Sandra Ranaivomanana**, University of Toliara, Madagascar

**Jérôme Guitton**, UMR DECOD, Institut Agrocampus, IFREMER, INRAE Rennes, France

**David Die**, University of Miami, USA

**Roddy Randriatsara**, University of Toliara, Madagascar

**Jacqueline Razanoelisoa**, University of Toliara, Madagascar

**Jamal Mahafina**, University of Toliara, Madagascar

**Marc Leopold**, UMR ENTROPIE (IRD, University of La Reunion, CNRS, University of New Caledonia, Ifremer), France

Small-scale fisheries in Madagascar face increasing market pressure for supporting local livelihoods. How market dynamics and ecological factors interact in time and space and drive fishers' income has however received little research attention. To address this question, we conducted an extensive fishery survey in the MPA of the bay of Ranobe, southwestern Madagascar, over four-year period (2020-2023) using advanced monitoring and analytical methods. Boat GPS tracking data and catch and income data were recorded simultaneously following a participatory and collaborative approach. Mixed generalized additive models were then used to standardize monthly abundance (catch per trip) and value (income per trip) indices across spatial and technological factors. Results showed spatial heterogeneity in the bioeconomic indicators across zones and fishing communities. The annual fishing effort increased +17% over the period while annual catch declined by 21%. Abundance index and value indice followed opposite trends, while ex-vessel prices increased significantly (from USD 0.4 to USD 1.1 kg<sup>-1</sup>) over the study period. Value indice showed a market upward trend, reaching USD 0.5-0.8 trip<sup>-1</sup>, which compensated for the 25-50% decline in abundance index across the area. Our findings revealed that market-driven processes have shaped fishery patterns over time and space. These results advocate for ecosystem management measures that account for local economic incentives to sustain both fishers' livelihoods and the resources within the MPA. The innovative and cost-effective monitoring method used in this study would be appropriate for detecting direct or indirect effects of such interventions on marine resources and socio-economic benefits.

**How does this paper contribute or is related to one or more of the congress themes?**

Our paper contributes to advancing the discussion on small-scale fisheries governance by providing novel evidence on how market forces interact with ecological dynamics to shape fishers' livelihoods.

While much attention in MPAs has focused on resource abundance and biological outcomes, our results show that economic incentives can offset ecological declines in the short term but may also mask underlying sustainability challenges. Methodologically, we demonstrate the feasibility of an innovative, low-cost, and fully participatory approach that actively involves local communities in data collection, while simultaneously capturing the spatial, ecological, and economic dimensions of fishing activities. This approach not only deepens the understanding of socio-ecological trade-offs but also provides managers and policymakers with a practical tool to design ecosystem-based management measures that integrate both conservation and livelihood objectives.

## Chemical pollution and small-scale fisheries: Addressing an overlooked threat to food and livelihood security

McDougall, Cynthia

Stockholm Environment Institute (SEI), Thailand and Chulalongkorn University, Thailand

[cynthia.mcdougall@sei.org](mailto:cynthia.mcdougall@sei.org)

Charlotte C Wagner, Stockholm Environment Institute, USA

Raja Asvanon, Stockholm Environment Institute, Thailand

Jonathan M H Green, Stockholm Environment Institute, United Kingdom

Small-scale fisheries (SSF) are vital to global food and nutrition security, particularly in regions with high fish consumption such as Southeast Asia. yet their vulnerability to ocean pollution, especially chemical contaminants, remains severely under-researched, despite growing evidence of their vulnerability. A high-level review of peer-reviewed literature reveals a striking gap: while ocean pollution such as heavy metals, persistent organic pollutants, and plastic-derived chemicals is well documented in marine environments, there is little actionable evidence on its impacts in SSF contexts. Few studies quantify pollution exposure or assess associated health and livelihood risks for SSF communities, leaving critical blind spots for policy and planning. To better understand this gap, we conducted a series of dialogues with key informants from international organizations, regional bodies, academic institutions, and civil society organizations working with SSF communities. These conversations highlighted several systemic barriers, including limited monitoring in SSF-relevant coastal zones, lack of disaggregated data, and fragmented institutional mandates for pollution control and fisheries governance. Participants emphasized that pollution is a growing concern for SSFs – but is rarely integrated into food system or fisheries policies. We identify three urgent priorities: (1) generating context-specific evidence on pollution exposure and health risks; (2) strengthening institutional capacity for pollution control in coastal regions; and (3) improving risk communication and equitable access to pollution information for SSF stakeholders. Without tackling pollution, SSF—already operating on the margins of ocean governance – face rising environmental threats that jeopardize their contributions to nutrition, livelihoods, and coastal resilience.

### How does this paper contribute or is related to one or more of the congress themes?

By identifying a profound evidence and policy gap on pollution in small-scale fisheries (SSFs), we aim to advance Just Harmony by highlighting how environmental justice and food system equity are undermined when SSF communities—especially in high-consumption regions like Southeast Asia—are excluded from pollution science and governance. Our stakeholder dialogues amplify voices from international, regional, and civil society actors working directly with SSF communities, emphasizing the need for inclusive, context-specific responses to pollution that reflect the lived realities of coastal populations.

At the same time, our paper speaks to **Regenerative Wisdom** by calling for a shift in how pollution is understood and addressed – centering traditional knowledge, place-based monitoring, and intergenerational well-being in both research and policy. We argue that without integrating pollution risks into SSF management, we risk compromising the regenerative potential of these food systems and the communities that sustain them.

## **Governability of vulnerability to viability transitions in transboundary small-scale fisheries: a study on the Sundarbans**

**Md. Ruyel Miah**

University of Waterloo, Canada, [mrmiah@uwaterloo.ca](mailto:mrmiah@uwaterloo.ca)

**Prateep Kumar Nayak**, University of Waterloo, Canada

**Jeremy Pittman**, University of Waterloo, Canada

**Ratana Chuenpagdee**, Memorial University, Canada

Despite their significant contribution, small-scale fishers find themselves marginalized, ignored, underrepresented, undervalued, and in disadvantaged positions. The vulnerabilities of small-scale fisheries are further intensified in the transboundary fisheries system due to the mobile nature of fisheries resources and fishing operations across national jurisdictions. This study argues that addressing the vulnerabilities of small-scale fisheries in a transboundary context and making a transition toward viability is a governability issue. The study aims to analyze the governability of transboundary fisheries governance in the Sundarbans mangrove forest and see whether the existing governing systems have the capacity and quality to facilitate the vulnerability to viability transitions. Data were collected using household surveys, key informant interviews, and focus group discussions on both the Bangladesh and Indian sides of the forest. The results reveal that the governing system lacks the proper capacity (e.g., structure, arrangements, and interactions) and quality (e.g., the effectiveness of the governing arrangements and the performance) to address the vulnerabilities and move toward viability. The governing system is entangled with a number of governability challenges, including differences in images of governance, lack of coordination across the governing institutions/jurisdictions, decentralization of power, and geopolitical disputes and debates. These challenges pose barriers to small-scale fisheries' vulnerability to viability transitions. The study suggests taking common transboundary governing actions and policies for transboundary forest governance. The governing system should be strengthened with the participation of local fisheries communities, counting on their knowledge and worldviews.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper argues that addressing the transboundary governance challenges in the Sundarbans, between Bangladesh and India, is a critical leverage point for advancing both "Just Harmony" by establishing equitable and secure rights across borders and "Youth Futures" by making fishing a secure and dignified profession for the next generation. It moves the discussion by scaling justice to the transboundary level and explicitly linking governance structures to intergenerational sustainability.

## FishKit: A free online toolkit for designing common management measures in small-scale, coastal fisheries

**Moore, Peyton**

The Nature Conservancy, USA, [peyton.moore@tnc.org](mailto:peyton.moore@tnc.org)

**Whitney Friedman**, The Nature Conservancy, USA

**Frank Hurd**, The Nature Conservancy, USA

**Serena Lomonico**, The Nature Conservancy, USA

**Kate Kauer**, The Nature Conservancy, USA

**Jono Wilson**, The Nature Conservancy, USA

**Bill Harford**, Nature Analytics, Canada

**Hannah Gilchrist**, The Pacific Community, New Caledonia

**Leonore Page**, The Pacific Community, New Caledonia

Small-scale fisheries (SSFs) are vital cultural and economic systems that support over 400 million livelihoods, contribute roughly 40% of the global fisheries catch, and provide essential nutrition to millions worldwide. However, with limited information, opportunities, and resources, the majority of global SSF's are currently unmanaged, and many are in decline. We believe that a resilient future includes SSF's that are managed alongside engaged communities, with culturally aligned and sustainable practices. And, we know that simple management actions taken by local actors can radically improve the productivity and resilience of fisheries now and into the future. To support this, we developed FishKit, a free online toolkit for designing locally appropriate management measures in small-scale, coastal fisheries. FishKit tools allow communities and agency staff to more easily gain insights into the health of local fish stocks, as well as design and evaluate potential management actions. These tools integrate concepts from traditional management and fisheries science and are especially relevant in data-limited settings. FishKit can be used with a variety of information sources, including from the complementary data-collection tool Ikesavea developed by The Pacific Community (SPC). Analyses are intended to complement local ecological knowledge, and to support conversations about coastal fisheries management options within and between communities and agencies. In this session, we (a) provide an overview and demonstration of the current tools, (2) present case studies where FishKit has been used, and (3) discuss needs and opportunities for further use in Pacific and global coastal fisheries.

### How does this paper contribute or is related to one or more of the congress themes?

- **Regenerative Wisdom:** Fishing communities hold a wealth of knowledge about the fished resource, the ecosystem, and appropriate management. FishKit is a resource that aims to complement and amplify the regenerative wisdom of communities.
- **Just Harmony:** FishKit is a resource that allows communities to evaluate tradeoffs between commonly used fisheries management measures. The resulting outputs may be used by communities to advocate for actions that are culturally appropriate and just.

## MAR Fish:

### Knowledge, monitoring, and protection of Mesoamerica reef fish spawning aggregations

**Morales, Judith**

Mesoamerican Reef Fund (MAR Fund), Mexico, [jmorales@marfund.org](mailto:jmorales@marfund.org)

**María José González**, MAR Fund, Guatemala

**Elizabeth Avila Muschamp**, Southern Environmental Association (SEA), Belize

**Melanie McField**, Healthy Reefs for Healthy People (HRHP), USA

**Stuart Fulton**, Comunidad y Biodiversidad (COBI), Mexico

**Silja Ramirez**, Fundación para el Ecodesarrollo y la Conservación (FUNDAECO), Guatemala

**Leonardo Chavarria**, Toledo Institute for Development and Environment (TIDE), Belize,

**Antonella Rivera**, Coral Reef Alliance (CORAL), Honduras

The MAR Fish project is a collaborative regional effort to monitor, research, protect and build social support for the transboundary Cayman Crown Reef. Launched in 2019, with support from the French Global Environment Facility, Oceans 5, The Summit and Marisla Foundation, the project was implemented by Comunidad y Biodiversidad, Coral Reef Alliance, Fundación para el Eco-Desarrollo y la Conservación, Healthy Reefs for Healthy People, Southern Environmental Association, and Toledo Institute of Development and Environment. Major accomplishments include designating no-take zones in the Cayman Crown reef in Belize and Guatemala; a five-year management plan in Belize; a national ban for three species of groupers in Honduras; binational agreements and patrols to enhance enforcement; coral reef characterization and monitoring; habitat mapping; socioeconomic studies; and FSA monitoring. These efforts have deepened our understanding of key FSAs and have contributed to safeguarding the biodiversity and livelihoods of coastal communities. The project has leveraged a multistakeholder approach that exemplifies regional effective collaboration. It engaged hundreds of fishers, conducted over 70 educational workshops, trained dozens of professionals in reef and FSA monitoring, supported livelihood diversification to reduce fishing pressure and developed key knowledge exchange products, including FSA data platform, status reports, and policy briefs, to inform decision-making. The MAR Fish is a model for transboundary cooperation integrating science, policy, and community engagement to protect the marine ecosystems and promote sustainable fisheries.

#### How does this paper contribute or is related to one or more of the congress themes?

The MAR Fish project embodies the principles of **Regenerative Wisdom** by integrating traditional knowledge, community stewardship, and science to protect fisheries and ecosystems. By protecting key spawning sites, establishing no-take zones, and supporting alternative livelihoods, the project not only safeguards biodiversity but also strengthens the long-term viability of fish as food for coastal communities. Its collaborative, transboundary approach highlights how small-scale fishers' knowledge and engagement are central to regenerative fisheries while protecting the marine ecosystems.

## Regenerative wisdom, human rights, and circular culture: Safeguarding pirogues as intangible heritage in West Africa

Morales, Maria Del Carmen Patricia

Mundus Maris asbl, Belgium / KULeuven / Coordinator of the UNESCO Chair on Human Security, Argentina, [mariadelcarmenpatricia99@gmail.com](mailto:mariadelcarmenpatricia99@gmail.com)

Small-scale fisheries in West Africa embody a paradox. On the one hand, they are vital for food security, livelihoods, and cultural identity. On the other, many fishers remain unable to realize their basic human rights: access to adequate nutrition, health, education, decent remuneration, social protection, and security of their freedom and integrity. In contexts where insecurity grows rather than diminishes, questions arise: are SSF truly sustainable when fishers remain in precarious conditions not out of free choice, but due to the absence of alternatives? External actors often focus on gains from this vulnerability, marginalizing fishers and treating artisanal traditions as obstacles to industrial exploitation. Against this backdrop, a different perspective emerges: valuing culture not as a mirror of imperialism but as a universal expression grounded in human rights. Intangible cultural heritage (ICH), as advanced by UNESCO, innovatively links safeguarding traditions with ethical responsibility: no aesthetics has meaning if it contradicts human rights. The artistry of pirogues exemplifies this convergence. Their intrinsic value lies not only in their craftsmanship and symbolism but also in their potential to strengthen the dignity and rights of fishers. Misuse of pirogues for unsafe oceanic migration or their destruction in the Canary Islands reveals a profound imbalance. Reframing pirogues as living heritage – through education, training, and respectful tourism – regenerate wisdom and resilience. We propose exploring the viability of nominating these pirogues as ICH under special safeguarding measures, with a triple impact: protecting fishers' rights, ensuring safer migration pathways, and safeguarding a cultural tradition for future generations.

### How does this paper contribute or is related to one or more of the congress themes?

This contribution advances the discussion on all three themes of the 5<sup>th</sup> World SSF Congress.

- It links **Just Harmony** to human rights in small-scale fisheries, stressing that dignity, equity, and social protection must guide governance. By exposing how rights to food, health, decent work, and security are often denied, it calls for stronger institutions that protect fishers rather than exploit their vulnerability.
- It also relates to **Young Futures** by showing why many youth abandon artisanal fishing, and how recognizing pirogues as cultural heritage can inspire them to reimagine fisheries as dignified practices that unite sustainability, artistry, and community pride.
- Finally, it enriches **Regenerative Wisdom** by framing pirogues as symbols of circular culture that regenerate knowledge, ecosystems, and identities, aligning heritage safeguarding with human rights, cultural continuity, and ecological resilience.

## **Integrating co-management, livelihood diversification, and gender inclusion to strengthen inland small-scale fisheries**

**Muthmainnah, Dina**

SEAFDEC/IFRDMD, Indonesia, [dina.gofar@yahoo.co.id](mailto:dina.gofar@yahoo.co.id)

**Aroef Hukmanan Rais, Freddy Supriadi, Sevi Sawestri, Nurwanti, Ike Trismawanti,  
Andi Soesmono**

SEAFDEC/IFRDMD, Indonesia

Inland small-scale fisheries play a critical role in food security, nutrition, employment, and socio-economic resilience across Southeast Asia. Despite their importance, these fisheries remain highly vulnerable to environmental variability, climate change, market constraints, limited access to finance, and persistent social inequalities, including gender disparities. This paper examines how the integration of fisheries co-management, livelihood diversification, and gender inclusion can strengthen the sustainability and resilience of inland small-scale fisheries. Drawing on empirical evidence from two inland fisheries pilot sites – Muara Enim Regency in South Sumatra Province, Indonesia, and Nam Xouang Reservoir in Lao PDR – this study applies a mixed-methods approach combining socio-economic household surveys, ordinary least squares (OLS) regression analysis, SWOT analysis, and participatory stakeholder consultations. The results demonstrate that fishers' incomes are shaped not only by ecological conditions and catch volume, but more strongly by working time, education, experience, and access to capital. Livelihood diversification and improved market engagement emerge as essential strategies to reduce vulnerability to seasonal and climatic shocks. Capacity-building interventions, including livelihood diversification and entrepreneurship workshops and regional training programs, significantly enhanced institutional and community capacities. Gender analysis further reveals the under-recognized yet critical contributions of women to inland fisheries value chains. The paper concludes that an integrated approach – anchored in co-management, inclusive livelihood support, and gender mainstreaming – is vital for building resilient inland fisheries systems. Policy-relevant recommendations and a way forward are proposed to guide future programming in Southeast Asia and beyond.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to the discussion on inland small-scale fisheries by providing empirical evidence from Southeast Asia, particularly Indonesia and Lao PDR, highlighting how co-management and livelihood diversification strengthen community resilience and gender inclusion. The findings help advance the discussion by linking policy frameworks with on-the-ground implementation.

## Women in small-scale fisheries: victims or architects of their destiny?

Nauen, Cornelia,

Mundus Maris, Belgium, [ce.nauen@mundusmaris.org](mailto:ce.nauen@mundusmaris.org)

Stella Williams, Ayojesutomi O. Abiodun-Solanke\*, Aliou Sall,

Kafayat A. Fakoya, Sarah Appiah, Mundus Maris ASBL

Women processors and fish traders have long been central to marketing catches in small scale fisheries and thus not only make their own families thrive, but also contribute considerably to food security to households at different levels. Though long denied recognition, thus visibility, these women have been coping with remarkable creativity and tenacity the many changes their social and economic context. Women are affected selectively as fishing costs soar while fish meal factories and other external investors have more financial means to access dwindling resources all along West Africa. As part of early efforts in Senegal to support the SSF Guidelines through the concept of the small-scale fisheries academy based on respectful multi-stakeholder dialogue we observed improved individual and collective confidence in their agency. But this remains so far at small scale. Maintaining and extending functioning traditional social relations are important to resist selective pressures pushing many women into poverty enhanced by full recognition of their citizen and human rights and ensuring visibility. Increasing their access to education and investing in organisational strengthening are critical and effective. When political leaders enter into dialogue with small-scale fishers and their organisations they create potential for amplification of local initiatives as is e.g. the case in Senegal – where REFEPAS, the women’s network, is in frequent dialogue with the woman minister in charge of fisheries – and Ghana - where the new woman minister dialogues with small-scale fisher organisations and has extended the exclusion zone keeping out industrial trawlers from 6 to 12 nautical miles.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper wants to contribute to the debate about how to advance in relation to more justice and cooperation with emphasis on women building on the solidarity and creativity women's groups. They have already demonstrated agency particularly through harsh times as a way to help regenerate resources as well as strengthen family and local economies. However, to advance on a broader front, the gap between the international treaties on citizen and human rights and other formal safeguards and their denial in practice needs to be bridged so that women and girls get access to education, social and health services and practical recognition of their rights as a prerequisite of achieving many of the global goals, e.g. those in the SSF Guidelines and the SDGs.

## **Beyond the net: Tackling IUU fishing through equity, enforcement, and community empowerment in the Pacific Islands**

**Nicholson, Mark**

New Caledonia, [markn@spc.int](mailto:markn@spc.int)

Illegal, Unreported, and Unregulated (IUU) fishing poses a critical and growing threat to coastal fisheries and the communities that depend on them. Its insidious nature undermines fisheries management, disrupts ecosystems, and erodes livelihoods. This presentation explores the multifaceted drivers of IUU fishing in the Pacific Islands, where limited monitoring and enforcement capacity, combined with socio-economic pressures, fuel non-compliance. Historical perspectives, including outdated beliefs like T.H. Huxley's notion of inexhaustible fish stocks, highlight the ongoing relevance of robust, adaptive management. We examine the key motivations behind coastal fisheries IUU fishing, distinguishing between profit-driven illegal activity and subsistence-based non-compliance rooted in poverty and inequity. In many Pacific communities, fishers perceive regulations as disproportionately favouring large-scale operations while disadvantaging small-scale, local efforts – deepening a sense of injustice and justifying rule-breaking. This reflects the broader "Tragedy of the Commons," where individual actions, when unchecked, lead to collective resource collapse. The role of Authorised Officers is central to this discussion. Effective enforcement demands not only legal authority but cultural competence, community trust, and strong communication skills- especially in contexts where illegal fishing is normalised or socially pressured. Successful approaches combine Monitoring, Control, Surveillance, and Enforcement with community engagement, education while fusing traditional/customary with contemporary legislative responses in addressing coastal fisheries IUU fishing. Ultimately, this presentation argues for a shift in mindset: from seeing IUU fishing as an external problem to embracing collective responsibility. Sustainable coastal fisheries depend on inclusive governance, equitable regulation, and empowered communities committed to protecting marine resources for future generations.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper discusses an important strategic response to IUU fishing in Pacific coastal fisheries that requires an integrated policy framework that strengthens enforcement capacity, upholds culturally appropriate compliance mechanisms, and invests in scalable MCS&E systems. While customary governance and community engagement remain essential, long-term sustainability depends on robust legal instruments, targeted education, and adequately resourced institutions. Voluntary compliance is the aspirational benchmark, and neglecting coastal fisheries governance risks undermining regional food security, economic resilience, and biodiversity.

## **Advancing Collaborative Fisheries Governance through Multispecies Stock Assessment in the Gulf of Thailand: A GoTFish-Supported Partnership Mechanism for Sub-Regional Fisheries Management**

**Noranarttragoon, Pavarot**

Department of Fisheries, Thailand, [pavarotn@gmail.com](mailto:pavarotn@gmail.com)

**Nipa Kulanujaree**, Department of Fisheries, Thailand

**Worawit Wanchana**, FAO-SEAFDEC GoTFish, Thailand

Small-scale fisheries in the Gulf of Thailand depend heavily on shared pelagic resources - particularly short mackerel and anchovy - characterized by multispecies interactions, seasonal variability, and transboundary distribution. Effective management remains challenging due to fragmented assessment approaches, persistent data limitations, and the need to strengthen collaboration and trust among countries and stakeholders sharing the Gulf of Thailand.

This presentation introduces a GoTFish-supported partnership mechanism designed to advance collaborative fisheries governance through the application of a multispecies stock assessment framework for shared pelagic fisheries in the Gulf of Thailand. In Thailand, this framework is currently applied at the national level to inform fisheries management decisions, including the setting of catch limits for pelagic species. By explicitly accounting for species interactions and cumulative fishing pressures, the approach provides a more robust and policy-relevant basis for management than conventional single-species assessments.

Within Thai waters, ecosystem-based fisheries management (EBFM) has also been implemented through the use of ecosystem indicators, complementing the multispecies assessment framework. Building on this experience, EBFM is envisaged to be progressively expanded to the sub-regional scale.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper is related to the theme of Regenerative Wisdom by showing how multispecies stock assessment and ecosystem-based fisheries management can support sustainable food systems and introducing a GoTFish-supported partnership mechanism designed to advance collaborative fisheries governance through the application of a multispecies stock assessment framework.

## Investigating the multilevel institutional interactions of small-scale fisheries governance of Nigeria

Nwariaku, Queenette

University of Birmingham, United Kingdom, [queenettenwariaku@gmail.com](mailto:queenettenwariaku@gmail.com)

Small-scale fisheries (SSF) are the backbone of food security and livelihoods for millions of people, especially in low-income countries. In Nigeria, SSF provide over 80% of the country's fish supply and support the nutrition and employment needs of more than 200 million people. However, they are managed through a mix of formal government rules and informal, community-based systems rooted in culture and tradition. These overlapping governance arrangements often interact in complex ways, sometimes complementing each other and sometimes creating tensions. Despite their importance, there is little research on how these interactions actually play out in practice. This study seeks to fill that gap by exploring how formal and informal governance institutions work together, or come into conflict, in Nigeria's SSF sector. It will focus on two sites: Badagry in Lagos State and Ibeno in Akwa Ibom State, where different cultural traditions shape fisheries governance in unique ways. The research will use an ethnographic approach, which means spending time with fishing communities, observing daily activities at landing sites, and learning directly from fishers and community leaders. It will also involve interviews and focus group discussions to capture local perspectives, as well as shadowing fisheries officers and reviewing government policies, laws, and reports. By looking closely at these interactions, the study will provide practical insights into how SSF are governed in real life. The findings will help policymakers, community leaders, and development partners design governance strategies that are not only effective, but also fair and culturally appropriate.

### How does this paper contribute or is related to one or more of the congress themes?

My paper best advances the theme of **Just Harmony**. Small-scale fisheries in Nigeria, as in many low-income countries, are governed by overlapping systems: formal rules made at the federal, state, and local levels, and informal, community-based systems rooted in culture and tradition. These systems often interact in complex ways that can either promote fairness and legitimacy or reinforce inequities and power imbalances. By using institutional ethnography to observe these interactions in practice – through community-level governance at landing sites, government-community meetings, and fisheries officers' daily work – this study sheds light on how harmony (or conflict) is actually negotiated on the ground. It highlights where governance arrangements work to support equity and inclusivity, but also where they risk marginalising certain groups or reinforcing elite control. The insights generated will help move the conversation on Just Harmony forward by offering practical, real-world evidence of how governance systems can be designed or adapted to ensure fairer outcomes for small-scale fishers. This contribution is particularly important for contexts where state-led frameworks alone are not sufficient, and where achieving justice requires recognising, valuing, and better integrating informal and community-based governance practices.

**Youths in aquatic food futures:  
Field lessons from coastal and riverine small-scale fisheries in Cameroon and The Gambia**

**Nyiwung, Richard**

University of Waterloo, Canada, [rnyiwun@uwaterloo.ca](mailto:rnyiwun@uwaterloo.ca)

**Neville N. Suh**, Ege University, Turkey

In developing countries such as Cameroon and The Gambia, activities along small-scale fisheries value chains are highly dependent on a strong labor force—usually at the fishers' household and individual levels. Maintaining this labor base depends on the motivation, recruitment, and retention of young people in different activities. We present here field lessons from two different small-scale fisheries systems, i.e., coastal small-scale fisheries in Cameroon with significant participation from men and women, and a predominantly women-led mangrove-based oyster harvesting in The Gambia. While young people are already playing a key role in activities along the value chain, their future remains questionable. Through interviews and surveys with actors in both countries, we found distinct characteristics. In The Gambia, while intergenerational practices and knowledge sharing have maintained the tradition of oyster harvesting from grandmother-mother-daughter, climate change stressors, decline in oyster catch, and reduced income are hindering the willingness of young people to engage in oyster harvesting activities. Meanwhile, in Cameroon, regardless of prevailing changes in the fisheries system, fish harvesters and fishmongers do not encourage their children to continue in their fishing activities but to go to school, get a formal education, and engage in “white-collar” jobs. Many see fishing as tedious and unfulfilling. These field lessons are important pointers for the need for policy actors across scales to engage in meaningful conversations and redefine the future of small-scale fisheries in these countries and related geographies.

**How does this paper contribute or is related to one or more of the congress themes?**

The discussions in this paper are in line with the growing debates of youth futures in fisheries. We present first-hand empirical findings of research conducted with fishers, i.e., men, women, and youths engaged in different activities along the value chain. We aim to contribute stories from Cameroon and The Gambia.

## **Challenges of financial and digital inclusion for small-scale fishers in Mexico**

**Ojeda Ruiz de la Peña, Miguel Ángel**

Universidad Autónoma de Baja California Sur, Mexico, [maojeda@uabcs.mx](mailto:maojeda@uabcs.mx)

**Elvia Aida Marin Monroy**, Universidad Autónoma de Baja California Sur, Mexico

**Marcia Moreno Báez**, Tufts University, USA

**Rosa Isela Hiraes Cota**, Universidad Autónoma de Baja California Sur, Mexico

Small-scale fisheries contribute 50% of the global catch, providing the most significant proportion of products for direct human consumption, ensuring food security, and generating millions of jobs. However, they face challenges that require a better understanding and solutions from multidisciplinary approaches. These include digital exclusion and the inequitable financial system, which limit the sustainable development of the activity. If left unaddressed, this will widen the gap with sectors competing for ocean use. Given the lack of studies, this research was developed, using La Paz, BCS, Mexico, as a case study, to determine the levels of financial and digital inclusion in the sector and propose actions to reduce economic vulnerability. We compiled information through systematic searches on academic and technical platforms. A structured survey, designed with the support of community leaders, was administered to 55 economic units. The results obtained were validated in a participatory workshop. Among the findings, the aging population stands out, with a low level of incorporation of young fishers; a predominant primary education level, and more than 15 years of experience. Cell phone use dominates in technology, with limited use of computers and fishing equipment. While debit accounts are common, access to mobile applications and bank credit services is limited. The most common form of financing is working capital provided through family networks and local lenders. Less than 45% record and analyze their financial transactions, and only 8% do so using technology. Authorities must review financial policies and address efforts to strengthen the financial literacy of fishers.

### **How does this paper contribute or is related to one or more of the congress themes?**

As a case study, it is based on Mexican realities and regional research results, including comparisons and ideas to improve the situation by drawing on experiences from other countries. This presentation will help to include some critical aspects rarely discussed at academic congresses, stimulating conversations and efforts around financial and technological exclusion of fishers.

## Stayers, straddlers, and switchers: Household transitions from capture to aquaculture in Kampong Khleang, Tonle Sap Lake, Cambodia

Okada, Ryuju

Kyoto University, Japan

[okada.ryuju.56c@st.kyoto-u.ac.jp](mailto:okada.ryuju.56c@st.kyoto-u.ac.jp)

Small-scale fishers around the Tonle Sap have diversified as aquaculture expands, yet household pathways remain poorly understood. In Kampong Khleang – where 85% of residents rely on fisheries – we compare three types: (1) switchers moving mainly into pond aquaculture, (2) straddlers combining aquaculture and capture, and (3) stayers remaining capture-only. We draw on preliminary surveys (Feb, Apr-Jul, Nov 2024), interviews, and a planned household survey (Dec 2025-Feb 2026: Tar Choroneang village 200 households; plus 20 randomly sampled in each of nine other villages; target N=380). Findings indicate pathway-specific trade-offs. Switchers tend to earn more but face capital intensity and volatile inputs (feed, seed, credit). Straddlers hedge uncertainty yet confront time conflicts, gear competition, and cash-flow stress. Stayers retain skills and SSF identity but are most exposed to environmental change, habitat loss, and regulation. At the capture-aquaculture interface we observe conflicts – resource pressure, harder community-based management, and impacts on water and flooded forest – alongside complementarities, as low-value and some closed-season fish enter feed markets. Women’s/children’s sorting/descaling at landings yields cash or in-kind fish vital for nutrition and social life; live-fish marketing in aquaculture bypasses these spaces. Access to ponds, seed, and credit is mediated by kinship and buyer-credit ties. We translate insights into options aligned with SSF Guidelines and community fisheries (CFi): fair and secure access to water and land, targeted finance to avoid debt traps, and incentives that reduce reliance on wild seed and feed. Centering household choices clarifies when and how aquaculture can complement – rather than displace – small-scale capture fisheries in Cambodia’s flooded areas.

### **How does this paper contribute or is related to one or more of the congress themes?**

For Just Harmony, we map where capture fishing and aquaculture clash or align, propose fair-access, low-debt tools, and show how rethinking Community Fisheries (CFi) can guide better community resource management. For Regenerative Wisdom, we point to actions that keep flooded forests healthy and reduce pressure on wild fish.

**Empowering small-scale women fishmongers for regenerative practices:  
A case study of Poklahsar Kokar Indah, Alor, Indonesia**

**Ola, Laraswati Clarita**

Indonesia, [laras@threshershark.id](mailto:laras@threshershark.id)

**Yodhikson Marvelous Bang**, Indonesia

Small-scale fisheries are critical for food security and the livelihoods of coastal communities, yet women's contributions within the supply chain often remain overlooked. This case study of Poklahsar Kokar Indah in Alor Regency, East Nusa Tenggara, demonstrates how women fishmongers apply the principles of Regenerative Wisdom to increase economic value while adopting production practices that are more sustainable and environmentally responsible. Using a participatory approach, the study involved 10 group members in group management training, post-harvest innovations with ice packs, product diversification, financial literacy, and digital marketing. Data were collected through observation, interviews, documentation, and production records, and analyzed using descriptive quantitative and qualitative methods. Results show the group produced 526 packages of processed products with a net profit of IDR 8,140,000 (USD 497) per production cycle. Processing increased product value by up to 425% compared to fresh fish and extended shelf life to one month. Replacing ice blocks with ice packs saved IDR 50,000 - 60,000 (USD 3 - 4), 7,200 liters of water, and 7.2 kg of plastic monthly, while the use of cool boxes reduced styrofoam waste by 100 kg annually. These findings demonstrate that empowering women in small-scale fisheries improves household welfare and strengthens sustainable fisheries governance through the integration of local knowledge, simple technologies, and environmentally friendly practices. Women's active participation proves they can be key agents of change in building regenerative food systems, protecting marine resources, and reducing coastal plastic waste, making these efforts highly relevant in addressing today's ecological challenges.

**How does this paper contribute or is related to one or more of the congress themes?**

This research contributes to the theme of **Regenerative Wisdom** by highlighting the role of women in small-scale fisheries as agents of change toward sustainable practices. Through simple innovations such as ice packs and cool boxes, the Poklahsar Kokar Indah group has been able to reduce waste, save resources, and increase the economic value of processed fish products. This study demonstrates that combining local knowledge with practical innovations can build regenerative food systems, strengthen fisheries sustainability, and empower women as key actors in the supply chain.

**Optimizing benefits of food production in coastal communities:  
The seafood value chain in Solomon Islands**

**Otumawu-Apreku, Kofi**

Solomon Islands National University, Solomon Islands, [kapreku@gmail.com](mailto:kapreku@gmail.com) /  
[kofi.apreku@sinu.edu.sb](mailto:kofi.apreku@sinu.edu.sb)

**Rosalie Masu**, Ocean Nexus Consultancy, Solomon Islands

**Christain Ramofafia**, Ministry of Fisheries and Marine Resources, Solomon Islands

We examine the value chain of coastal seafood products in Solomon Islands, exploring the interconnectedness between coastal fish production, market dynamics, and community livelihoods. Employing a mixed-methods approach, we collect qualitative data through co-development workshops, interviews with industry players, state and provincial fisheries experts, fishers and fish traders, and policymakers, alongside quantitative data on fish production processes and consumption. Coastal fisheries in Solomon Islands remain essential constituent of the nation's food systems, providing food and nutrition, promoting food security, and playing a significant role in economic livelihoods and community development. The sector, however, is confronted with persistent challenges including post-harvest losses, inadequate infrastructure and market access, weak governance, and exposure to climate stressors and environmental shocks. The importance of fisheries in the lives of coastal communities demands that the challenges are addressed to unearth the potentials and initiate mechanisms that hold promise to optimize the benefits of fisheries resource utilization. Examining the challenges, we identify policy options that can take advantage of existing opportunities to promote sustainable fisheries management, enhance food security, and improve community livelihoods. We also highlight pathways that can strengthen community resilience and support national development goals.

**How does this paper contribute or is related to one or more of the congress themes?**

Our paper seeks to address vital issues that obstruct opportunities for livelihood diversification in coastal communities; it unearths possible income sources/avenues for coastal small-scale fishing communities (importantly, work for coastal youth and enhancement of their future); it addresses issues that act against the promotion of food security, access to sufficient food, improvement in nutrition, and eradication of hunger; it addresses issues that impede socioeconomic development, breed hunger and strife, and hinder peace and harmony in coastal fishing communities.

**Navigating dialogue:  
Lessons from the Galápagos Marine Reserve Zoning Process (2024-2025)**

**Paez, Carolina**

Charles Darwin Foundation, Ecuador, [carolina.paez@fcdarwin.org.ec](mailto:carolina.paez@fcdarwin.org.ec)

**Jorge Ramírez-González**, Charles Darwin Foundation, Ecuador

**Nicolás Moity**, Charles Darwin Foundation, Ecuador

**Solange Andrade**, Charles Darwin Foundation, Ecuador

**César Viteri**, Charles Darwin Foundation, Ecuador

**Sergio Larrea**, Estrategias Visuales Participativas

**Pablo Barriga**, Independent

The Galápagos Marine Reserve (GMR), established in 1998, is a multi-use protected area with complex management challenges. A key challenge has been reconciling the distinct management visions of the environmental authority, the conservation sector, and the artisanal fishing sector. The tension in this process reflects the divergence between the interests of each sector and the need for a shared vision for the Reserve. This work presents a dialogue model developed for the 2024-2025 marine zoning review process. It examines the concept of consensus, asking: Is it truly possible? To what extent is it necessary, and what happens if it's not achieved? Based on the lessons learned, the presentation explores alternatives to consensus for reaching agreements, acknowledging that conflict can be a symptom of divergent interests. The presentation analyzes the phases of the process, from designing interaction spaces to formalizing proposals. It also discusses whether the management model is truly participatory, the level of engagement achieved, and its adequacy for meeting the stated objectives. It highlights the importance of strengthening capacities among stakeholders to adapt decision-making systems to the complex realities of the reserve. The main contribution is to show how including spaces for dissent can strengthen governance, sustainability, and the legitimacy of conservation policies. The conclusion is that consensus is not the sole objective, but a mechanism whose effectiveness depends on the maturity of the actors involved. The lessons from this zoning process offer a valuable roadmap for addressing future governance challenges.

**How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to the **Just Harmony** theme by providing a concrete, evidence-based case study of how collaborative governance can transform long-standing conflict within a small-scale fisheries context. The Galápagos Marine Reserve has been a site of tension for over two decades due to competing visions between conservation authorities and the artisanal fishing sector. Our work moves the discussion forward by presenting a replicable dialogue and consensus-building model that has been applied to review the reserve's marine zoning. This methodology shows that achieving harmony is not about a forced consensus, but about creating equitable and legitimate processes that respect and integrate diverse perspectives. By documenting how this process allowed for the inclusion of different levels of consensus and dissent, our findings provide a practical example of how to build stronger, more effective, and just institutions (SDG 16) that foster peace and sustainable management in coastal spaces.

**Small-scale fisheries in a protected island:  
Aquatic resources, socio-economic profile and environment friendly interventions**

**Pan, Maila**

Zamboanga State College of Marine Sciences and Technology, Philippines,  
[mailapan@zscmst.edu.ph](mailto:mailapan@zscmst.edu.ph)

**Saldi Attip, Maina Abdulla, Sherrah Pinote, Nerisa G. Bongo, Maila V. Pan**  
Zamboanga State College of Marine Sciences and Technology, Philippines

Great Sta. Cruz Island, Sta. Barbara, Zamboanga City, Philippines is a protected landscape and seascape with rich coastal ecosystems that sustain small-scale fisherfolk but face pressures from unsustainable fishing, habitat degradation, and tourism. Thus, a socio-economic assessment has been carried out, prior to the introduction of science-based management. This is to provide baseline data for the interventions that will be introduced in the area. The way of living of the small-scale fishers in the island were documented. Moreover, their socio-economic constraints and their concerns on their livelihood particularly related to fisheries were evaluated. Thus, a sustainable livelihood intervention has been introduced such as the Integrated Multi-Trophic Aquaculture (IMTA). The harvest volume of IMTA-related species which include blue swimming crab (*Portunus pelagicus*), crenate swimming crab (*Thalamita crenata*), sea cucumbers (*Synapta maculata*), sea urchins (*Tripneustes gratilla*), mangrove gastropods (*Terebralia palustris*, *Telescopium telescopium*), and sea grapes (*Caulerpa* spp.), were monitored through a participatory catch monitoring system. Data were collected through landing-site monitoring, surveys, and biometric measurements, then analyzed to assess catch composition, size structure, and fishing effort across mangroves, seagrass beds, and reef habitats. This initiative engaged fisherfolk directly in data collection and validation, promoting stewardship and awareness of sustainable practices. Outputs of this study will serve as a baseline information for adaptive management, reduced risk of overexploitation, and improved integration of capture fisheries with IMTA opportunities. The project ultimately advances biodiversity conservation, sustainable livelihoods, and community-based fisheries governance in Zamboanga City.

## Beyond fisheries: Foodways, heritage, and food sovereignty in small-scale fisheries of southwest Madagascar

Parker, Quinn Mitsuko

Stanford University, USA, [qparker@stanford.edu](mailto:qparker@stanford.edu)

Anira Rakotonirina, Institut Halieutique et des Sciences Marines [IHSM] Master's Alum, Madagascar

Jeanne L'or Voanirina Tsilavina, IHSM Master's Alum, Madagascar

Emma Gibbons, Reef Doctor, Madagascar/UK

Gildas Todinanahary, IHSM, Madagascar

Christopher Golden, Harvard T. H. Chan School of Public Health, USA

In coastal Madagascar, small-scale fisheries (SSF) are central not only to livelihoods but to food heritage, shaping cultural identity, ecological relationships, and local resilience. This research examines how commercialization, conservation, and climate change are transforming traditional foodways in the Bay of Ranobe, southwest Madagascar, and what this means for food sovereignty and sustainability in SSF. Using political ecology and food systems lenses informed by food sovereignty principles, we conducted 52 in-depth interviews with fishers, farmers, and elders across coastal and inland communities in 2024-2025. Participants described past systems of exchange linking land and sea that once ensured seasonal food security, social cohesion, and safety nets in times of scarcity. Today, these networks are eroding under pressures of export-oriented trade, restricted forest access, and declining fish stocks. Fish once kept for local consumption are now sold to external markets, while conservation restrictions have limited traditional foraging and coping strategies. These shifts reveal a deep erosion of food sovereignty: the loss of local control, knowledge, and rights to culturally meaningful foods. Recognizing foodways as a form of heritage underscores that conservation and food security cannot be separated. Protecting the foodways that sustain both ecosystems and communities is essential for achieving equitable, just, and lasting outcomes in SSF governance.

### How does this paper contribute or is related to one or more of the congress themes?

- Our paper bridges the **Regenerative Wisdom** and **Just Harmony** themes by demonstrating how small-scale fishers' foodways in southwest Madagascar embody both ecological knowledge and social and cultural resilience. Historically, exchange between coastal and inland communities formed a regenerative system that linked food security, ecosystem stewardship, and social cohesion. These foodways reflect generations of local wisdom, including knowledge of when to fish, what to forage, and how to sustain balance between land, sea, and society.
- Today, this wisdom, and the social systems within which it is embedded, are being undermined by commercialization, conservation restrictions, and climate change, which together erode local control, traditional coping strategies, and access to culturally

meaningful foods. Recognizing foodways as heritage reframes sustainability and justice: regeneration must include honoring and, where possible, restoring the cultural and social systems that sustain ecosystems, while harmony must mean equity and respect for local definitions of well-being and food sovereignty.

- By highlighting how food heritage connects ecology, culture, and justice, this research speaks to both themes though a call protect not only natural resources, but also the lived knowledge and relationships that have long sustained them.

**Mining and small-scale fisheries in Brazil:  
Socio-Ecological Impacts of the Mariana and Brumadinho Disasters**

**Petesse, Maria Letizia**

Instituto de Pesca - APTA/SSA, Brasil, [mlpetesse@gmail.com](mailto:mlpetesse@gmail.com)

**P.M.G. de Castro Campanha, C.M. Ferreira, V.O.G. Guimarães**

Divisão de Pesquisa e Desenvolvimento em Recursos Hídricos e Pesqueiros do Instituto de Pesca - APTA/SSA, Brazil

Over the past decade, Brazil has experienced two of the most severe mining-related environmental disasters: the Mariana dam collapse in 2015 and the Brumadinho collapse in 2019. In Mariana disaster, approximately  $43 \times 10^6$  m<sup>3</sup> of mining tailings affected the entire 850 km course of the Doce River and part of the Espírito Santo coastline, directly halting fishing activities and kills tons of fish during their breeding season. The volume and dispersion of the tailings prevented removal, and fisheries monitoring initiated in 2021 revealed that 26.7% of interviewed fishers abandoned the activity, while those who continued were forced to relocate their fishing grounds. Nevertheless, they face persistent barriers to commercialization due to fears of fish contamination. Furthermore, across the impacted areas, an increase in non-native species has been documented, indicating severe disruption of ecosystem dynamics. In Brumadinho disaster, the tailings volume was smaller (about  $9.7 \times 10^6$  m<sup>3</sup>) and partial removal is ongoing. However, impacts extended indirectly to communities around the Três Marias reservoir, located 330 km downstream. Here, the main consequences were economic, with sharp declines in fish sales and consumption due to widespread distrust of food safety. Both disasters heightened community vulnerability, undermining food security and socioeconomic stability, and highlighted the urgent need for reparative measures and ecological restoration. Artisanal fisheries, although highly resilient, have been severely affected. As repositories of cultural heritage and sustainable livelihoods, they require strengthened recognition and support to ensure their continuity for future generations while contributing to biodiversity conservation and food security.

**How does this paper contribute or is related to one or more of the congress themes?**

Mining-related disasters in Brazil have revealed the deep vulnerability of small-scale fisheries. In this context, the issues of equity, along with social and environmental justice, are central to addressing the consequences of such disasters. Furthermore, the future of small-scale fisheries depends on strategies that reconcile livelihoods with ecological restoration. This requires a strong commitment of present and future generations for sustainability and the advances in regenerative fisheries may be the right pathway toward resilience for fishing communities.

## Advancing gender equity in inland fisheries: Successes and reflections on gender transformative approaches in community-led inland fisheries conservation

Phang, Sui

The Nature Conservancy, UK, [sui.phang@tnc.org](mailto:sui.phang@tnc.org)

**Cecile Brugere**, The Nature Conservancy, UK,

**Caitlin Doughty**, The Nature Conservancy, USA

**Lucilene Amaral**, The Nature Conservancy, Brazil,

**Maria José Hernandez**, The Nature Conservancy, Colombia

**Imani Kapinga**, The Nature Conservancy, Tanzania

**Fridolin Nzambimana**, The Nature Conservancy, Tanzania

**Festus Zulu**, The Nature Conservancy, Zambia

Small inland fisheries are crucial for aquatic biodiversity and the wellbeing of men, women and Indigenous Peoples who depend on them for their livelihoods and health. Women in inland fisheries and related value chains face similar invisibility, constraints and discrimination to women in small-scale coastal fisheries but in addition, they have limited access to resources and financing and are often victims of gender-based violence. Integrating and achieving gender equity in inland fisheries conservation is paramount because women have a unique knowledge of the natural resource, and their meaningful participation has been shown to increase the effectiveness of conservation efforts and yield benefits for themselves, their families and communities. In this presentation, we highlight examples from Brazil, Colombia and Tanzania of integrating gender equity in conservation and steps to empower women in inland fisheries, and present examples of the successes achieved by elevating women's capabilities as part of community-led management. In the Brazilian Amazon, local fishing agreements were complemented by gender-targeted capacity building and rights awareness that opened the door for women's access to leadership positions and the Ministries of Women and of Fisheries and Aquaculture's attention. In Colombia, local women gained recognition, confidence and respect from becoming fisheries data collectors and knowledge holders in a community-based fisheries management scheme. In Tanzanian fishing communities, gender dialogues on social norms complemented by women's capacity building in processing and business skills are resulting in women acceding leadership positions in community management institutions and increased autonomy to engage in complementary livelihood activities.

**How does this paper contribute or is related to one or more of the congress themes?**

The presentation contributes to the themes of **Just Harmony** and **Regenerative Wisdom**. Women have a unique knowledge of the natural resource, and their meaningful participation has been shown to increase the effectiveness of conservation efforts and yield benefits for themselves, their families and communities.

## **Closing the gender gap in fisheries through the women-managed areas**

**Ramos, Marvee Anne M.**

John J. Carroll Institute on Church and Social Issues (ICSI), Philippines,  
[marveeramos@ymail.com](mailto:marveeramos@ymail.com)

**Gemma Rita R. Marin**, John J. Carroll Institute on Church and Social Issues (ICSI), Philippines  
**Jazmene P. Basit**, formerly with John J. Carroll Institute on Church and Social Issues (ICSI),  
Philippines

Closing the gender gap remains an issue until today. Despite the international commitments drafted as early as the 1970s, Philippine national laws enacted, and plans formulated and institutionalized toward the promotion and protection of women's rights, women in the fisheries sector continue to be sidelined both in statics and in the development narrative. This study seeks to understand and re-assert the roles and contributions of women in the fisheries sector through the documentation of women-managed areas (WMAs) in three municipalities in the Philippines: Siruma in Camarines Sur, Salcedo in Eastern Samar, and Hinatuan in Surigao del Sur. Through key informant interviews and focus group discussions, a holistic view of the WMA concept is construed from the cases: (1) Environmental as it serves as a resource management tool used by the women to protect and manage the coastal areas; (2) Economic as it allows the women to earn additional income for the household; (3) Social given the stronger bonds among women and the solidarity fostered in the community built through the WMA experience; and (4) Political as managing the areas exemplifies the women's organization and management capacities which enables them to participate in the political arena as well. The women continue to face challenges, aspire to improve the areas that they manage, and exercise their right to participate and contribute to the development of the fisheries sector.

### **How does this paper contribute or is related to one or more of the congress themes?**

Closing the Gender Gap in Fisheries Through the Women-Managed Areas (WMA) tackles the significant role of women in the fisheries sector who are left unseen in the development narrative most of the time. The women's 'regenerative wisdom' is demonstrated in the paper with the documentation of three WMAs in the Philippines. All three cases dissect the concept of WMA as an important resource management strategy to protect and manage coastal resources. Aside from the ecological gains of WMAs, the paper shows how it can economically, socially and politically empower women fishers. Specifically, it highlights that women through their managed areas have the knowledge, wisdom and capacities to safeguard marine resources and contribute to the Philippine fisheries sector.

## Social-ecological marine conservation outcomes under contrasting pre-existing management regimes

Reigrut, J.D.

University of Miami, USA, [jd.reigrut@miami.edu](mailto:jd.reigrut@miami.edu)

Juan Carlos Villaseñor-Derbez, University of Miami, USA

Small-scale fisheries are increasingly threatened by overfishing and anthropogenic change. Mexican fishers, NGOs, and government agencies aim to combat this by implementing “Fish Refuges” – a form of marine reserve designed to manage fishery resources. Fish Refuges have been established via three approaches: 1) by fishers operating in de facto open access areas, 2) by fishers operating in TURFs and 3) by the government, in a top-down fashion. The intersection of top-down and bottom-up implementations of Fish Refuges within differing pre-existing management regimes likely determines the ecological, fishery, and public good benefits produced by the Fish Refuges, but this question has thus far remained unanswered. Here, we analyze long-term underwater monitoring data from 1,086 ecological surveys across 67 reserve and control sites to perform the first national evaluation of the ecological and fishery effects of Fish Refuges in Mexico. A preliminary Before-After-Control-Impact analysis shows a 5.9% increase in abundance and a 4.1% increase in biomass for protected sites. Preliminary results suggest the effect on abundance is greater and the effect on biomass is smaller for Fish Refuges associated with TURFs than those occurring in open areas. Our results highlight the conditions in which Fish Refuges create the greatest social-ecological success to promote management strategies that effectively utilize resources and create widespread benefits.

### How does this paper contribute or is related to one or more of the congress themes?

- Marine reserves have emerged as a standard conservation tool to combat decreasing fish populations and work toward global conservation objectives. However, in implementing marine reserves, there is a dominant focus on conservation outcomes without considering how the process of implementing conservation strategies influences their outcomes.
- Our project explores **Just Harmony** in its evaluation of the interactions between the extent to which communities are consulted regarding marine reserves and their subsequent ecological success, engaging with both procedural and distributional equity. Furthermore, our project connects with **Regenerative Wisdom** in understanding the ways in which participation in decision making and rights-based management strategies impact resource stewardship and sustainable use.

## Dried fish provide widespread access to critical nutrients across Africa

**Robinson, James PW**

Lancaster University, UK, [james.robinson@lancaster.ac.uk](mailto:james.robinson@lancaster.ac.uk)

**Lydia O'Meara**, University of Greenwich, UK / Cornell University, USA,

**Kathryn J. Fiorella**, Cornell University, USA

**Kendra Byrd**, University of Greenwich, UK

**Marian Kjellevold**, Institute of Marine Research (IMR), Norway

**Richard Ansong**, University of Ghana, Ghana

**Christopher Mulanda Aura**, Kenya Marine and Fisheries Research Institute, Kenya

**Naftaly Mwirigi**, Kenya Marine and Fisheries Research Institute, Kenya

**Antonio Allegretti**, Lancaster University, UK

**Rucha Karkarey**, Lancaster University, UK

**Tim Lamont**, Lancaster University, UK

**Eva Maire**, Lancaster University, UK / MARBEC, University of Montpellier, CNRS, Ifremer, IRD, France

**Sarah Martin**, Lancaster University, UK

**Johnstone Omukoto**, Lancaster University, UK / Kenya Marine and Fisheries Research Institute, Kenya

**Sophie Standen**, Lancaster University, UK

**Jessica A. Gephart**, University of Washington, USA

**Nicholas A.J. Graham**, Lancaster University, UK

**Shakuntala H. Thilsted**, CGIAR, USA

**Christina C. Hicks**, Lancaster University, UK

Aquatic foods are essential in supporting food security and nutrition across the tropics, with 'dried' fish particularly affordable, available, and nutritious. However, dried fish food systems are often hidden and overlooked due to data scarcity, limiting understanding of how dried fish contribute to nutrient intakes. Here, we combine nutrient analysis of fish samples with national household surveys from across Africa to understand the importance of dried fish in diets. We find that small portions of dried fish contribute over 15% of recommended intakes for multiple essential dietary nutrients (calcium, iodine, iron, selenium, zinc, vitamins B12 and D), with low heavy metal concentrations, and are consumed weekly by ~one third of households in six African countries (Côte d'Ivoire, Ghana, Nigeria, Malawi, Tanzania, and Uganda) (145 million people, 95% HPDI = 134-160 million). Dried fish consumption rates exceeded fresh fish by a ratio of 1.6 to 1 and was highest in households near to marine coastlines. Dried fish consumption remained higher than fresh fish almost everywhere, particularly for poor households and those near inland waterbodies or urban centres. The widespread prevalence of nutritious dried fish suggests these foods and their distribution networks play critical roles in food security and nutrition, even in households distant from

fisheries or urban centres. Dried fish can fill nutrient gaps across the tropics but will require policies that mitigate negative effects of overfishing, environmental changes, and competition with international fleets and markets.

**How does this paper contribute or is related to one or more of the congress themes?**

This study contributes to the conference themes of **Just Harmony** and **Regenerative Wisdom** by demonstrating how dried fish, predominately from small-scale fisheries, provide access to essential nutrients for millions in Africa, especially for women and children and lower wealth households. It highlights the role of inland and coastal small-scale fisheries, in supporting food security and nutrition, emphasising the importance of equity and justice in governance. The data show dried fish consumption surpasses fresh fish, underlining the importance of fish as food and the need for policies that support sustainable production and equitable trade. The study underscores the importance of sustainable production of nutritious, climate-friendly dried fish via small-scale fisheries, rooted in local knowledge and stewardship. It advocates for ecosystem-friendly policies that protect aquatic resources, safeguard fish as food for nutrition security, and promote sustainable (environmental, social, economic) food system transformations.

## **Rethinking Research on Artisanal Fishing in Colombia for an Equitable and Sustainable Future**

**Saavedra-Díaz, Lina M.**

Universidad del Magdalena, Colombia, [lsaavedra@unimagdalena.edu.co](mailto:lsaavedra@unimagdalena.edu.co)

**Adriana Santos-Martínez, Ana Isabel Márquez**, Universidad Nacional de Colombia – Sede Caribe, Instituto de Estudios Caribeños IEC, Colombia

**José Miguel González**, York University, Canada

**Juana Whitaker**, TBTI Colombia / Universidad del Magdalena, Colombia

**Paula M. Origua Gaitán**, TBTI Colombia / York University, Canada

**María de los Ángeles González, Javier de la Hoz**, Universidad del Magdalena, Colombia

Artisanal fishing (AF) is a vital practice in Colombian society, providing socio-economic, environmental, and cultural benefits that promote peace and territorial stability. The country's socio-ecological systems—insular, coastal and inland—are experiencing resource degradation, reflecting a global pattern of declining marine and inland stocks over recent decades. This decline has significant social, economic, and environmental repercussions, threatening the resilience and stability of local communities. In response, an academic collaboration among Universidad del Magdalena, Universidad Nacional de Colombia, and York University (Toronto) was established to conduct a bibliometric analysis of approximately 700 publications produced over the past fifty years related to AF in Colombia. This analysis included thematic and authorship assessments, revealing prevailing research themes and key contributors, while also identifying critical knowledge gaps. Furthermore, a stakeholder mapping, involving research groups and experts at both national and international levels, was developed to facilitate strategic collaborations. The findings emphasize the need for stronger institutional partnerships to address complex challenges and highlight the importance of integrating interdisciplinary and intercultural approaches that combine scientific knowledge with traditional ecological wisdom. This review serves as a foundation for the creation of the TBTI Node (Hub) in Colombia, within the framework of the Global Small-Scale Fisheries Research Network (TBTI Global). The goal is to consolidate collective efforts and foster inclusive, participatory, and sustainable strategies that bolster resilience, peacebuilding, and the long-term sustainability of Colombia's artisanal fisheries and their socio-ecological systems. This initiative aims to support the updating process of the research agenda, legal framework and fishery policy led by the Ministry of Agriculture and the Ministry of Science.

**How does this paper contribute or is related to one or more of the congress themes?**

This research begins with a critical reflection on the body of scientific knowledge generated in Colombia, aiming to identify areas of weakness and understanding where, how, and why these

gaps exist. The ultimate goal is to foster cohesive efforts that will strengthen artisanal fishing research in the future. Accordingly, this study contributes directly to the three thematic areas:

1. **Regenerative Wisdom:** By positioning fishers as custodians of fishing knowledge, it underscores their role as wise practitioners whose insights are essential. It also emphasizes the urgency of elevating their voices as legitimate allies in decision-making processes alongside scientists and policymakers.
2. **Just Harmony:** Since artisanal fishing in Colombia is an ancestral activity that fosters peace across various territories—thanks to the multiple socio-economic and ecological benefits it provides—there is an imperative to safeguard and preserve it to ensure its vitality. Furthermore, this research will facilitate inter-institutional dialogue and stakeholder engagement, promoting a peer-to-peer approach to identify priority research avenues for the country through collective efforts rather than isolated initiatives.
3. **Young Futures:** The study seeks to actively involve community experts and researchers of all ages—ranging from youth to elders—in order to gather diverse perspectives centered on envisioning a sustainable future for artisanal fisheries and coastal communities.

## **Management effectiveness of community-based marine conservation: A case study in the Kyeintali inshore fisheries co-management area, Southern Rakhine State, Myanmar**

**San, Min Khant**

Myanmar Biodiversity Fund, Myanmar, [msan@myanmarbiodiversityfund.org](mailto:msan@myanmarbiodiversityfund.org)

**Thaung Htut, Antt Maung, Thu Rein, Naw May Lay Thant**, Myanmar Biodiversity Fund,  
Myanmar

Kyeintali Inshore Fisheries Co-management Area (KIFCA) located in Southern Rakhine State, Myanmar, supports small-scale fisheries which is heavily depended by coastal communities for their livelihoods. However, the area faces several challenges, including declining fish stocks, habitat degradation, overfishing, IUU fishing, limited enforcement, and weak governance. To address these issues, a community-led marine conservation initiative was started in 2018 and developed its management plan for effective conservation. Local communities actively participate in implementing the management plan. Data collection included catch-per-unit-effort (CPUE) from 10 fishing communities. Anchovy is an economically important species, with CPUE increasing from 6.94 kg/hr in 2018/2019 to 23.17 kg/hr in 2022/2023. Socio-economic data on income and material lifestyle were also collected to assess community well-being. Management effectiveness was assessed using the Management Effectiveness Tracking Tool (METT) with several questions (n=38), including context, planning, inputs, processes, outputs, and outcomes, with scores improving from 62% in 2021 to 76% in 2023. Significant improvement scores were seen in law enforcement, awareness, and budget management. Collaboration with communities, authorities, and conservation organizations supports management effectiveness of KIFCA. The study shows the importance of enhancing biodiversity conservation, addressing community needs, strengthening collaboration, and driving inclusive governance. Continued stakeholders engagement and community awareness are essential to improve community ownership and ensure the sustainable management of small-scale fisheries.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper shows how co-management supports sustainable fisheries and strengthens management effectiveness. Local communities actively participate in planning and decision-making, guided by scientific and socio-economic data. The Kyeintali Inshore Fisheries Co-management Area (KIFCA) enhances resilience, inclusive governance, and biodiversity conservation. This approach promotes long-term sustainability of small-scale fisheries, strengthens community ownership, provides insights for policymakers and practitioners, and benefits both people and ecosystems.

## **Recognizing small-scale fishers' perceptions as a way to ensure MPAs' effectiveness and legitimacy**

**Sangiorgi Monroy, Patricia**

Universidad Peruana Cayetano Heredia, Peru, [patricia.sangiorgi@upch.pe](mailto:patricia.sangiorgi@upch.pe)

**Rocío López de la Lama**, The University of British Columbia, Canada / Universidad Peruana Cayetano Heredia, Peru

**Armando Valdes-Velásquez**, Universidad Peruana Cayetano Heredia, Peru / University of Bern, Switzerland

**Santiago de la Puente**, Norwegian Institute for Water Research, Norway

The number and global coverage of Marine Protected Areas (MPAs) are increasing, globally, mainly as a response to the rapid expansion of the ocean economy. Yet, expansion alone of MPAs does not necessarily mean ecological protection nor delivery of social benefits to society. The management effectiveness and legitimacy of an MPA play a critical role in determining its outcomes, particularly when established near fishing communities that depend heavily on local ecosystem services. When perceived as exclusionary, non-participatory, or failing to deliver anticipated benefits, MPAs risk eroding community support, which may lead to non-compliance or resistance and undermine their objectives. Such challenges are evident in Peru, where MPAs are being created, implemented, and managed with little to no input from local small-scale fishers, who already face pressures from industrial fleets and other blue economy-related activities. Within this context, we developed a set of literature-based indicators to assess perceptions of the effectiveness and legitimacy of a Peruvian MPA, applying them to a case study of a small-scale fishing community in northern Peru. Our results highlight low perceived provision of ecological, social, and economic benefits, along with low levels of participation and inclusion in MPA governance. We argue that ensuring the provision of benefits from an MPA, together with the recognition and inclusion of local communities, will not only contribute to the fulfillment of its objectives but also encourage local support for long-term conservation success.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper is associated with the theme **Just Harmony**, as it discusses how the lack of participation and inclusion of local fishers in MPAs created in their traditional fishing grounds may erode legitimacy, foster conflict, and undermine the perceived provision of ecological and social benefits. We address the importance of fostering communication between local MPA users and authorities, as well as considering fishers' perceptions for achieving a more just resource governance, more positive well-being outcomes, and long-term conservation success that benefits local communities.

## Characterization of small-scale fisheries on San Andrés Island, Seaflower Biosphere Reserve: Challenges for sustainability

**Santos-Martinez, Adriana**

Universidad Nacional de Colombia, Colombia, [asantosma@unal.edu.co](mailto:asantosma@unal.edu.co)

**Martha Inés García Escobar**, Universidad Nacional de Colombia, Colombia

**Heins Bent Hooker**, Universidad Nacional de Colombia, Colombia

**Felipe de la Roche**, Gobernación Departamento Archipiélago de San Andrés, Providencia y Santa Catalina, Colombia.

**Anthony Rojas Archbold**, Autoridad Nacional de Acuicultura y Pesca – AUNAP, Colombia

**Carlos Barreto Reyes**, Autoridad Nacional de Acuicultura y Pesca – AUNAP, Colombia

Small-scale fisheries in the Greater Caribbean have played a fundamental role in the cultural and economic dynamics of coastal communities, including the Archipelago of San Andrés, Providencia, and Santa Catalina, designated as the Seaflower Biosphere Reserve. However, in recent years, catches have exhibited a drastic interannual decline, directly affecting the livelihoods of local fishers. An analysis was conducted of Fishing Economic Units (FEUs), organizations, fishing grounds, and landings between 2004 and 2024. Results revealed a marked increase in the number of fishers (from 360 to 1,292) and vessels (from 52 to 224), while FEUs remained relatively stable. Estimated annual catches ranged from 46.2 to 251 tons, dominated by fish represented by 104 species. Catch per Unit of Effort (CPUE) for handline fishing showed a decreasing trend, dropping from 41 kg/trip to less than 20 kg/trip. Among the most commercially important species, declines were recorded for the spiny lobster (*Panulirus argus*), queen conch (*Aliger gigas*), and several reef fishes, including groupers (*Epinephelus* spp.) and snappers (*Lutjanus* spp.). The Maximum Sustainable Yield (MSY), estimated through holistic Schaefer and Fox models, indicated that finfish fisheries are in a state of full exploitation, with an MSY ranging between 103 and 207 tons/year. These findings underscore the urgency of strengthening fisheries management under a socio-ecosystem approach. Within this framework, policy proposals have been developed through participatory processes involving the Raizal community and institutions. These proposals constitute a relevant basis for addressing current challenges and advancing resource sustainability in the Seaflower Biosphere Reserve.

### **How does this paper contribute or is related to one or more of the congress themes?**

It makes a greater contribution to **Just Harmony** by fostering collaborative processes with the community to achieve the natural, social, economic, political, and institutional sustainability of small-scale fisheries as a model for the world.

## Empowering FAD guards in Eastern Indonesia through education, livelihood alternatives, and policy support

**Satrioajie, Widhya Nugroho**

Hokkaido University, Japan / BRIN, Indonesia, [widh003@brin.go.id](mailto:widh003@brin.go.id)

**Sukma Impian Riverningtyas**, UCSC's Blue Pioneers Accelerator Program Alumni, Indonesia

**Julianto Saut Hamonangan**, Research Center for Oceanology, National Research and Innovation Agency (BRIN), Indonesia

**Makoto Tomiyasu**, Hokkaido University, Japan

**Yasuzumi Fujimori**, Hokkaido University, Japan

In Eastern Indonesia, especially in the Molucca and Sulawesi Seas, anchored Fish Aggregating Devices (FADs) are widely used to attract tuna and reduce fishing costs. To protect these devices, men are often stationed on floating structures for long periods, sometimes up to a year. This practice raises serious concerns related to safety, poor working conditions, labor rights, and the environmental risks posed by drifting FADs. The SEA GUARD project (Supporting Education and Alternatives for Guards of FADs) is a collaborative effort that aims to reduce these risks by supporting the well-being and resilience of FAD guards. The project focuses on three main goals: understanding the experiences and motivations of FAD guards, improving their access to alternative livelihoods through vocational and life skills training, and supporting government efforts to promote safer and more sustainable fisheries management. This initiative takes a practical approach by testing small-scale, low-cost interventions to assess what works before scaling up. Early findings suggest that even a short awareness session can increase knowledge of labor rights and spark interest in safer job options. Basic training that combines technical and soft skills has also shown promise in improving job readiness. At the policy level, stronger law enforcement and the use of appropriate technologies could reduce the need for long-term human guarding of FADs. This paper shares initial insights from the field and highlights how community-focused solutions can support ethical, sustainable, and human-centered approaches to tuna fisheries in Indonesia.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to the **Just Harmony** theme by highlighting the overlooked labor conditions of FAD guards in Eastern Indonesia and promoting fair, safe, and inclusive fisheries through education, livelihood alternatives, and policy reform. By addressing power imbalances and advocating for human-centered management, the project supports more just and equitable small-scale tuna fisheries.

It also aligns with **Young Futures** by offering skills development and vocational training that open pathways to safer and more sustainable employment for current and future generations. Through community-based approaches, the project fosters local resilience while promoting long-term stewardship of coastal resources.

**Maximum sustainable yield as key driver to achieve the future food security in the fisheries: The case of the fishery of Striped Venus (*Chamelea gallina*) in the Spanish waters of the Gulf of Cádiz, Sw Spain**

**Silva Caparro, Luis**

Spanish Institute of Oceanography IEO-CSIC, Spain, [luis.silva@ieo.csic.es](mailto:luis.silva@ieo.csic.es)

**Marina Delgado Fenández**, Spanish Institute of Oceanography IEO-CSIC, Spain

**Jorge Rey Jiménez**, Spanish Institute of Oceanography IEO-CSIC, Spain

**Mauricio Alfredo Mardones Inostrosa**, Spanish Institute of Oceanography IEO-CSIC, Spain

**Pablo Silva Torres**, Research, Planning and Development, S.L, (IPD), Spai

Securing future food that fisheries are expected to provide us requires fishery management, whose main objective is to operate at maximum sustainable yield (MSY) levels. Exploiting marine resources at an MSY level assumes the fishery extracts a resource at such a pace that it will ensure its sustainability while enhancing population growth. An example of exploitation management at MSY is the striped venus *Chamelea gallina* fishery in the Spanish waters of the Gulf of Cadiz in the SW Spain. This fishery has been traditionally carried out with artisanal boats that use towed dredges in soft and shallow bottoms. However, the introduction in the early 90s of hydraulic dredges, with more fishing power, changed this type of fishery radically. The catches increased abruptly from 500 tons in the mid-90s to almost 4,000 official tons reached in 2005. Nevertheless, at the beginning of 2010, catches decreased, reaching a historical minimum, causing the closure of the fishing ground, with several subsequent closures. These historical events brought significant changes in the management of the fishery, with the implementation of specific Fishing Plans, daily quota establishments, effort regulations, minimum sizes, and seasonal closures, among other measures. Increasing research in order to provide good advice to the Administration and establishing synergies between all stakeholders was extremely essential. With MSY as a priority objective, new management changes were established from 2018. Using the information obtained from the onboard observers, the assessment models, and the assessment survey initiated in 2018, it was possible to establish in 2022 an annual total available catch equivalent to the MSY to achieve such sustainability in the fishery over time.

**Displaced from the ocean:  
New realities of small-scale fisheries and the surge of illicit economies in Ecuador**

**Silva Zambrano, Carlos**

Charles Darwin Foundation, Ecuador, [carlos.silva@fcdarwin.org.ec](mailto:carlos.silva@fcdarwin.org.ec)

**Cesar Viteri-Mejia, Carolina Paez, Michael Tanner**

Charles Darwin Foundation, Ecuador

Small-scale fisheries in the Eastern Tropical Pacific are facing unprecedented challenges from the influence of illicit economies and associated violence. The expansion of illegal activities, particularly drug trafficking, is reshaping access to and control over marine resources, creating new forms of displacement for artisanal fishing livelihoods. Focusing on mainland Ecuador and the Galápagos Islands, we explore how illicit economies appropriate marine spaces, disrupt traditional practices, and generate risks that erode both fishing communities' livelihoods and social fabric. We contribute by describing and situating the recent surge of illicit economies in Ecuadorian coastal and ocean spaces within two conceptual frameworks: ocean grabbing and narco-degradation. These lenses help to explain how illicit actors take over ocean space and docking & trading facilities, and how they degrade socio-ecological systems. This new reality reveals fisheries displacement as a challenge not only of resource management but also of justice, security, and community resilience, closely linked to the SDG 16: Peace, Justice and Strong Institutions. Rather than offering definitive answers, our article raises key research questions and proposes a research agenda to understand the modalities of fishing communities' displacement from their traditional fishing grounds including, in some cases, their cooptation by illicit structures, and its cultural, social, and economic consequences. We highlight urgent concerns for fisheries livelihoods, ocean governance, and timely policymaking, while positioning the Ecuadorian case within a broader global conversation on the vulnerabilities and futures of small-scale fisheries under conditions of growing illicit economies and insecurity.

**How does this paper contribute or is related to one or more of the congress themes?**

Our paper examines how illicit economies disrupt small-scale fisheries in Ecuador and the Galápagos, threatening livelihoods, equity, and community rights (**Just Harmony**). It highlights the impact on young fishers (**Young Futures**) and uses the ocean grabbing framework to analyze socio-ecological degradation and weakened stewardship (**Regenerative Wisdom**). By documenting these emerging challenges, the study informs discussion on justice, resilience, and governance in fisheries, offering insights for policies and strategies that safeguard livelihoods and support community adaptation in contexts of growing insecurity.

## **Gender Inclusivity in co-management: The case study of fish refugia for blood cockle fisheries in Prey Nop 2, Sihanoukville, Cambodia**

**Sornkliang, Jariya**

Southeast Asian Fisheries Development Center, [jariya@seafdec.org](mailto:jariya@seafdec.org)

**Supapong Pattarapongpan, Saruttaya Jaroonpongsawat**

Southeast Asian Fisheries Development Center

In Prey Nop 2, Sihanoukville, Cambodia, women play a vital role in harvesting blood cockles by hand during low tide, contributing significantly to household income and food security. However, illegal dredge fishing has posed a serious threat by destroying habitats and undermining these livelihoods. In response, the community, with support from the Cambodia Fisheries Administration and the Southeast Asian Fisheries Development Center (SEAFDEC), established a Fish Refugia for Blood Cockle in 2005, accompanied by self-regulations to promote sustainable harvesting. In 2023, SEAFDEC revisited the site to assess human well-being outcomes, applying a gender analysis framework through focus group discussions with both women and men fishers. The results underscored women's central role in cockle harvesting and household care, while men were more involved in offshore fishing, reflecting traditional but complementary gender roles. Both women and men demonstrated strong awareness of community self-regulations; however, women's adherence and commitment to these rules proved particularly critical for ensuring sustainability. Community voices further emphasized the need for stronger participation in patrolling to protect illegal fishing in conservation. Key outcomes demonstrate that protecting the Blood Cockle habitat has maintained the ecosystem, secured livelihoods with more stable income and food supply, and increased social inclusion through the recognition of women's contributions. The initiative provides a valuable model for gender-responsive and community-led management of small-scale fisheries in Southeast Asia.

**How does this paper contribute or is related to one or more of the congress themes?**

It shows how blending local wisdom with co-management helps revive ecosystems, improve livelihoods, and ensure equitable benefits.

## Young guardians of tradition: Community-based fisheries governance in Wompou, Mauritania

Soumaré, Almamy

NbS-IUCN Global Standard Practitioner / Councilor, Municipality of Wompou, Mauritania,  
[soumarealmamy3@gmail.com](mailto:soumarealmamy3@gmail.com)

In southern Mauritania, the commune of Wompou exemplifies how youth-led initiatives and traditional knowledge converge to sustain small-scale fisheries amid ecological and social pressures. Though agriculture dominates local livelihoods, Wompou's sacred pond symbolizes a socio-ecological nexus where culture, subsistence, and sustainability intersect.

For centuries, the community has hosted an annual collective fishing event, uniting neighboring villages and reinforcing social ties. Today, youth organizations revitalize this tradition by monitoring the pond during critical reproductive cycles, combating illegal fishing, and mitigating pollution. Their efforts embody Young Futures—youth shaping the fisheries they aspire to inherit. Wompou's model also reflects Just Harmony and Regenerative Wisdom. Customary rules ensure equitable access, while ecological stewardship inspires innovations like seasonal aquaculture and Nature-based Solutions to rehabilitate degraded ecosystems. This case underscores youth not as passive beneficiaries but as proactive custodians of governance. By bridging ancestral practices with adaptive strategies, they co-create a regenerative future—balancing food security, cultural preservation, and resilience. Wompou's story invites global dialogue on how local youth leadership can inform inclusive, just, and sustainable fisheries governance.

### How does this paper contribute or is related to one or more of the congress themes?

Youth leadership (Young Futures):

- Take active responsibility for monitoring the sacred pond
- Organize riverside clean-ups against pollution
- Run an inclusive artisanal fishing cooperative

Customary governance (Just Harmony):

- Ensure equitable access through rotational fishing turns
- Resolve conflicts via community assemblies

Local practices (Regenerative Wisdom):

- Protect spawning periods through cultural taboos
- Combine seasonal fishing with community-based management

Key message: This practical case demonstrates implementation of SSF Guidelines (Articles 5.9, 7.7) in a Sahelian context.

## Strengthening group independence through financial literacy in coastal communities

Suwarno, Arroyan

MDPI Foundation, Indonesia, [arroyan.suwarno@mdpi.or.id](mailto:arroyan.suwarno@mdpi.or.id)

Alief Dharmawan, Siti Zulaeha

MDPI Foundation, Indonesia

Financial management is a crucial foundation for more adaptive coastal communities. Including their resilience in facing unforeseen events such as natural disasters, pandemics, and low fishing seasons. MDPI has identified financial literacy gaps within these communities and strives to empower fishing households with the skills to manage their finances effectively. To facilitate the learning, MDPI developed a financial management simulation game called "Si Keong Nelayan," which was launched in December 2021. It has reached 787 men and 634 women from over 700 fishing households. Communities have gained knowledge and managed their finances more wisely, now started communal enterprises. Some of them have formed cooperatives and groups that are purely led and run by them. The establishment of these cooperatives and business groups to provide additional income for coastal communities and encourage economic growth. The profits are distributed to all members as business surplus, providing additional household income based on monthly sales. For the examples in Bone Regency, South Sulawesi, fisher's wife received capital from Cooperative to produce smoked fish. In Lombok, West Nusa Tenggara, and Maluku, local fishers can sell their daily catches to cooperatives and groups at a fair price. Currently, 24 groups and cooperatives have been established, consisting of 742 members, with total gross revenues 14.6 billion (IDR) and 757 million (IDR) in net income. This initiative to strengthening financial literacy has proven the result in greater self-reliance and financial resilience in coastal communities through communal enterprises, contributing to an inclusive blue economy.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our paper proposes an approach that has not been widely explored before, which is learning financial literacy in fishing communities through an educational game that impacts initiatives to form cooperatives and groups to run communal businesses. Our contribution is by presenting the lessons learned, challenges, and success strategies that can be a practical reference and encourage the replication of similar models in increasing the resilience of coastal communities.

## Estimating size at sexual maturity of reef fishes: Comparing macroscopic and histological methods in six exploited species from French Polynesia

**Taiarui, Marguerite**

Université Paris Sciences et Lettres, EPHE-CNRS-UPVD, UAR3278 – CRIOBE / French Polynesia, [marguerite.taiarui@gmail.com](mailto:marguerite.taiarui@gmail.com)

**Agathe Dion**, France

**Pauline Bosserelle**, French Polynesia

**Emilie Dijoux-Luneau**, France

**Herehia Taputu**, Direction des Ressources marines de Polynésie française, French Polynesia

**Caline Basset**, Ifremer, IRD, ILM, UPF, UMR241 – SECOPOL, French Polynesia

**Christophe Lau**, Direction des Ressources marines de Polynésie française, French Polynesia

**Jean Wencélius**, Université Paris Sciences et Lettres, EPHE-CNRS-UPVD, UAR3278 – CRIOBE, French Polynesia

**Tamatoa Bambridge**, Université Paris Sciences et Lettres, EPHE-CNRS-UPVD, UAR3278 – CRIOBE, French Polynesia

**Simon Van Wynsberge**, Ifremer, IRD, ILM, UPF, UMR241 – SECOPOL, French Polynesia

Small-scale fisheries often lack the biological data and resources needed to inform management. Yet, key parameters such as size at sexual maturity (L50) or at sex change (X50) are critical for stock assessments and for defining measures like size limits. Two main approaches are used: macroscopic staging, which is rapid and low-cost but often viewed as less reliable, and histology, which is precise but costly and technically demanding. The central question is therefore not only how to allocate scarce resources, but also how reliable macroscopic estimates are, and under what conditions histology becomes indispensable. We addressed this challenge in Tahiti and Mo'orea (French Polynesia), where six priority reef species were identified through a participatory framework with local stakeholders. Sampling was carried out in close collaboration with fishers, who applied their ecological knowledge to, for example, target both juveniles and large adults rarely available on the market. 1,156 fish specimens were collected between 2023 and 2025, allowing us to (1) estimate local L50 for three gonochoric and three protogynous species, and (2) compare macroscopic and histological estimates. Our results provide the first local L50 and X50 estimates for Tahiti and Mo'orea, which in several cases differed from those reported elsewhere in the Pacific. Macroscopic staging tended to overestimate L50 relative to histology, a conservative bias from a management perspective. However, histology remained indispensable for species with complex reproductive biology, such as the monandric grouper *Epinephelus merra*, where macroscopic staging led to misclassification of reproductive phases and sexes.

### How does this paper contribute or is related to one or more of the congress themes?

Our work contributes to all three themes of the congress.

- **Just Harmony:** By combining fisher ecological knowledge with scientific methods, we co-produced maturity data that are both scientifically robust and socially relevant, addressing

the equity challenge of how small-scale fisheries can access and use biological information for governance.

- **Young Futures:** This research is led within a doctoral project, reflecting the role of early-career scientists in shaping the future of fisheries science and management.
- **Regenerative Wisdom:** By generating locally grounded biological information to inform management, we directly contribute to the conditions needed for stock regeneration. Because fishers were engaged in selecting study species and their knowledge guided sampling, the resulting estimates are more likely to be trusted and used, reinforcing the role of local wisdom in sustaining reef resources.

**Women in Small-scale Fisheries:  
'San Waddy' women-led micro-businesses enhancing conservation-positive approach in  
Myanmar**

**Thant, Naw May Lay**

Myanmar Biodiversity Fund, Myanmar, [nthant@myanmarbiodiversityfund.org](mailto:nthant@myanmarbiodiversityfund.org)

**Khin Myo Myo, Cho Cho Sint, Su Su Zin Maung**, Myanmar Biodiversity Fund, Myanmar

In Myanmar, women play a vital but often overlooked role in small-scale fisheries. While men dominate decision-making, women's contributions such as gleaning receive little recognition, and they face barriers including restrictive gender norms, limited access to finance and information, weak family support, low awareness of rights, poor supply chain linkages, and inadequate gender-sensitive services. To address these gaps, the San Waddy initiative was launched in 2022. Its name, meaning "role model" and "women entrepreneurs" in Burmese, reflects its aim to empower women in community-conserved marine areas to lead eco-businesses and engage in conservation. The program promotes women's economic empowerment, environmental sustainability, and community resilience. So far, 205 graduates (200 women, 5 men) including youth and disabilities have received training in value-added products, participated in exchange trips, and built SME networks. Baseline and endline assessments with 34 women graduates after one year showed strong impacts: women's salaries rose by 38%, business revenues by 29%, and staff employment by 26%. Moreover, 56% of graduates mentor others, 41% take action against environmental impacts, and all prioritize using local products. Members will reinvest 10% of their profits into marine conservation. Some have even used their earnings to relocate from conflict-affected areas and launch new businesses. A networking platform now links women with industry experts and ensures continued support. Building on its success, San Waddy plans to expand to other regions, enabling more women entrepreneurs including youth to drive economic prosperity, resilience, and environmental sustainability.

## Other Effective Area-based Conservation Measures (OECMs) in Southeast Asia: Opportunities and challenges for communities' fisheries

Tiaye, Rattana

SEAFDEC/TD, Thailand, [rattana@seafdec.org](mailto:rattana@seafdec.org)

Thanyalak Suasi, SEAFDEC/TD, Thailand

Other Effective Area-based Conservation Measures (OECMs) are increasingly recognized as complementary mechanisms to Marine Protected Areas (MPAs) to achieve the Kunming-Montreal Global Biodiversity Framework (GBF) targets. Southeast Asian countries are at varying stages of OECMs implementation: Cambodia and Singapore are exploring potential sites, Vietnam conceptually recognizes OECMs, Malaysia and the Philippines are developing policy frameworks with potential sites identified, Indonesia has integrated OECMs into spatial planning, and Thailand has recognized over 100 sites as Locally Managed Marine Areas (LMMAs). Challenges include unclear laws, overlapping authority, limited data, and economic pressures. Opportunities include stronger community management, linking small-scale fisheries with OECMs, sustainable financing, and enhancing regional cooperation. Marine OECMs currently cover only 0.24% of the global ocean (MarFishEco, 2025), highlighting substantial potential for expansion. For small-scale fisheries, OECMs not only support biodiversity, food security, and livelihoods, but also strengthen traditional knowledge and stewardship. OECMs also allow communities to plan for the future, using traditional experience to manage resources carefully and keep ecosystems healthy. They also offer pathways for resolving conflicts and balancing diverse interests, promoting equitable use of coastal and marine resources. By linking conservation with sustainable livelihoods, local knowledge, and inclusive decision-making, OECMs can help build resilient communities capable of sustaining both the natural environment and the social systems they depend upon.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to advancing the discussion by highlighting the status, opportunities, and challenges of OECMs in Southeast Asia, with a focus on their relevance to small-scale fisheries. It emphasizes how OECMs can strengthen community-based management, link conservation with livelihoods, and promote inclusive, resilient approaches that support both biodiversity and coastal communities.

## Fishery nutrient profiles provide a practical tool for nutrition-sensitive fisheries management

**Tilley, Alexander**

WorldFish, Malaysia, [a.tilley@cgiar.org](mailto:a.tilley@cgiar.org)

**Lorenzo Longobardi**, WorldFish

**Gianna Bonis-Profumo**, WorldFish

**Hamza Altarturi**, WorldFish

**Jessica Bogard**, CSIRO

**Joctan Dos Reis Lopes**, WorldFish

**Jeppe Kolding**, University of Bergen

**Villiam Sozinho**, WorldFish

Small-scale fisheries are a crucial source of nutrient-dense aquatic foods in low- and middle-income countries (LMICs), yet practical tools to manage these fisheries to optimize nutritional outcomes in an ecosystem approach remain limited. We present an analytical framework and predictive model of fishery nutrient profiles under typical multispecies, multi-gear situations. Using six-years of catch data from Timor-Leste, we modelled how different fishing methods, habitats, vessel types and seasons influence the yield of nutrients of public health significance. Our results demonstrate that fishing method and habitat are strong predictors of catch nutritional profiles. Importantly, different combinations of fishing strategies can achieve similar nutritional outcomes, indicating complementary management pathways to enhance nutrient availability for communities while balancing ecological, economic, and human wellbeing goals. This replicable framework provides actionable insights for nutrition-sensitive fisheries management and offers data-driven guidance for policies aimed at improving food and nutrition security in LMICs.

### **How does this paper contribute or is related to one or more of the congress themes?**

Our study contributes to **Regenerative Wisdom** in that we are highlighting the need to focus on food quality from fisheries in addition to just prioritizing production in terms of long-term viability of food systems.

**Information controversies in small-scale fisheries:  
Food for thought from European cases**

**Trouillet, Brice**

Nantes Université, France, [Brice.Trouillet@univ-nantes.fr](mailto:Brice.Trouillet@univ-nantes.fr)

**Nicolas Rollo**, Nantes Université, France

In Europe notably, the maritime fisheries sector faces significant and complex information controversies. These relate in particular to the location of fishing practices in relation to ecosystem conservation objectives, as well as how the relative importance of different areas is determined in relation to offshore wind farm development. In this talk, we propose to develop reflection based on a series of current research projects. The first focuses on characterizing the reduction of spaces for fishing activities over time (i.e., Red-Fish). The second focuses on ongoing work aimed at defining the different angles to be combined in order to characterize the importance of fishing zones in regard to the development of wind energy at sea (i.e., ZIP). The third and final work used here analyzes the use of global platforms such as Global Fishing Watch by local communities (i.e., Watching the watchers). At the intersection of these three studies, the question addresses the drivers of information controversies about small-scale fisheries; drivers that are distributed across the entire data lifecycle (manufacturing, processing, circulation, use), and that are related to power issues.

## Case Study on the Implementation of GDST traceability using electronic systems among small-scale fishers in Peru

Uematsu, Shuhei

WWF Japan, [uematsu@wwf.or.jp](mailto:uematsu@wwf.or.jp)

To achieve sustainable fisheries, the collection of catch data is essential for estimating fish stock levels, which form the basis of fisheries management. Furthermore, to eradicate IUU fisheries, a global challenge, it is considered effective to implement traceability systems and ensure that the collected catch data is shared among stakeholders who source these seafood products. On the other hand, particularly in small-scale fisheries, there are many cases where catch data is not even adequately collected due to issues such as insufficient government governance and cost concerns. Therefore, WWF developed a catch reporting and traceability system using a smartphone app targeting small-scale fisheries in Peru and began implementing it, primarily among fishermen targeting species such as the American giant squid. As a result, more than half of the fishermen began using the app. This enabled the Peruvian government and research institutes to monitor catch data for management and stock assessment purposes. Additionally, electronic traceability was introduced at some corporate processing facilities, contributing to proper resource management and the eradication of IUU fishing.

**Blue Justice in Danube Delta Biosphere Reserve, Romania:  
Balancing conservation, use and local ecological knowledge**

**Vaidianu, Natasa**

Ovidius University of Constanta / University of Bucharest, Romania,

[natasa.vaidianu@geo.unibuc.ro](mailto:natasa.vaidianu@geo.unibuc.ro)

**Petruta Teampau**, Babeş-Bolyai University / University of Bucharest, Romania

**Stefan Constantinescu**, University of Bucharest, Romania

**Florin Tatui**, University of Bucharest, Romania

**Ruxandra Paduraru**, University of Bucharest, Romania

**Gabriela Nicoara**, University of Bucharest / University of Craiova, Romania

**Fernando Varga**, Babeş-Bolyai University / University of Bucharest, Romania

**Aurel Giugal**, University of Bucharest, Romania

**Priscila Lopes**, University of Bucharest, Romania / UFRN Federal University of Rio Grande do Norte, Brazil

**SCMF Sfantu Gheorghe Team & CICADIT Team**

One target of the European Union (EU) Biodiversity Strategy 2030 is to legally protect and effectively manage a minimum of 30% of EU seas by 2030. In this context, our analysis intends to reveal critical insights into the strengths and weaknesses of Romania's approach relative to EU standards, by identifying key areas of divergence and convergence through interviews, focus groups and workshops in Danube Delta Biosphere Reserve. Furthermore, the study assesses the potential impacts of fisheries policies on both social equity and ecological sustainability. This paper thus aims to bridge this knowledge gap by exploring national realities, challenges in the management of fishery activities and marine protected areas, as well as the specific needs to be addressed by the stakeholders in order to support successful implementation of the conservation targets. Our preliminary conclusions reflect that the conservation efforts need more collaboration among policymakers, fishers and different stakeholders, mainly local communities, taking into account the sensitive environment and geopolitical tensions in the Black Sea.

**Co-management as a pathway for thriving fisheries:  
A case study of the Blue Swimming Crab fishery from India**

**Varghese, Ayiswarya S.**

Dakshin Foundation, India, [ayiswarya@dakshin.org](mailto:ayiswarya@dakshin.org)

**Sangeetha Udayakumar, Velumani T, Aditya Pillai, Abhilasha Sharma, Naveen Namboothri**  
Dakshin Foundation, India

Blue Swimming Crab (BSC) fishery has long been the mainstay for the small-scale fisheries (SSF) of Palk Bay – a highly productive shallow water body between India and Sri Lanka. Historically harvested sustainably using traditional small-scale gillnets, BSC (*Portunus pelagicus*) is now harvested intensively, both by SSF and by destructive bottom trawlers. Fueled by export-oriented market, the over-exploitation of BSC has been largely overlooked. Studies attribute overharvesting and habitat degradation to the observable decline in BSC landings. Communities are battling with increasing economic vulnerability and difficulties in sustainably managing the resource. Externalities including changing aspirations, increasing market pressures, inadequate institutional support and enforcement of regulatory measures further add to the pressure.

In this scenario, we have explored a co-management approach as an evidence-based intervention. Particularly in tropical developing countries with socio-ecological complexities, this approach has demonstrated success in managing common-pool resources like BSC. By fostering collaborative governance, it creates a just and transparent system of sharing rights and responsibilities among stakeholders. The paper stresses the importance of grassroots capacity, strong institutions, balanced representation of stakeholders, and a comprehensive understanding of the socio-ecological and market dynamics in establishing the foundation for co-management. Despite government mandates for decentralised village-level co-management committees, on-ground implementation remains limited. Through operationalising such initiatives and facilitating community-based BSC monitoring and habitat restoration, our work aims to integrate traditional knowledge, enhance local stewardship, and contribute to ecosystem health, food security, sustainable livelihoods, and long-term participatory governance.

**How does this paper contribute or is related to one or more of the congress themes?**

This paper contributes to the theme of **Just Harmony** by examining how co-management can create fairer governance and resource sharing in the Blue Swimming Crab fishery. In Palk Bay, market relations are complex with the presence of many intermediaries like traders and exporters, resulting in an uneven and unclear benefit distribution, especially for fishers, often leaving them vulnerable to economic challenges. By fostering direct involvement of fishers and local institutions in decision-making, the approach promotes transparency, equity in power-sharing and access, and a fairer

distribution of benefits. Co-management addresses not only ecological sustainability but also social justice by legitimizing the rights of fishers and balancing relationships across the value chain. This approach reframes management as a process rooted in social, economic, and environmental justice within the fishery's dynamic market and community context.

By anchoring the youth of the community in ongoing efforts such as community-based monitoring, this work actively engages new generations in stewardship and leadership of the fishery's management. The co-management model builds capacity, recognises agency, and creates opportunities for **young people**, helping co-create more resilient and sustainable livelihoods. This focus on youth is particularly important as it recognises and acknowledges their role in the stewardship towards sustainability of the resource. Ensuring their participation fosters a management approach that is not only sustainable but also shaped by the aspirations and capabilities of the community's younger members.

The paper relates to the theme of **Regenerative Wisdom** by emphasizing how local and traditional ecological knowledge can be woven together with conventional knowledge systems for more adaptive and resilient co-management. The paper highlights the strong interest of the community in co-management, reflecting their deep sense of responsibility, ownership, and care for this primary resource. Although the Tamil Nadu state government has mandated the creation of fisheries co-management committees, there exists a gap in ground-level implementation, partly due to the lack of capacity among community members to design a localised fisheries management system. Our efforts are aimed at building this capacity by involving the youth of the community in undertaking science-based management integrated with local ecological knowledge. By demonstrating a hybrid community-led approach, we aim to co-develop pilots that inspire communities elsewhere to adopt similar models that center stewardship, knowledge-sharing and long-term well-being of both the people and the ecosystem they depend on.

**Fish for whom:  
How global drivers affect small-scale fishing communities in Tanzania**

**Wallner-Hahn, Sieglind**

Uppsala University, Sweden, [sieglind.wallner-hahn@geo.uu.se](mailto:sieglind.wallner-hahn@geo.uu.se)

**Marlene Lödl, Alice Sjöln, Juliana Porsani**

In the Western Indian Ocean region (e.g. Zanzibar), demand for fish and seafood is increasing rapidly due to international tourism, population growth, and a rising middle class. Simultaneously, declining catches and inflation are driving up prices, threatening the livelihoods of small-scale fishers, particularly those using low-tech gear in shallow waters. This empirical social-ecological study investigated small-scale fisheries (SSF) in Unguja Island (Zanzibar), Mafia Island, and the Mtwara region of Tanzania, focusing on: (i) perceived changes in SSF; (ii) market dynamics, including pricing, demand, and distribution; and (iii) impacts on local communities in terms of fish availability, affordability and food sovereignty. We conducted semi-structured interviews with fishers, fish traders, local restaurants and hotels, and women involved in fish processing and sales. Findings indicate significant changes in SSF systems, with increasing fishing pressure and demand – particularly for pelagic and culturally preferred species – driven by population growth, tourism and exports to Western markets. These species are becoming scarce and expensive, leading to reduced fish consumption among local communities. This reduced access to fish has potential nutritional consequences, given the reliance on seafood for protein and micronutrients. Our study highlights how global market forces and ecological decline undermine food security and livelihoods of the most vulnerable in Tanzanian SSF. These findings underscore the urgent need for inclusive, adaptive fisheries governance that safeguards local access to marine resources amid increasing global demand.

**How does this paper contribute or is related to one or more of the congress themes?**

This study contributes to the **Just Harmony** theme by empirically illustrating how global market forces are impacting Tanzanian SSF. As fish become less accessible and affordable to local communities, tensions emerge between traditional, often marginalized users and external actors, highlighting issues of equity, access, and food justice. The findings underscore the urgent need for inclusive governance approaches that recognize and protect the rights of SSF communities, ensuring they are not sidelined in the name of economic growth. In this context, "harmony" involves acknowledging power imbalances and addressing structural injustices that threaten the livelihoods, food sovereignty, and cultural traditions of coastal populations.

**Issues and concerns in fisheries in the Gulf of Thailand: TRAWL FISHERIES, PURSE SEINE FISHERIES, SMALL-SCALE FISHERIES, AND REGIONAL SHARED-STOCK MANAGEMENT UNDER THE GoTFish Initiative**

**Wanchana, Worawit**

FAO/SEAFDEC GoTFish Project, Thailand, [worawit@seafdec.org](mailto:worawit@seafdec.org)

Marine capture fisheries in the Gulf of Thailand play a vital role in food security, employment, and coastal livelihoods, yet they face persistent sustainability challenges arising from long-term expansion of fishing capacity and weak control over access to resources. This paper provides a policy-oriented assessment of key issues and concerns affecting fisheries in the Gulf of Thailand, with particular emphasis on trawl fisheries, purse seine fisheries, small-scale fisheries (SSF), and the governance of shared and transboundary fish stocks under the FAO–GEF–SEAFDEC GoTFish initiative. Using a Capacity–Pressure–Impact–Response (CPIR) analytical framework, the study examines how excessive fishing capacity generates sustained fishing pressure, leading to stock depletion, habitat degradation, and increasing socio-economic vulnerability among fishing communities. Evidence from long-term assessments indicates widespread overexploitation of both demersal and small pelagic stocks, reflected in declining catch per unit effort, reduced mean size at landing, and high levels of juvenile mortality. The analysis highlights sector-specific challenges, including bycatch and habitat impacts from trawl fisheries, recruitment risks in purse seine fisheries, and livelihood insecurity in SSF. Given the shared and transboundary nature of many key stocks, the paper argues that unilateral national management measures are insufficient. Instead, effective responses require regional coordination, harmonized monitoring indicators, ecosystem-based management, and strengthened co-management arrangements. The GoTFish initiative is presented as a practical platform for advancing cooperative governance through shared stock assessment, fisheries refugia, and adaptive management. Overall, the paper emphasizes that sustainable fisheries in the Gulf of Thailand depend on integrating ecological sustainability with socio-economic equity and regional cooperation, supported by clear indicators and coordinated policy responses.

## The tuna fisheries co-management committee (FCMC) towards more inclusive fisheries governance in Indonesia

Wati, Nilma

International Pole and Line Foundation, Indonesia, [nilma.wati@ipnlf.org](mailto:nilma.wati@ipnlf.org)

Fishing as a livelihood and the communities that depend on it are constantly exposed to various risks, such as ecosystem degradation caused by floods and water pollution from industrial waste. These challenges often result in the displacement and migration of people from low-lying areas, forcing them to seek alternative sources of income and leaving their lives increasingly vulnerable. It must be noted that many fishing and coastal communities already subsist in precarious and vulnerable conditions because of poverty and rural underdevelopment, with their wellbeing often undermined by overexploitation of fishery resources and degraded ecosystems (De Young et al 2009:103). In Assam, a large portion of the population relies on fishing or agriculture for their livelihoods. Rivers and wetlands serve as the primary fishing grounds. However, recent developments – including frequent flooding, the dumping of waste into wetlands, and the discharge of industrial effluents into rivers – have significantly damaged these water bodies, threatening both aquatic life and the livelihoods of those who depend on fishing. This paper is an attempt to study the needs and adaptive strategies of the fishermen against the vulnerabilities faced by them.

**Dynamic footprints and static boundaries:  
Mapping African small-scale fisheries and industrial overlap with satellite imagery**

**Wei, Zihan**, Global Fishing Watch, China

**David Kroodsma\***, Global Fishing Watch, USA, [david@globalfishingwatch.org](mailto:david@globalfishingwatch.org)

Yuexin Li, Global Fishing Watch, China

Tim Hochberg, Global Fishing Watch, USA

Fernando Paolo, Global Fishing Watch, Brazil

Philipp Arndt, Global Fishing Watch, Germany

Paul Tuda, Global Fishing Watch, Kenya

Ollie Balinger, Global Fishing Watch, UK

Acainã Azevedo, Global Fishing Watch, Brazil

Raul Requero, Global Fishing Watch, Spain

Lucas Piagna, Global Fishing Watch, Argentina

Sarah DeLand, Jesse Cleary, Duke University, USA

Safeguarding small-scale fishing (SSF) livelihoods requires understanding their spatial conflicts with industrial fleets, yet the global SSF footprints remain largely unmapped. As a result, policies designed to secure SSF tenure, including the “Preferential Access Areas” (PAAs), risk being outdated, misaligned, and ultimately inequitable. Drawing on 1.8 petabytes of ~4m-resolution PlanetScope imagery, we developed an AI-powered framework to detect vessels across the majority of the global coastline—over 26 million km<sup>2</sup> of coastal waters—every one to three weeks. By applying this technology across Africa, we detect over 30,000 sub-20m vessels on the water on average and identify over 1,000 SSF anchorages, revealing the diverse and dynamic footprints of the continent’s SSF. Integrating the small-vessel detections with AIS tracking and a decade of medium-to-large vessels detected with Sentinel-2 imagery, we map the overlap and potential competition between artisanal and industrial fleets. This multi-sensor approach provides an updated, evidence-based assessment of PAAs. While industrial fleets respect PAAs in 14 of 18 African countries, SSF activity routinely extends beyond these zones to chase the active fishing grounds, causing significant overlap with industrial operations in Senegal, Nigeria, and Ghana. Furthermore, widespread overlap occurs in regions lacking PAAs, such as Mauritania, central-west Madagascar, and Tunisia. This data highlights a critical mismatch between static policy boundaries and the dynamic picture of African SSF. Through ethical engagement with regional partners and researchers, we aim to translate these insights into actionable tools to safeguard SSF livelihoods, support Marine Spatial Planning, and secure equitable resource access.

**How does this paper contribute or is related to one or more of the congress themes?**

“Just Harmony”: Our work provides the literal map of where "harmony" is succeeding and where it is breaking down. By explicitly quantifying industrial encroachment and evaluating Preferential Access Areas (PAAs), we are moving the conversation from anecdotal complaints to empirical evidence. We give communities and policymakers the exact data they need to advocate for "just"

marine spatial planning and equitable resource access in conflict zones between SSF and industrial fishing.

## Empowering small-scale fisheries: Community catch certification for sustainable and equitable market access

Wood, Linda

Community Catch, UK, [linda.wood@communitycatch.org](mailto:linda.wood@communitycatch.org)

This presentation introduces 'Community Catch,' an innovative certification scheme designed to enhance market access for small-scale fisheries (SSF) by prioritising environmental sustainability and social responsibility. Traditional certification models have inadvertently favoured larger, industrial fisheries, often sidelining SSF and limiting their competitive edge in the global seafood market. In response, 'Community Catch' offers a tailored solution that addresses these disparities by recognising and promoting the unique value of SSF.

'Community Catch' focuses on sustainable practices that protect marine ecosystems while also advocating for fair labour conditions and community development, thus ensuring that the benefits of responsible fishing reach the local communities involved. This dual focus on the environment and social responsibility distinguishes 'Community Catch' as a comprehensive approach to sustainable seafood certification.

Since launching in May 2025 there are 10 Global Small-Scale Fisheries engaged in the Initiative with the first fisheries due to complete in April 2026. The scheme has already sparked significant interest among SSF with several new fisheries planning to join in Summer 2026. Fishermen and communities are eager to adopt this certification to improve market visibility and gain access to broader markets, thereby enhancing livelihoods and community resilience.

The presentation will explore the foundational principles and objectives of 'Community Catch,' discussing its potential to democratise market access and promote equity within the seafood industry. By showcasing the scheme's capacity to level the playing field for SSF, we aim to highlight its promise as a catalyst for positive change, ensuring that sustainability and social justice are integral components of the global seafood trade.

### How does this paper contribute or is related to one or more of the congress themes?

**Just Harmony:** Community Catch will level the playing field for small scale fisheries who have previously been unable to access markets as a result of not being able to accept credible certification schemes fit for purpose for small-scale fisheries. Community catch addresses that as it is developed solely for small-scale fisheries and offers credible fishery improvement programmes and certification which markets demand.

**Regenerative Wisdom:** Community Catch enables small-scale fisheries to actively engage in fishery improvement programmes to ensure their fisheries are protected for years to come. The Initiative allows a fishery to benchmark itself against the standard and identify areas requiring improvement and building a plan to address this. Community Catch is also developed specifically for small-scale data deficient fisheries where local knowledge and experience count towards the recognition of the fishery.

## Exploring the politics of scale in Taiwan's mackerel purse-seine fishery management

Wu, Ying-ching

National Yang Ming Chiao Tung University, Taiwan

[ycwu517@nycu.edu.tw](mailto:ycwu517@nycu.edu.tw)

Taiwan's mackerel purse-seine fishery is one of the most productive offshore fisheries. However, years of declining catches led to the introduction of the Regulations for Mackerel Purse-Seine Fishery (RMPSF) in 2013. Since then, the RMPSF has undergone multiple rounds of revision. This paper examines how regulatory change has been shaped by the intersections among vessel size/tonnage classes, distribution of mackerel processing plants, territorial fisheries associations, and multi-level government agencies, alongside market and ecological concerns. Drawing on analysis of regulatory texts, meeting records, and stakeholder interviews in northeastern Taiwan, I trace negotiations around seasonal closures, gear specifications, protected/no fishing zone and fish-landing tax. I argue that revisions dynamics emerge from the convergence of these facts: larger vessels lobby for wider operating ranges; district fishermen associations compete to attract landings and the associated fees; local processors try to preserve their supply advantage. Eventually, the small-scale boats' livelihood is marginalized, and the objective of ecological sustainability is overlooked. This anthropological study attempts to point out the politics of scale among mackerel fishery resource management in northeastern Taiwan.

### **How does this paper contribute or is related to one or more of the congress themes?**

This paper reveals intersectional politics of scale across fleets, processors, associations, and regulators. This analysis advances the discussion on **Just Harmony** and **Regenerative Wisdom**.

## Reimagining harmony: Discursive power and small-scale fisheries in Chana, Thailand

Ynacay-Nye, Alayna

Nagasaki University, Japan, [aynacaynye@nagasaki-u.ac.jp](mailto:aynacaynye@nagasaki-u.ac.jp)

Small-scale fisheries (SSF) face mounting pressures from industrial projects that threaten ecosystems and community livelihoods. This presentation examines the proposed Chana Industrial Estate (CIE) in southern Thailand as a case of contested development, where state and corporate actors frame industrialization through discourses of peace, modernization, and “smart city” growth, while Malay-Muslim fishers and their allies articulate alternative visions of sustainable futures. Drawing on Critical Discourse Studies and fieldwork with local fishers, NGOs, and government representatives, the research shows how discursive power reproduces longstanding inequalities in Thailand’s Deep South, where histories of marginalization shape the vulnerability of rural fishing communities. The Chana Rak Thin movement challenges dominant narratives by advancing a vision of development rooted in cultural values, environmental stewardship, and community-based governance. Their resistance demonstrates that “harmony” in coastal governance cannot be reduced to consensus imposed from above but must involve respect for diverse ways of life, transparent dialogue across institutions, and recognition of SSF wisdom as central to decision-making. This case further illustrates that struggles over fisheries governance extend beyond resource use to encompass education, cultural preservation, and religious freedom, requiring approaches that integrate justice and pluralism into development policy. By situating Chana’s fisheries within broader debates on de-growth, rural revitalization, and alternative futures, the paper argues that small-scale fishers not only resist industrial encroachment but also reimagine pathways toward more equitable and sustainable ocean governance. This presentation draws on findings from my recent publication on rural development discourses in Thailand’s Deep South, extending them to the theme of Just Harmony in SSF governance.

### How does this paper contribute or is related to one or more of the congress themes?

- My presentation contributes to the **Just Harmony** theme by examining how industrial development projects in Thailand’s Deep South create conflictual spaces where small-scale fisheries (SSF) are marginalized, and by highlighting how fishers’ resistance generates alternative visions of equity and coexistence. By applying Critical Discourse Studies, my research shows how state and corporate actors use discursive power to legitimize projects such as the Chana Industrial Estate, often framing them as pathways to modernization, peace, and prosperity. At the same time, Chana’s small-scale fishers and the Chana Rak Thin movement counter these narratives with their own vision of development rooted in cultural values, ecological stewardship, and community-based governance.
- This case study illustrates that “harmony” in fisheries governance cannot be imposed from above but must emerge from transparent, inclusive, and respectful dialogue that recognizes diverse ways of life. In doing so, the paper moves the Just Harmony discussion forward by offering empirical evidence of both the challenges and possibilities of achieving justice, equity, and sustainability in coastal governance.

