



# LabMAF

DEVELOPING A LABELLING SCHEME  
FOR MEDITERRANEAN SMALL-SCALE  
AND ARTISANAL FISH PRODUCTS

## SYMPOSIUM

**The future of small-scale fishery markets in the Mediterranean:  
social, environmental, economic and governance aspects**

**6 October 2020**

Občina Izola, Sejna soba občinskega sveta, Kristanov trg 1, Izola, and online (link TBD)  
To register, send an email to [jerneja.penca \(at\) emuni.si](mailto:jerneja.penca@emuni.si) by 4 October 2020

[Agenda](#)

[Abstracts](#)

## AGENDA

- 9.30 Symposium opening**  
**Presentation of the LabMAF project & work done so far**  
**Purpose of the Symposium**  
Jerneja Penca, *Euro-Mediterranean University*  
Alicia Said, *Maltese Ministry of Fisheries and Aquaculture*
- 9.50 Can fishing tourism constitute an alternative to traditional small-scale fishing? Highlights from a case study in the Greek Ionian Sea**  
Liontakis, Angelos, *Institute of Marine Biological Resources and Inland Waters, Hellenic Centre for Marine Research (HCMR)*
- 10.00 Can ICT tools effectively contribute to pursue long-term sustainability targets in small-scale fisheries segment? Preliminary results on the adoption of a virtual marketplace (VirMa) in artisanal fishery sector**  
Luca Bolognini, *Institute for the Biological Resources and Marine Biotechnologies (IRBIM), National Research Council (CNR)*
- 10.10 How can small scale fishery benefit from DNA technology applications?**  
Andreja Ramšak, *National Institute of Biology*
- 10.20 Pick the Alien: Developing market for Non Indigenous Species in Greece**  
Nikos Doumpas, *iSea, Environmental Organization for the Preservation of the Aquatic Ecosystems*
- 10.30 Q&A on presentations**
- 11.00 Break**

- 11.20 Applied practices and initiatives in support of enhancing small-scale fisheries value chains, post-harvest operations and trade**  
Joseph Zelasney, *UN FAO*
- 11.30 Transforming small scale fisheries in the Mediterranean through application of co-management**  
Mosor Prvan, *WWF Adria*
- 11.40 The hidden tasks of women in fishing, The case of the Valencian Community**  
Lluís Miret-Pastor, *Universidad Politécnica de Valencia*
- 11.50 Application of Life Cycle Assessment Methodology for Sustainable Production of Marine Fisheries in Gaza Strip-Palestine**  
Dooa Hussein, *Faculty of Economics, Università Roma Tre*
- 12.00 Q&A on presentations**
- 12.30 Break**
- 13.30 Sathoan French Mediterranean longline bluefin tuna fishery**  
Nolwen Cosnard, *Organisation de Producteurs SATHOAN*
- 13.40 Small-Scale Fisheries and Marketing Issues in Turkey**  
Ant Türkmen, *Ecological Research Society*
- 13.50 Challenges in the establishment of a local quality label for fishing products: the case of Andros island, Greece**  
Mavra Stithou, *Agriculture Economics Research Institute*
- 14.00 Q & A on presentations**  
**Discussion on the challenges of SSF markets and possible responses**  
Moderation TBD
- 15.30-15.45 Symposium closing**  
Jerneja Penca



blueMed

## ABSTRACTS

### **Can fishing tourism constitute an alternative to traditional small-scale fishing?**

#### **Highlights from a case study in the Greek Ionian Sea**

*Liontakis, Angelos and Vassilopoulou V., Institute of Marine Biological Resources and Inland Waters, Hellenic Centre for Marine Research (HCMR), Athens, Greece*

Today, one of the most important challenges that the small-scale fishing (SSF) sector faces, is the decreasing income from the fishing activity and the increasing risk and uncertainty associated with it. Indeed, with some 85% of the assessed fish stocks being at an overfished status in the Mediterranean, the future of fisheries and particularly that of the socially important SSF communities is in jeopardy. In the last decade, fishing tourism has been promoted as an alternative income-generating activity in SSF, that at the same time may contribute to the reduction of fishing pressure on the resources.

The present work presents the first results of a pilot study exploring the potential socioeconomic benefits of fishing tourism in the Greek Ionian Sea and was conducted in the frame of the Interreg ADRION project "ARIEL". It provides the estimation of socioeconomic indicators for small-scale fishing enterprises and insights on the contribution of fishing tourism to local development goals. Results indicate that this activity may create benefits in both the micro and macro-perspective, however, there is a need for a number actions to be tackled: better legal framework, targeted policy initiatives, raising awareness, skills development, building trust and social cohesion among fishing communities are among key issues that should be further promoted to facilitate the contribution of fishing tourism to sustainable development goals.

### **Can ICT tool effectively contribute to pursue long-term sustainability targets in small-scale fisheries segment? Preliminary results on the adoption of a virtual marketplace (VirMa) in artisanal fishery sector.**

Luca Bolognini<sup>1</sup>, Francesca Perretta<sup>2</sup>, Martina Scanu<sup>1</sup>, Fabio Grati<sup>1</sup>.

*<sup>1</sup>National Research Council - CNR, Institute for the Biological Resources and Marine Biotechnologies – IRBIM, L.go Fiera della Pesca, Ancona, Italy, <sup>2</sup>ASSAM - Agenzia Servizi Settore Agroalimentare delle Marche, Osimo, Ancona, Italy*

Small-scale fisheries play a key role in poverty alleviation and eradication, other than food nutrition and sustainable utilization of marine resources. This activity is one of the most relevant in the fisheries sector, especially for coastal communities, both in terms of employees and catches (representing 90% of the world's capture fishers and fish workers). Similarly, for Mediterranean riparian countries the small-scale fisheries are crucial in sustaining the region's coastal communities, where they represent 80% of the total number of fishing vessels. It is widely recognized that the fishery sector is currently facing serious challenges, with 78% of fish stocks exploited outside safe biological limits, as reported by the "State of Mediterranean and Black Sea Fisheries" (FAO, 2018).

In this context, a series of initiatives are in place to pursue ambitious targets: promoting at once a sustainable future of the planet under an economic, social and environmental point of view, contributing to the poverty eradication, improving socio-economic situation of fish workers, enhancing the progressive realization the right to adequate

food, and providing guidance for state and stakeholders for the participatory policies that are ecosystem friendly.

During a consultation of small-scale fishers in the Adriatic and Ionian Seas, several issues have emerged, especially related to the market aspects, such as competition, lack of common strategies, logistical and organizational deficiencies, and access to new markets. Although small-scale fishers represent the focal players in their respective value chain, they are receiving scarce economic benefits for their products.

Aiming at achieving long-term sustainability from an economic, social and biological resource perspective, Information and Communication Technologies (ICTs) were adopted to develop a tool able to explore new markets, increase focus on promotion and marketing, and potentially contribute for making pricing methods more transparent and consistent. The concept behind that tool is to safeguard the interest of small-scale fishers by enabling them to obtain prices and profits that let them achieving the sustainability targets.

In this view, in order to explore the potential capability of ICT tools to effectively contribute to promote economic, social and environmental targets for small-scale fisheries, we developed an experimental virtual marketplace (VirMa) for smart technology devices.

#### **How can small scale fishery benefit from DNA technology applications?**

Andreja Ramšak<sup>1</sup> and Bety Breznik<sup>2</sup>

<sup>1</sup>National Institute of Biology, Marine Biology Station Piran, Slovenia, <sup>2</sup>Ministry of Agriculture, Forestry and Food; Food and Fisheries Directorate, Slovenia

Frauds in fisheries, aquaculture and processing are nowadays one of the key issues, because the demands to provide food for growing population are very high. According to Interpol and European Community findings, fishery products are in the third or second place regarding the number of frauds respectively. In addition, the illegal catch in undeveloped countries and outside the EC's controlled areas has been introduced into the supply chain. On the other hand, the frauds of fishery products are poorly researched due to less developed methodologies for detecting frauds and large number of fish species in the food processing industry. Developing of molecular tests offer the possibility of commercialization, and inspection services and commercial laboratories can use them, as a method to confirm the identity of the product. Furthermore, inspections could become more frequent, which could help to reduce fraud and improve the traceability of fresh fish and fish products. The Smart Specialization Strategy in Slovenia included this topic into the priority area "Natural and traditional resources for the future" and is recognised as an important issue. In Slovenia, there is a some amount of interest in the food processing industry for developing of faster, cheaper and reliable methods, that would be able to determine the origin and species composition of raw ingredients bought on the international market for further processing. Reducing fraud and improving the traceability could be an opportunity for local fishermen. They will be able to develop their own brand and they could be more competitive on the market, making it easier to sell their products with the higher prices. The introduction of reliable tests, their visibility and trust enables the possibility to raise consumer confidence in the brand, which confirm its quality and transparency in production process. Many NGOs around Europe support sustainable fisheries, healthy food, and therefore support various

certification schemes based on modern DNA technologies. This aspects are covered in the recently financed project “DNA based technology for fraud detection in fishery products with socioeconomic impact assessment (CRP V1-1808)” and the main goal is to developing suitable set of assays for several species identification (small pelagics, squids) in different kinds of processed food.

### **Pick the Alien: Developing market for Non Indigenous Species in Greece**

Nikolaos Doumpas<sup>1</sup>, Ioannis Giovos<sup>1,2</sup>, Alexandros Kaminas<sup>1</sup> Periklis Kleitou<sup>1,2</sup>

<sup>1</sup>iSea, Environmental Organization for the Preservation of the Aquatic Ecosystems, Thessaloniki, Greece, <sup>2</sup>Marine and Environmental Research (MER) Lab Ltd., Limassol, Cyprus

Mediterranean ecosystems are changing rapidly as a result of several human pressures including climate change, overfishing, coastal destruction and spread of non-indigenous species (NIS). A growing number of NIS is entering and spreading in the basin causing devastating impacts and alterations to species communities as well as impacts to local economy and human health. This trend is expected to continue as human pressures increase and major introduction pathways (i.e. Suez Canal) remain unchallenged. Small scale and artisanal fisheries in Greece make a significant contribution to the primary sector, particularly important for the cohesion of the coastal communities. It is important that small scale fishery activities are environmentally, economically and socially sustainable perpetually ensuring healthy food, as well as the welfare of fishing communities. According to the FAO, the purpose of an ecosystem approach to fisheries is to plan, develop, and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems. It is important for the fisheries to adapt to the rapid changes caused by the influx and spread of NIS in the basin. For instance, some areas in the eastern Mediterranean host proportionately more NIS than native ones. The Mediterranean ecosystem is changing. Factors like climate change, overfishing, marine litter and alien species play a great role at the transformation of the Mediterranean. Therefore small scale and artisanal fisheries has to follow up these changes and adapt to new standards. Several Invasive Alien Species (IAS) have already successfully introduced in the Mediterranean Sea competing with the native species. NIS are captured in Greece every day, in several areas in great quantities, but most commonly are discarded as bycatch, due to their extremely low market value. Many of those species discarded in Greece are edible and some reach high prices in the fishery markets of neighboring countries. Examples include the rabbitfish (*Siganus* spp.), lionfish (*Pterois miles*), trumpetfish (*Fistularia commersonii*).

Through the project “Pick the Alien”, iSea aims to raise the awareness of local communities and stakeholders in Greek islands regarding NIS and their adverse effects on the environment and society. At the same time an effort is made to promote the consumption of edible NIS as a mitigation measure. During the project, we familiarize the public with edible NIS, we promote the targeted fishing of edible NIS and we facilitate the establishment of local pilot chains among fishers and restaurants. Our goal is to present NIS as an opportunity for fishers and local communities for increasing their profit in an environmentally sustainably way while concurrently alleviate fishing pressure from native species.



## **Applied practices and initiatives in support of enhancing small-scale fisheries value chains, post-harvest operations and trade**

Joseph Zelasney, *UN FAO, Rome*

The 2030 Agenda for Sustainable Development calls on countries to “provide access for small-scale artisanal fishers to marine resources and markets” (SDG 14.b); and “by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment” (SDG 2.3).

The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (the SSF Guidelines) recognize the rights of fishers and fishworkers, acting both individually and collectively, to improve their livelihoods through value chains, post-harvest operations and trade. To achieve the targets in the 2030 Agenda and implement the SSF Guidelines it is necessary to build capacity of individuals, strengthen organizations and empower women; reduce post-harvest losses and add value to small-scale fisheries production; and facilitate sustainable trade and equitable market access.

The paper will showcase applied practices and initiatives in support of enhancing small-scale fisheries value chains, post-harvest operations and trade, illustrating the relevant recommendations made in Chapter 7 of the SSF Guidelines, entitled ‘Value Chains, Post-Harvest and Trade’. The focus will be on efforts to promote value addition through improved handling and marketing, as well as efforts to improve revenues and market access via certification and labelling schemes. The case studies will constitute a rich and diverse selection of experiences, not only with regard to their geographical setting but also in the topics covered and approaches employed.

Cases will be chosen for their potential to inform an international audience of fisheries professionals and stakeholders, with the intention of supporting national and international policy processes to enhance small-scale fisheries value chains, post-harvest operations and trade. Each case study will present a critical analysis of the relevant enabling conditions, and discusses the challenges and opportunities in relation to replicating the initiative in other fisheries.

### **The hidden tasks of women in fishing, The case of the Valencian Community.**

Paloma Herrera-Racionero<sup>1</sup>, Emmanuel Lizcano<sup>2</sup>, Lluís Miret-Pastor<sup>1</sup>

<sup>1</sup> Universidad Politécnica de Valencia, <sup>2</sup> Spanish Distance University

Although the role of women in the world of fishing is almost unknown, it is no exaggeration to say that fishing would be impossible without the many and varied tasks performed by them. This study tackles the role of women in fishing from a double perspective, both quantitatively and qualitatively, focusing on the case of inshore fishing in the Valencia Community (VC) in Spain. From official statistics, the weight that women's work plays in fishing will be quantified, noting the difficulty of incorporating into such data the many jobs, mostly 'informal', developed by women. And from a qualitative perspective, 21 in-depth interviews with women from 12 ports of the VC have been analysed. This allows important information to be extracted about the multitude of tasks

carried out, many of which are not even perceived as 'work' by the own women, because, as they tell us, "it has always been done this way".

### **Transforming small scale fisheries in the Mediterranean through application of co-management**

*Mosor Prvan, WWF Adria, Zagreb, Croatia*

In 2008, the editors of the scientific magazine *Conservation* challenged a group of well-respected conservation experts to answer the question: what are ten key solutions to save the ocean? Daniel Pauly, director of the University of British Columbia's Fisheries Centre and the world's most renowned fisheries expert, strongly suggested to elevate the role of small-scale fishers in the world's market to solve the emerging fishery crisis. In his editorial, Pauly proposed to give artisanal fishermen exclusive access to coastal resources to reduce overfishing globally. He pointed to the many successful examples of sustainable small-scale fisheries throughout the world, and stated that their replication could go a long way toward overcoming the global crisis of fisheries.

In the Mediterranean, small-scale fisheries (SSF) employ directly over 137 thousand fishers and generate jobs for another 150 thousand people. They represent more than 50% of the whole fishing sector in the region. At the same time, 85% of Mediterranean fish stocks are overfished, while certain species of high economic and commercial value are in an alarming state due to over-exploitation. This is a result of decades of a top-down approach in fisheries management that has failed to take into account the Mediterranean marine ecosystem and to create a sense of ownership and self-investment amongst Mediterranean fishers.

Therefore WWF proposes and practices bringing fishers into decision-making processes and providing them the opportunity to craft solutions that result in sustainable stocks and income. Traditional and self-management of fisheries is a practice that has existed since ancient times. However, co-management is an approach more recently adopted in response to the perceived failure of centralized management of fisheries in avoiding the decline of fish stocks, and to a lack of government resources to manage fishery resources effectively.

Through "Transforming small scale fisheries in the Mediterranean" project WWF is transforming Mediterranean SSF through the promotion of a co-management approach to fisheries, demonstration of the potential of SSF to become sustainable and the improvement of fisher's income and livelihoods. The project is the largest, single initiative focused on the sustainability of SSF, bringing together a diverse range of partners across the Mediterranean region. WWF believes this project tackles the issue of SSF management and fishers livelihood at the appropriate scale and with a diversity of elements that will result in new opportunities for fishers to secure their income, restore fish stocks and continue their traditional fishing activities.

### **Application of Life Cycle Assessment Methodology for Sustainable Production of Marine Fisheries in Gaza Strip-Palestine**

*Doaa HUSSEIN<sup>1</sup> and Maria Claudia LUCCHETTI<sup>2</sup>*

*<sup>1</sup>PhD Research Fellow, Roma Tre University (Italy) <sup>2</sup>Ordinary Professor, Roma Tre University (Italy)*

The present study aimed at identifying the impact of use LCA in the fishery and aquaculture sectors. It targets to explain how LCA developed to define and quantify environmental and socioeconomic impacts of the seafood sector from extractive to productive activities, the LCA concepts specifically be implemented for fisheries and fish farming and the limits of LCA application. However, the finding of this research is the first step in establishing a management plan for Gaza Strip marine fisheries sustainability and to control marine pollution. The basic core of this research work is to develop the LCA method to detect significant interactions between various environmental factors and socioeconomic conditions to guide fishery-system improvements and public decisions.

The study used the analytical descriptive method, data on fishing boats collected for several years. The data which used for analysis gathered by conducting interviews and questionnaire surveys with 200 fishermen and related stakeholders and organizations as well as institutions in Gaza Strip. The data cover several years, and include operational conditions such as the number of fishermen, the tonnage of the fishing boats, details of the fishing gear, number of fishing days per year, number of trawls per day, and dragging time per trawl, and fish production information such as the species landed, the catchweight, and the value of the catch. The study used the analytical tool of LCA as an environmental assessment tool to quantify potential environmental problems and loads throughout the entire life cycle of a product or service. The life cycle phases of product include extraction and processing of raw materials (including packaging materials); manufacture; distribution; use/re- use/maintenance; recycling; final disposal and transport in all phases. Assessment is done by compiling related inputs and outputs of the product system and calculating the possible associated effects.

In this study, a management plan proposed to offer a framework for resolving the fishery systems and environmental quality problems now facing the Gaza fisheries sector. The sustainable marine fisheries management plan to be effective, it is necessary not only to understand the environmental problems occurring during fishing activities in Gaza marine waters but also the social, economic, legal and policy issues related to control marine resource use.

### **Sathoan French Mediterranean longline bluefin tuna fishery**

*Nolwen Cosnard, Organisation de Producteurs SATHOAN*

Presentation of the fishery.

### **Small-Scale Fisheries and Marketing Issues in Turkey**

*Ant Türkmen, Ecological Research Society*

Total length of the coasts of Turkey is 8500 km and the rivers with a total of 178 000 km length together with nearly 200 natural and dam lakes of more than 5000 km<sup>2</sup> form suitable grounds for fishing with a great potential, bringing many important issues regarding the fishing industry. According to State Institute of Statistics (TÜİK) the commercial landings of fish and invertebrates were over 231,000t in 2014, with a value of US \$ 452 million for marine commercial fisheries. Fisheries represent about 0.18% of gross domestic product and in terms of value, 70% of total fisheries production comes from aquaculture. Small scale fisheries constitute the 90% (13,193 vessels) of the total (14,595 vessels) fisheries. Small-scale fishers are defined as fishers using vessels less than 12m



length and the quantity/value of the landings of these are not available in the databases of TÜİK.

Fishery cooperatives are the organizational bodies representing the SSFs in Turkey. There are 336 marine and 236 freshwater cooperatives with more than 30,000 members. Mostly the cooperatives are responsible for setting the prices in fish markets with morning auctions for the fishmongers. However, there are some problems in most of these markets as the brokers involve in the trade. Products of many SSFs are not able to enter to the markets directly and three merchants involve in the process until they reach to the consumer. The total quantity of fish reaching directly to the consumer is 2% and this situation causes a loss of 35% in the income of small-scale fishers.

In recent years some initiatives are developing new market models integrating the SSFs directly as stakeholders. Among these, İstanbul Birlik Fishery Cooperative has been collaborating with universities, governmental agencies and economists since 2017, in order to develop a project of direct marketing model which will create an 25% increase in the SSFs' income. Other initiatives, such as Mediterranean Conservation Society (AKD) and Ecological Research Society (EKAD) have been working in the Aegean Coasts, in order to determine the circumstances and to develop models to increase the participation of local SSFs as stakeholders, in all processes including direct marketing and policy making towards sustainability. AKD also developed innovative models promoting the trade of invasive species and supporting the sustainability of local SSF markets.

### **Challenges in the establishment of a local quality label for fishing products: the case of Andros island, Greece**

Mavra Stithou, Irini Theodorakopoulou, Constantine Iliopoulos, (all) Agriculture Economics Research Institute (AGRERI), Athens, Greece

This study offers an insight into the challenges associated with the establishment of a local quality label certification related to fishing activity in Andros island, Greece. For this purpose, during the design of the label the authors initially sought the advice of management bodies (mostly terrestrial) already involved in such a measure in Greece, acquiring an insight of potential barriers and opportunities. Then, a hands-on approach followed by exploring perceptions of Andros' fishers related to such an initiative. In Andros, ecotourism could work to strengthen the local economy by coexisting with traditional activities on land (e.g., local produce) and the marine environment (e.g., small scale fisheries), while exhibiting high quality criteria. In accordance with achieving sustainability goals following the LIFE program 'Andros Park', the establishment and operation of 'Andros Brand' trade mark for fishing products was discussed with stakeholders in order to counterbalance conservation measures related to the protection of the monk seal *Monachus monachus* and promote marine biodiversity friendly fishing. In this context, the current study presents challenges of similar initiatives that have taken place in Greece, the key characteristics of 'Andros Brand' and stakeholders' perceptions. Results showed that involved challenges of this economic incentive included a range of nontechnical issues including control and compliance, trust, information and awareness raising related to the human factor. The complex conflicting or synergistic relationships in the socio-economic and environmental systems demonstrate the need to adopt a holistic approach when considering conservation actions, that apart from technical challenges, should also consider the interactions and feedback taking place within the social-ecological systems.