



VULNERABILITY TO VIABILITY  
GLOBAL PARTNERSHIP

## Session Plan and Book of Abstracts

### V2V Global Partnership Paper Presentation Session

# Transitioning between Vulnerability to Viability (V2V): Insights from Small-Scale Fisheries of Africa and Asia

World SSF Congress, Hua Hin, Thailand, April 27-May 01, 2026



Social Sciences and Humanities  
Research Council of Canada

Conseil de recherches en  
sciences humaines du Canada

Canada

# Session Proposal

## Paper Presentations on V2V Transitions Case Studies - Africa and Asia World SSF Congress 2026

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### **Transitioning between Vulnerability to Viability (V2V): Insights from Small-Scale Fisheries of Africa and Asia**

**Session Chair and Moderator:** Prateep Kumar Nayak, V2V Global Partnership, Faculty of Environment, University of Waterloo, Canada

**Keynote Reflections and Discussant:** Dr. Fikret Berkes, University of Manitoba, Canada

**Session 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.

**Session Plan and Sequence of Presentations:** The V2V session on the Vulnerability to Viability transitions case studies will be of three hours (180 Minutes) duration with a total of 13 presentations. It will be a back-to-back double session of 90 + 90 = 180 minutes with a break in-between. There will be two categories of presentations – Primary (Longer – 12 minutes) and Secondary (Shorter – 5 minutes). The Congress has invoked ‘one person one presentation’ policy. Consequently, those who have their main presentations in another session of the Congress will be making a shorter (secondary) presentation in the V2V session, and others will be giving a longer (primary) presentation. We have a total of 9 primary and 4 secondary presentations.

***In terms of time allocation and session follow:***

- The chair will use **10 minutes** to provide a brief introduction to the session and invite presentations from each of the V2V countries.
- Each primary presentation will have 12 minutes (9 x 12 = 108 minutes) and secondary presentations will have 4 minutes (4 x 5 = 20 minutes) each to present. The presentations will take approximately **128 minutes**. Presenters should plan to present for about 10 minutes for longer and 4 minutes for shorter presentations, and leave about 1 or 2 minute for any quick follow up questions.
- The discussant will have **15 minutes** to provide critical, constructive, and synthesized reflections.
- We will dedicate approximately **25 minutes** for Q&A and facilitated discussion with audience focusing on the theme of the session.
- The chair will have approximately **2 minutes** to make concluding reflections.

The sequence in which the presentations will take place is same as they are listed below.

All V2V Global Partnership session presenters are requested to be available for the entire 180 minutes double sessions. This is important as the Q&A and facilitated discussions will take place at the end of all presentations along with discussant’s reflections.

# Sequence of Presentations and Abstracts

**DAY 3 - Wednesday, April 29**  
**Time: 8:45 - 10:15 AM**

**Concurrent Session 5.6**

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## **1. SENEGAL (Longer presentation)**

**Title:** 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  
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**Abstract:** 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.

**Keywords:** Climate change; Perceptions; Resilience strategies; Island areas; Fishermen; Women; Saloum Delta

## 2. BANGLADESH (Longer presentation)

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

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

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**Abstract:** 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 of “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.

**Keywords:** Inclusive incentive; Coastal stewardship; Blue justice; Small-Scale Fishers; Marine resources; Climate policy.

### 3. GHANA (Longer presentation)

**Title:** Assessment of the Vulnerability of Two Coastal Fishing Communities in Ghana and the Pathways to their Viability and Resilience

**Evans Kwasi Arizi**<sup>1</sup>, Richard Adade, Richmond Korang, Vinolia Pitris Pawar, Selorm Awiah Dzantor, Pèlèbè Edéya Orobiyi<sup>2</sup>, Esinam Attipoe<sup>2</sup>, Denis Worlanyo Aheto<sup>2</sup>.

<sup>1</sup>Department of Fisheries and Aquatic Sciences, University of Cape Coast, Ghana

<sup>2</sup>Africa Centre of Excellence in Coastal Resilience, University of Cape Coast, Ghana

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**Abstract:** 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.

**Keywords:** Vulnerability; Viability; Resilience; Livelihoods; Pollution; Climate change; Coastal fishing communities; Pathways.

#### 4. INDIA (Longer presentation)

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

**Jenia Mukherjee**<sup>1</sup>, Souradip Pathak<sup>1</sup>, Amitrajit Chakraborty<sup>1,2</sup>

<sup>1</sup>Indian Institute of Technology, Kharagpur, <sup>2</sup>Disha

**Email:** [jenia@hss.iitkgp.ac.in](mailto:jenia@hss.iitkgp.ac.in)

**Abstract:** 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-envision 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.

**Keywords:** Disaster Risk; Local; Indian Sundarbans (ISD); Commoning; Gender; Scaling

## 5. INDONESIA (Longer presentation – Recorded)

**Title:** 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, and Nur Shafika. University of Diponegoro, Semarang, Indonesia.

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**Abstract:** 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.

**Keywords:** Small-scale fishers; Fishers' livelihoods; Livelihood transition; Vulnerability to viability; ICT; Gender participation; Central Java; Indonesia.

## 6. JAPAN (Short presentation)

**Title:** Improving Small-Scale Fisheries Viability through Cooperative Initiative: A Case Study of Sumaura Fisheries in Kobe City, Hyogo Prefecture, Japan

**Yinji Li**<sup>1</sup> and Ryo Wakabayashi<sup>2</sup>

<sup>1</sup>Tokai University, Japan, <sup>2</sup>Sumaura Fisheries, Japan.

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**Abstract:** 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 individual 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.

**Keywords:** Small-scale aquaculture; Nori seaweed; Cooperation; Fishers' organization; Association.

## 7. SOUTH AFRICA (Short presentation - Recorded)

**Title:** 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.

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**Abstract:** Buffelsjagsbaai 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. Buffelsjagsbaai 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 Buffelsjags 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.

**Keywords:** Vulnerability; Viability; Abalone; Livelihoods; Governance

## 8. TANZANIA (Short presentation)

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

Victor Kasindi<sup>1</sup>, Zanira S. Mpendu<sup>2</sup>, Mwanahija Shalli<sup>2</sup>, Masoud Dauda<sup>3</sup>, Rosemarie Mwaipopo<sup>3</sup>, Batuli Yahya<sup>2</sup> and **Julius F. Woiso**<sup>4</sup>

<sup>1</sup>Ardhi University, <sup>2</sup>Institute of Marine Sciences, University of Dar es Salaam, <sup>3</sup>Department of Sociology, University of Dar es Salaam, <sup>4</sup>School of Aquatic Sciences and Fisheries Technology, University of Dar es Salaam.

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**Abstract:** 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.

**Keywords:** Vulnerability to viability; Octopus closure; Gender empowerment; Coastal communities; Tanzania.

## 9. THAILAND (Short presentation)

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

<sup>1</sup>**Suvaluck Satumanatpan** and <sup>2</sup>Ratana Chuenpagdee

<sup>1</sup>Mahidol University, Thailand, <sup>2</sup>Memorial University, Canada.

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**Abstract:** 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.

**Keywords:** Regulatory injustice; Small-scale fisheries; Access; Policy; Regulations

# Sequence of Presentations and Abstracts

**DAY 3 - Wednesday, April 29**  
**Time: 10:45 AM - 12:15 PM**

**Concurrent Session 6.6**

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## **10. MALAYSIA (Longer presentation)**

**Title:** 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

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**Abstract:** 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.

**Keywords:** Social-Ecological Vulnerability; Viability; Social Equity; Marine protected areas; Coral reef ecosystem; East Coast Peninsular Malaysia.

## 11. NIGERIA (Longer presentation)

**Title:** Turning Tides: Climate Adaptation and Circular Bioeconomy in Nigeria's Small-Scale Fisheries

**Shehu L. Akintola**<sup>1</sup>, Kafayat A. Fakoya<sup>1</sup>, Ayorinde Kappo, and Agnes O. Godwin.  
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**Abstract:** 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' small-scale fisheries through integrated, community-led resilience, climate adaptation, and sustainable innovation - shifting from vulnerability to long-term viability.

**Keywords:** Climate Adaptation; Circular Bioeconomy; Climate vulnerability; Community-led resilience.

## 12. SENEGAL (Longer presentation)

**Title:** 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.

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**Abstract:** 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.

**Keywords:** SSF; Vulnerability; Transitions; Iterative movements; Multifaceted movements; Viability, Adaptation: Societal costs; Market; Technology.

### 13. BANGLADESH (Longer presentation)

**Title:** Livelihoods in Transition: Vulnerability and Responses of Mangrove-Dependent Fishing Communities of the Bangladesh Sundarbans

Mohammad Mosarof Hossain<sup>1</sup> and **Mohammad Mahmudul Islam**<sup>1</sup>

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**Abstract:** 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.

**Keywords:** Livelihoods; Mangroves; Transitions; Drivers; Tenure; Governance; Sustainability; Resilience.

## **KEYNOTE REFLECTIONS AND DISCUSSANT (15 minutes)**

**Fikret Berkes**

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Critical, constructive, and synthesized reflections on key insights and learnings emerging.

## **QUESTIONS AND ANSWERS, FACILITATED DISCUSSION (25 minutes)**

Dedicate approximately *25 minutes* for Q&A and facilitated discussion with audience focusing on the theme of the session.



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