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Towards a new era of support for small-scale fisheries and aquaculture in Europe

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INTERNATIONAL YEAR OF
**ARTISANAL FISHERIES
AND AQUACULTURE**
2022



Towards a new era of support for small-scale fisheries and aquaculture in Europe

Report from an in-person workshop

June 23-24, 2023

toobigtoignore.net

RESEARCH

POLICY

MOBILIZATION

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List of Acronyms

CFP – Common Fisheries Policy

COFI – Committee on Fisheries

CSO – Civil society organization

EAP – Economically active population

EEZ – Exclusive economic zone

EU – European Union

FAO – Food and Agriculture Organization

IUCN – International Union for Conservation of Nature

IUU – Illegal, unreported and unregulated (fishing)

LSF – Large-scale fisheries

MPA – Marine protected areas

MRE – Marine renewable energies

MSF – Medium-scale fisheries

MSP – Marine spatial planning

NGO – Non-governmental organizations

PO – Producer's Organizations

SSF – Small-scale fisheries

SSF Guidelines – Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication

TAC – Total allowable catch

VMS – Vessel monitoring system

Agenda

Day 1 – Friday, June 23rd, 2023

Time	Topic	Speaker/Moderator
9:00 – 9:30	Registration	
9:30 – 9:45	Welcome and introduction speech	Ratana Chuenpagdee, Katia Frangoudes
9:45 – 11:10	Session 1: Sharing stories and highlights about small-scale fisheries and aquaculture in Africa and Latin America	
9:45 – 9:55	TBTI Global – 10 years and counting	Ratana Chuenpagdee
9:55 – 10:10	The SSF in Nigeria: an overview	Akintola Shehu
10:10 – 10:25	SSF in Kenya	Esther Fondo
10:25 – 10:40	SSF in Ecuador	Nikita Gaibor
10:40 – 10:55	SSF in Madagascar	Thierry Razanakoto
10:55 – 11:10	SSF in Colombia	Lina Saavedra Díaz
11:10 – 11:25	Refreshment break	
11:30 – 13:15	Session 2: Small-scale fisheries and aquaculture in Europe: What's up with them?	
11:30 – 11:45	SSF in Spain: challenges and prospects	José Pascual Fernández
11:45 – 12:00	SSF in Portugal: current status, challenges and future opportunities	Cristina Pita
12:00 – 12:15	SSF in Norway: will they have a future?	Svein Jentoft
12:15 – 12:30	SSF in Sweden	Milena Arias Schreiber
12:30 – 12:45	SSF in Malta	Matthew Laspina
12:45 – 13:00	SSF in France	Hélène Buchholzer
13:00 – 13:15	SSF in France overseas regions: sustainability issues, knowledge needs, support	Olivier Guyader
13:15 – 14:30	Lunch Break	
14:30 – 15:30	Interactive session: The future of small-scale fisheries and aquaculture in Europe: What does it look like?	Ratana Chuenpagdee
15:30 – 15:45	Refreshment break	
15:45 – 16:45	Interactive session: What are the main challenges?	Ratana Chuenpagdee
16:45 – 17:00	Summary and wrap-up	Ratana Chuenpagdee

Day 2 – Saturday, June 24th, 2023

Time	Topic	Speaker/Moderator
9:00 – 10:00	Welcome coffee	
10:00 – 10:05	Welcome and introduction speech	Katia Frangoudes
10:05 – 10:15	Presentation of Day 1 outputs	Eider Graner, Benjamin Dudouet, Katia Frangoudes
10:15 – 10:30	FAO Guidelines presentation	Svein Jentoft
10:30 – 11:30	Interactive session Defining SSF and aquaculture	Eider Graner, Benjamin Dudouet, Katia Frangoudes
11:30 – 13:00	Interactive session Identifying the main stakes for the future of small-scale fisheries and aquaculture	Eider Graner, Benjamin Dudouet, Katia Frangoudes
13:00 – 14:30	Lunch Break	
14:30 – 16:30	Interactive session Identifying the main stakes for the future of small-scale fisheries and aquaculture (part 2) What is the future of small-scale fisheries and aquaculture?	Eider Graner, Benjamin Dudouet, Katia Frangoudes
16:30 – 16:45	Conclusions	Denis Bailly

Summary

On June 23-24, 2023, the international workshop 'Towards a New Era of Support for Small-Scale Fisheries and Aquaculture in Europe' was held in Brest, France. The workshop was co-organized by UMR 6308 AMURE (University of Western Brittany, France) and Too Big To Ignore (TBTI) Global network, with the support of ISBLUE, Ocean Frontier Institute (OFI) Module I, SEAWISE project (H2020), and AKTEA – the European network of women in fisheries. Held in collaboration with the Belmont Forum project Fish to Sustainability (F2S), coordinated by the French Institute of Research and Development (IRD), the workshop contributed to the closing events of the International Year of Artisanal Fisheries and Aquaculture (IYAFA 2022; <https://www.fao.org/artisanal-fisheries-aquaculture-2022/home/en/>), which took place in various countries and regions around the world. Recognizing the important role of small-scale fisheries in Europe, and around the world, the workshop brought together researchers, representatives of NGOs and CSOs, fisheries authorities, Marine Protected Areas (MPAs) and fisheries managers, fishers, students and other experts with a goal to share insights about current challenges and to brainstorm potential actions for the future of small-scale fisheries and aquaculture in Europe. A total of 59 people participated in this two-day workshop.

On the first day of the workshop, international and French scientists, specializing in small-scale fisheries, with diverse backgrounds including biology, ecology, sociology, anthropology, economy, geography, and philosophy, shared their research and initiatives related to small-scale fisheries in their respected countries. The day started with the global picture by Ratana Chuenpagdee, followed by presentations about Colombia, Ecuador, Nigeria, Kenya, Madagascar, Spain, Portugal, Norway, Sweden, France, and French overseas regions. Afterwards, participants exchanged ideas and opinions about the main challenges for the future of small-scale fisheries and aquaculture in Europe. The second day was tailored to facilitate exchange of information and opinions between local fishers, European fishers and other participants. Simultaneous translation (French-English) was provided throughout the day. The day began with a discussion about the diversity of small-scale fisheries and how it varied according to the country and type of fishing gear. The conversation then turned to how the participants viewed and imagined the future of small-scale fisheries and aquaculture, and concluded with the exploration of potential pathways forward. The workshop was a great success, thanks to the effort of young researchers from the University of Brest and IFREMER, Eider Graner and Benjamin Dudouet, who facilitated the discussion, with the support of Katia Frangoudes and the contribution of other PhD and Master students of UMR AMURE.

Friday, June 23rd

Summary of the meeting – Day 1

The morning session started with an introduction by Ratana Chuenpagdee from Memorial University, Canada, in which she presented the scope and activities of Too Big To Ignore (TBTI) Global. Following that, various researchers and TBTI partners presented a state of art of small-scale fisheries and aquaculture in Africa, Latin America and Europe. The afternoon session consisted of an interactive exchange about the future of small-scale fisheries and aquaculture in Europe. Ratana moderated the session in which participants shared their visions on topics covering the main issues and challenges for the future of small-scale fisheries, particularly in the context of Europe.

i) Session: Sharing stories and highlights about small-scale fisheries and aquaculture in Africa and Latin America

Nigeria

Presented by: **Akintola Shehu Latunji** – Faculty of Science, Lagos State University

In Nigeria, 8 million people work in pre-harvest, harvest and post-harvest fishing activities. Direct employment is highly gendered, with men being introduced to fishing activities early in their life and women working mainly in post-harvest activities. The average production is 650 MT per year and the resources are fished at sea and in estuaries (58%) as well as inland in lake Chad and rivers Niger-Benue (42%). The gears used are multi-gears targeting small pelagic due to their rich nutritive quality. The current challenges faced by Nigerian small-scale fisheries are: (1) governance, gaps between different orders (international, national, local); (2) oil and gas pollution; (3) space competition – although Nigerian national legislation limits industrial fishing within five nautical miles of the coastline, the lack of enforcement leads to frequent inshore activities. Another example of space competition is seen in the mangroves where urbanization is prioritized over conservation and small-scale fishing activities; (4) valuation of the fisheries/data; and (5) piracy and IUU. To address these challenges Nigeria endorsed the SSF Guidelines in June of 2014 as a member state of the FAO

Committee on Fisheries (COFI). Around 2018, the Minister for Agricultural and Rural Development signed the SSF Guidelines. This is expected to be followed by ratification of the treaty. So far, the implementation remains weak due to the lack of a national strategic plan.

Kenya

Presented by **Esther Fondo** – Kenya Marine and Fisheries Research Institute

Small-scale fisheries in Kenya represent an important economic sector, employing over 60,000 fishers and an estimated 1.2 million people within the fishing, production, and supply chain. Fishing areas are mostly coral reefs and boats are predominantly wooden dugout and outrigger canoes, less of which 10% are motorized. Over 10 different small-scale fisheries coexist in Kenya's EEZ, including estuarine fishery, octopus' fishery, lobster fishery or prawn fishery, which are locally and commercially important and provide food security for coastal people. Kenya's small-scale fisheries' sustainability faces various challenges, including inshore overfishing, declining stocks, environmental degradation, IUU fishing activities, and post-harvest losses. In order to address these, several actions are being undertaken. For instance, community-managed areas are becoming more and more important means for dealing with overfishing through the implementation of mariculture, cage farming or other alternatives (i.e., carbon trading). Restoration programs are also being developed to address environmental degradation and preserve marine ecosystems such as mangroves, corals and seagrasses. In order to address IUU fishing issues, collaborations are being established with coastguard and gear exchange programs are being developed. Post-harvest losses have an economic impact on coastal communities, which is mitigated through improvements in fish handling and processing. The remaining challenges need to be addressed, including market price's fluctuations and unstable incomes for fishers, as well as a lack of management resources linked to a poor governance system. Additional challenges include poor fish handling that creates problems with meeting international standards and climate change-related effects that have a major impact on species behavior and sustainability of small-scale fisheries in Kenya.

Ecuador

Presented by **Nikita Gaibor** – IPIAP & Universidad del Pacífico

In Ecuador, fishing activities are divided between large-and small-scale fisheries. Compared to their larger counterpart, small-scale fisheries produce 70,000 MT, generating about 100 million dollars/year in fishing production. About 60,000 fishers

are spread around the 168 harbours in Ecuador and 3 harbours in Galápagos Island. Fishing can be inshore (mangrove) and offshore. There are about 17,133 vessels contributing to 17,8% of the EAP of the coastal regions (INP 2012; Subsecretaria de Recursos Pesqueros, 2015). Target species are rich and diverse due to effect of the upwelling, with over 601 identified pelagic species. The main targeted commercial species are herring, pacific mackerel, pacific sardines, horse mackerel, anchovy, and frigate tuna. The main challenges of Ecuadorian small-scale fisheries are overexploitation of fish and invertebrates for food; inadequate and illegal fishing methods in Ecuadorian sea; seabed pollution; IUU fishing; species removal leading to an impact in multiple trophic levels; bycatch and mortality of non-targeted species; physical impacts on reef environments associated with fishing techniques, fishing gear and anchoring of fishing vessels; lack of governance at sea; lack of control and lack of unified position on fishing problems. Many small-scale fisheries issues in Ecuador are 'wicked', and therefore require a transdisciplinary perspective. To reach sustainable small-scale fisheries, methods such as the 'Co-co-co' approach (Co-identify problems, Co-create solution, Co-produce knowledge) can be integrated.

Madagascar

Presented by **Thierry Razanakoto** – CERED (Centre d'études et de recherches économiques pour le développement)

Small-scale fisheries in Madagascar target more than 300 species, including mud crab, shrimps, octopus, lobsters, and sea cucumbers as the main species. It is a source of income for 1.5 million people, although most of the production is exported. The Malagasy fishery counts over 100,000 fishers, working mainly aboard outrigger or monoxyl canoes, most of which are unpowered. Small-scale fisheries are managed by a set of local and national regulations, such as local 'Dina' norms and practices. Customary rules are subject to government approval and implementation. Temporal closures on species of economic and ecological interest are implemented at certain times of the year, as well as a network of MPAs. Small-scale fishing is conducted in a large diversity of marine habitats, such as coral reefs, estuaries, mangroves, and seagrass beds and uses different types of gears such as beach seine, crab trap nets, gillnets, harpoons, hooks, lobster trap and nets, longlines, squid jig, and traditional nets. Women and children play a significant role in small-scale fisheries in particular through gleaning, fish mongering, and post-harvest activities. However, small-scale fisheries are currently facing various problems and threats, such as the reduction of catches, poverty in coastal communities, population growth, unemployment and environmental risks linked to climate change, and various human pressures on the

environment. Actions to address these issues have been identified, which include supporting uptake actions, strengthening community-based actions, exploring alternative livelihoods, increasing market transparency, and increasing monitoring and enforcement of IUU fishing.

Colombia

Presented by **Lina M. Saavedra-Díaz** – Universidad del Magdalena

The presentation focused on the results of the Colombian case study of F2S project examining the contribution of small-scale fisheries to sustainable development goals, conducted by Universidad del Magdalena. In this case study, five fisheries were selected from three different basins: spiny lobster in the Caribbean islands and Caribbean coast, snapper in the Caribbean coast, and white shrimp and Piangua in the Pacific coast. The methodology consisted on six online interviews with experts with different background. Each of them was asked to score the questions about the contribution of small-scale fisheries to sustainable development goals. In Colombia, there are approximately 1,000 fishers on the islands and 1,000 fishers on the Caribbean coast are part of spiny lobster fishery. The fisheries on the islands are under co-management and community-based systems, with active participation of fishers in knowledge-sharing with scientists. The coastal zone has fewer fishing communities and fisheries are managed through a participatory approach, combining self-governance, environmental factors, and formal regulations. Fishers use bottom fish aggregating devices (such as artificial reefs) that are more environmentally friendly. White shrimp fishery in the Pacific basin represents approximately 13,000 fishers in collective territories. Management is perceived as top-down, with informal regulations collectively established by fishers, including temporally closures and regulation of certain gears. Technological innovations are used to reduce the impact of fishing methods and develop mangrove restoration programs to promote sustainability in these territories. The Piangua fishery employs around 10,000 fishers in collective territories. Fisheries management combines national rules, such as minimum size of capture, and local regulations, such as conservation and mangrove restoration programs, rotation of extraction areas, voluntary rest closure, etc. Numerous efforts have been made to ensure the sustainability of the fisheries, for instance habitat conservation strategies, fishing associations working closely with local stakeholders, and conservation agreements validated by the communities. However, overfishing of this species (classified as vulnerable by the IUCN) is significant and is influenced by extreme climatic factors such as El Niño or La Niña phenomena.

ii) Session: Small-scale fisheries and aquaculture in Europe: What's up with them?

Spain

Presented by **José Pascual Fernández** – Universidad de la Laguna

Spanish fishing fleet is one of the largest in the European Union and small-scale fisheries fleet represents approximately 7,000 boats and 11,000 fishers, in addition to the shellfish sector that is composed mainly of women. The relevance of small-scale fisheries fleet in Spain is highly diverse across regions, but the Galicia region ranks highest, representing 53.37% of the national small-scale fisheries fleet with 3,640 boats under 12 meters. Andalusia and the Canary Islands are the other two regions where small-scale fisheries are the most significant, representing 12.85% and 9.88% of the national small-scale fisheries fleet. In terms of legislation, the management of the Spanish small-scale fisheries is quite complex. On the one hand, small-scale fisheries within the territorial sea and EEZ are regulated by European and national laws. On the other, coastal small-scale fisheries and shellfish farming are additionally regulated by regional government laws. The coordination between these entities can be complicated. In order to manage fisheries at a local scale, there are self-organized entities called 'cofradías'. The cofradías are local fishers' organizations with significant historical influence and economic and political functions. Nowadays, cofradías are supported by the regional states for data production and monitoring of local resources. Cofradías are an example of traditional co-management between centralized entities and local management. However, the interests of medium-scale fisheries tend to dominate. In terms of market and sales of small-scale fisheries products, the situation in Spain is highly diverse. Auction sales are mainly managed by the cofradías and products are sold through Producer Organizations. Fishers can sell their catches on their own, especially in the Canary Islands, where small-scale fisheries are predominant, compared to medium or large-scale fisheries. However, for fishers selling catches directly, adding value to products is not an easy task, particularly during low demand periods. There is a real need to better promote small-scale fisheries products, and for that, numerous labeling initiatives and projects are being developed in Spain. Finally, small-scale fisheries in Spain are currently facing various pressures limiting access to marine space, such as increase in tourism, recreational fishing (with over 900,000 recreational fishing licenses), and offshore wind farms as part of the development of new economic activities at sea.

Portugal

Presented by **Cristina Pita** – University of Aveiro

Portugal is the largest consumer per capita of seafood products in the EU, with an average consumption of 60 kg per person per year, the majority of which comes from small-scale fisheries. With a rich cultural heritage and a strong tradition of multi-gear fleets and a wide range of static fishing gears, small-scale fisheries employ 68% of Portuguese fishers (including women) and represents 90% of fishing vessels, despite accounting for only 41% of the total landed tonnage. The most harvested species by small-scale fisheries is octopus, representing 15% of the total landed quantity. Nowadays, Portuguese small-scale fisheries are facing several challenges, characterized by complex governance, frequent policy changes, and inadequate management measures. The power of fishers' organizations is not sufficient to enable their participation in decision-making processes and to amplify the voice of small-scale fishers at national level. To address this problem, in 2020 a legal framework provided the opportunity to implement co-management as a governance model in fisheries (Decree-Law 73/2020). Since then, several fisheries co-management projects have been emerging (e.g. Co-pesca, Partipesca). Space competition is another challenge faced by small-scale fisheries, due to the development of new economic activities claiming for maritime space. In terms of market and seafood commercialization, they are also encountering difficulties in accessing markets. There is competition to share the market with large-scale fisheries and aquaculture products, as well as a lack of recognition of small-scale fisheries products' added value. Small-scale fishers have limited ability to obtain suitable prices for their products, primarily due to current market strategies that favour middlemen and enterprises and the lack of organizations, capacity, and competence to improve marketing. Moreover, a limited number of well-established species dominate the markets, making it more challenging to sell other species at the local level. This also leads to the lack of public initiatives towards small-scale fisheries and their own capacity to address the demand for sustainable products. Improving product traceability to regain consumer trust is necessary. Various projects and initiatives are being developed to support small-scale fishers and promote their products, such as direct sales, on-board sales and digital applications.

Norway

Presented by **Svein Jentoft** – UiT the Arctic University of Norway

Norwegian small-scale fisheries counted 5,503 vessels in 2022¹. Over the last years, the number of part-time fishers is in decline, which explains the decrease in the overall number of small-scale fishers and vessels. Although, even if the number of vessels is decreasing from year to year, their economic power is constantly increasing. Nowadays, the main issues concerning Norwegian small-scale fisheries are the homogenisation of the fisheries and the concentration of fishing power. They have also observed geographical concentrations of vessels and fishing activity and a high concentration of vessel ownership due to the increase of foreign capital in fisheries. As a result, the link between the current quota system and the number of vessels is less important. In addition, Norwegian small-scale fisheries are also facing the challenge of crew renewal and young people turnout. Recruitment is becoming more complex due to the rising price of quotas and the complexity of the system, even if small-scale fisheries have become increasingly profitable in the last years. These changes are also related to modernization and new technologies in the fishing industry. Improvements in fishing vessels and gears have led to the development of highly efficient vessels, which raises question about the essential nature of small-scale/traditional fishing and the impact on coastal fishing communities.

Sweden

Presented by **Milena Arias Schreiber** – University of Gothenburg & University of Santiago de Compostela

Since the middle of the 20th century, the number of small-scale fishers in Sweden has decreased. Small-scale fisheries represent six times as many vessels as large-scale fisheries, and more than two times as many crew members. However, it represents 41 times less production value (in tonnes) and fisheries with small-scale fisheries scattered all along the coast of the Baltic Sea. One of the main challenges facing the Swedish small-scale fishery is the aging of fishers. 32% are over 65, while only 19% are under 45. This is becoming an issue regarding crew renewal and the recruitment of young fishers. Smaller vessels are increasingly profitable, as the return on fixed tangible assets has increased between 2012 and 2019 for vessels with towed gear of less than 12 meters or passive gears between 10 and 12 meters. The questions related to the sustainability of small-scale fisheries and impacts on the marine environment have also

¹<https://www.fiskeridir.no/yrkesfiske/Tall-og-analyse/Fiskere-fartoy-og-tillatelser/Fartoy-i-merkeregisteret/fiskeflaaten>

been raised. For instance, the cod population in the fishery is in significant decline. However, this is not the case for all species, as the situation for herring has been improving in recent years. The national strategy for fisheries and aquaculture does not mention small-scale fisheries, even though it is a non-negligible source of human food and contributes to public health, healthier food, income generation, coastal communities' development and commitment of populations and communities to the environment.

Malta

Presented by **Matthew Laspina** – Department of Fisheries and Aquaculture of Malta

The fishing sector in Malta has a strong historical tradition and small-scale fisheries are part of the cultural heritage. Small-scale fisheries in Malta represents approximately 93% of the fishing fleet, with 836 multi-gear and multi-species vessels. Major challenges faced by small-scale fisheries in Malta include the decreasing size of the fishing fleet, the aging population of fishers and a lack of young people wishing to become fishers. The small-scale fisheries fleet has decreased by around 30% in the last years because accessing to fishing quotas and licenses became very difficult, especially the quotas of tuna. The capacity to make a decent living from fisheries is now more complex and discourages younger generations in becoming fishers. The decline of fisheries stocks is an additional problem faced by Maltese small-scale fisheries.

Despite the presence of an important network of MPAs targeting the protection and conservation of marine species and habitats, a significant decline of fishing stocks is observed. The Maltese fisheries authorities are involved in a project aiming the implementation of a co-management approach within MPAs territories and small-scale fishers. As key users of the maritime space and because their ecological impact is minimal compared to larger fleets, they were invited to participate. The voices of small-scale fishers regarding MPAs have been heard due to participatory workshops where they expressed and shared their visions with others stakeholders. It is now accepted that protection and conservation of marine ecosystems ensure the sustainability of fisheries activity. Maltese small-scale fishers are now at the heart of management process aiming to address the economic and social challenges faced by the fleet.

France

Presented by **Hélène Buchholzer** – Université de Bretagne Occidentale

In France, according to the Rural and Maritime Act (article L. 931-1-2010) small-scale vessels should be “*less than 12 meters or making fishing trips of less than 24 hours*”. In metropolitan France, around 3,000 vessels were operating in 2021 and represent about 79% of the fishing fleet. The small-scale fleet is spread over the North Atlantic (70%) with a higher proportion of vessels using towed gear (47%). The Mediterranean Sea represents 30% of the fleet, with a higher proportion of static gears (88%). The number of small-scale fisheries is decreasing, both in the North Atlantic and Mediterranean Sea. In 2020, the total employment in this fleet was estimated at 4.926 crewmembers, representing about 51% of the overall employment in fisheries in France. The main production comes from the North Atlantic Ocean (93%), and species that are not subject to Total Allowable Catch (TAC) are the main landed species of small-scale fisheries. The production decreased over time but the total value is stable due to the increase in the fish prices. French continental small-scale fisheries are facing different international, European and national challenges. At international level, events such as COVID-19 and Brexit forced them to reduce or stop either temporarily or partially their activity. The lack of VMS data made it more difficult to operate within UK territorial waters, where a specific licence is mandatory. In Europe, multiple rules and regulations were adopted (e.g. landing obligation, banning of electric gears) requiring the modification of fishing practices. At the national level, the main challenges are firstly, the allocation of quotas under the principle of historical rights, taking as a reference the catches from 2001 to 2003, (at this time, small-scale fisheries catches were not collected). Secondly, the voice of small-scale fishers is not really listened to or taken into account within fisheries organizations due to the power exercised by large-scale fisheries within these organizations. Overall, the accumulation of multi-level challenges, including the increase number of Marine Renewable Energy (MRE) projects, requires the French small-scale fisheries to be more innovative, resilient, and adaptable.

France – Overseas territories

Presented by **Olivier Gyuader** – Ifremer, UMR 6308 AMURE

France has five overseas regions (Guadeloupe, Martinique, Guyane, Mayotte and La Réunion) spread across two oceans (Indian and Atlantic). In these regions, fishing fleets are mainly composed by vessels of less than 12 meters, practicing more than 10 types of activities/gears. Small-scale fleets consist of 1,439 active vessels (2019–2021 average) and employs 2,610 people. In the overseas regions, social and cultural

dimensions are important. However, since 2000, there is a declining trend in the fleet. For instance, in Mayotte the number of small-scale fisheries decreased by 37% from 2008 to 2021. This reduction of the fleet is due to external drivers of change (e.g. climate change), increasing interactions/competition/conflicts for stocks, complex governance with a regional top-down management, including many actors and local co-management. In order to maintain small-scale fisheries and renew the fleet, subsidies at the UE level are available. To access the subsidies, data is needed to show the sustainability of fleet and stocks. However, small-scale fisheries in the overseas regions have limited data (e.g. socio-economic, biological). To overcome this issue, research centers are currently collecting data related to stock assessments and socio-economic contexts. The objective is to better understand French intertropical small-scale fisheries including ecosystem issues.

iii) Session: The future of small-scale fisheries and aquaculture in Europe: What does it look like?

The afternoon session was dedicated to the discussion among participants about the future of European small-scale fisheries and aquaculture. The following section summarizes the main issues covered during the session, which can be perceived as either constraint, difficulties, perspectives, and opportunities.

Management and co-management

Management and co-management have been widely discussed during this interactive session. Questions about the effectiveness of the current management systems at the European, national and local levels have been raised. Management of fisheries and implementation of regulations often doesn't take into account local and traditional aspects of small-scale fisheries. The lack of consideration given to small-scale fisheries in EU policies, especially in the Common Fisheries Policy (CFP), that is largely tailored to large-scale fisheries, was underlined by participants. The CFP also tends to exclude certain species of commercial interest for small-scale fisheries, such as octopus or sardines. Managing fisheries that are highly diversified and paying proper consideration to social aspects is challenging. This complexity is almost impossible to represent in mathematic models. The increasing of co-management structures, where fishers are largely involved in management and establishment of self-regulated rules, has also been discussed. These systems enable collaboration between different bodies at different levels, including fishers, fisheries authorities, and even NGOs. Various co-managing examples have been mentioned, such as Mediterranean French

'Prud'homies' and shellfish women gatherers in Galicia, Spain. One of the main conclusions of these exchanges is that specific features for each fishery, their identities and specificities, make it very difficult to establish common rules. Co-management allows fishers and fishing communities to be involved in management processes and to adapt it to local specificities. The importance of fisheries community at the core of small-scale fisheries was also highlighted. Working in small-scale fisheries, geographically near the fishing communities, is perceived as a way of life.

Fishing rights accessibility

In terms of quota and license system, access to fishing rights usually depends on the type of fishery, the type of gear and the size of the vessel. However, the distribution of fishing rights is not always balanced between small-, medium- or large-scale fisheries. There is indeed a lack of equity and proportionality in the allocation of fishing rights between fisheries and vessels within the same group. Participants criticized the lack of transparency regarding the processes to access fishing rights in some of the countries, including in EU. The access to licenses and fishing opportunities is especially affecting newcomers who may not be aware of all the procedures needed for obtaining fishing rights. The access to fishing rights should be considered as additional barriers to become a fisher. Some participants considered that the lower participation of small-scale fishers' in fishers' and producers' organisations doesn't facilitate the access to fishing rights and opportunities.

Spatial competition

The issue of the remaining maritime space left for small-scale fisheries was also addressed during the workshop. Socio-economic activities are claiming more and more space to be developed or settled upon, either near shore or offshore. These include, among others, industrial and exploration activities, cargo and passenger transportation, offshore wind farms development, MPAs, boating and yachting activities. These new spatial claims raise the question about the remaining space for the small-scale fisheries. It is well known that these developments have a greater impact on small- than on large-scale fisheries. For instance, offshore wind farms may limit fishing practices or even forbid them. Recreational fishing is another activity claiming access to space and resources. Participants mentioned how laws regulating this activity are old and ill adapted to the current situation. Development of increasingly restrictive MPAs is also impacting small-scale fisheries as they are usually located in coastal areas. Co-habitation between small- and large-scale fisheries seems to be problematic in areas and countries where both fleets operate in coastal areas.

Participants also highlighted the necessity to find a balance between all these activities. Management systems for coastal areas and MPAs should take into account the interests of small-scale fisheries while ensuring sustainability of activities and preservation of marine ecosystems. Maritime Spatial Planning (MSP) is a good tool for the avoidance of conflicts in coastal areas, but it seems that fisheries industry in general is not always well-integrated into the decision-making processes. The situation is probably worst for the small-scale fisheries, given that their voices are usually less or never heard by decision-makers and that interests of large-scale fisheries tend to dominate the debates.

Market needs and diversification

Seafood market is constantly evolving and fishers need to adapt and diversify in order to address the changes. The situation may vary from one country to another, but consumers demand reasonably priced products of good quality with low environmental impact. This monetary aspect constitutes one of the main challenges of small-scale fisheries. Despite the positive image that small-scale fisheries products benefit in the market, where they are seen as more environmentally friendly, local, and of good quality, the selling price is still low because it is difficult to differentiate these products from other medium- and large-scale fisheries products. Some participants, however, noted that in the recent years the prices of small-scale fish in some regions were extremely high (e.g. Brittany/France). Inevitably, this increase in prices can become an obstacle to marketing.

Another issue discussed was the export of small-scale fisheries products. In areas where the local market offers lower prices (e.g. in Azores/Portugal) fish is usually exported to mainland where prices are higher. In response, small-scale fishers have adopted different strategies to satisfy the market needs. For instance, in Canaries Islands (Spain) fishers have set up alliances directly with restaurants in order to increase the visibility of their products. Meanwhile, in France, fishers have established quality labels.

Social aspects of small-scale fisheries and aquaculture

Social aspects challenging the survival of small-scale fisheries and aquaculture were also highlighted by the participants.

Arrival and recruitment of young people in fisheries and shellfish farming

Discussions around this topic centered around the issue of recruitment of fishers and shellfish farmers. It seems that, in general, fisheries don't attract young people, although this attitude is somewhat different when it comes to small-scale fisheries. And while it is true that the situation is context-dependent, all participants agreed that access to these jobs is much more complicated today than it was in the past. There is a duality and a dichotomy.

On one hand, the industry continues to attract young fishers and farmers, particularly those who come from a fishing or shellfish farming family, and who often inherit either the vessel or the concessions, as well as the knowledge from the elders. The work itself is what attracts them: being at sea, being part of a community, being their own boss. In certain countries or regions, the job also provides a good living because it is a profitable business. In some countries, there is now a real professionalization of maritime careers, with maritime high schools where young people can learn about fishing and aquaculture, which facilitates their integration into these industries.

On the other hand, newcomers/recruits in fisheries and farming industries are facing several constraints preventing them from becoming fishers or farmers. This is especially true for those who are not from fishing or farming families. Firstly, the high financial cost is an important and determining factor. Not everyone can afford to buy a vessel and repay the loan, especially in a context of economic inflation (e.g. raising of fuel prices). In some French oyster basins (e.g., Brittany, Arcachon, Normandy), it is difficult for young people to have access to oyster and mussel concessions, given the high initial cost. In cases of parental succession, sons are often favoured over daughters, and the few women who practice this activity are at the head of small businesses.

Bureaucracy was also highlighted as a constraint, along with the difficulty of accessing fishing rights (quotas, licenses). In some countries, fishing rights are not allocated transparently and the allocation can be very complex depending on the species targeted. New fishers have to go through several administrative procedures before eventually obtaining fishing rights for the species they are targeting. In some countries, fishing quotas are costly and in others the vessel's price includes the quotas. In both cases, newcomers cannot afford it easily. This can lead to other problems, such as illegal fishing. In addition, socio-political and environmental factors are also making the situation more complex and difficult for young fishers starting their career (e.g. climate change, economic crisis, Brexit, new EU regulations). The need to support young people by promoting a fair and balanced transition between older

people, who are leaving, and new arrivals, was the main message that emerged from the discussion. Therefore, it is important to understand the motivations of fishers and farmers towards their job and to transfer the knowledge and passion for these jobs to younger generations.

Women's place in small-scale fisheries

The role of women in fishing professions was also discussed. The low number of women in these activities can be explained by the cultural and societal barriers, through which women are assigned a reproductive role (e.g., taking care of children, husbands, parents, the house). Women wishing to be fishers face additional barriers in comparison to men. For example, women attending courses at fisheries schools usually have trouble finding an internship on fishing vessels because fishermen oftentimes consider them to be a distraction on board. The same is true for fisherwomen on board, who are often ignored and discredited by their male colleagues.

In the case of Galician women fisher's gatherers ('mariscadoras'), it seems that they are less valued and that their income is lower than men's. Women shellfish gatherers, besides their economic contribution, must also ensure all domestic and community tasks and adapt themselves into specific, local social conditions. Women work in fisheries despite the lack of recognition because it gives them the possibility of becoming more financially independent. During the discussions on renewal and recruitment of young people into fishing, participants repeatedly stressed how women face more challenges than young men to becoming fishers.

In summary, women's work in fisheries is undervalued and women are often viewed as unable to perform the same tasks as men. Thus, many young women, even those with qualifications, avoid becoming fishers. In many countries, women's work is primarily located on the shore (e.g. shellfish/seaweed farming and gathering) rather than at sea. It must be noted that women working on the shore tend to build stronger comradeships and collaborations compared to men working at sea. Enabling women to enter fisheries and aquaculture jobs on fair and equitable terms is an essential condition for achieving gender equality.

Adaptation

The diversity of small-scale fisheries in terms of gears, practices, targeted species, and ongoing changes was also discussed. The response to such changes and crisis faced

by small-scale fisheries and shellfish farming is 'adaptation'. For instance, the effects of climate change led to changes in species behaviour, the emergence of invasive species, and declining resources that are forcing fishers to adapt their activities and livelihoods. Fishers are adapting to the new situation by developing new fishing techniques, investing in new fishing gears or exploring new fishing grounds (usually farther from the coast) to target new species, fundamentally altering their traditional fishing practices. Fishers also need to adapt to current socio-economic changes, such as economic, political (e.g. Brexit), social and sanitary crises (e.g. Covid-19 pandemic). The consequences of these crises can affect their activity. The necessity to modernize their equipment and fishing techniques seems crucial to ensure livelihoods and decent income. However, during the workshop, the modernization of the vessels raised few questions about the traditional nature of small-scale fisheries. On one hand, increasing performance and innovation onboard can enable fishers to adapt to those changes. On the other, this modernization is challenging the traditional character of small-scale fisheries.

Progress in small-scale fisheries

Participants highlighted the progress made over the last decades towards advancing the knowledge regarding small-scale fisheries. Starting with the launch of SSF Guidelines (<https://www.fao.org/voluntary-guidelines-small-scale-fisheries/en/>), a document representing a major step forward for ensuring small-scale fishers' voices and interests are being heard, and followed by the numerous scientific research projects that have emerged. Among other, progress has been made in our understanding of human rights and social aspects in fisheries, production and distribution issues, fisheries management and species behavior. Creation of researchers networks specialized in small-scale fisheries issues, such as TBTI Global network, shows that things are moving forward. However, some participants pointed out that, although progress is being made, the required changes are taking too much time to come into effect. Efforts need to be made to encourage decision-making bodies and public authorities to implement the SSF Guidelines and hear the voices of small-scale fishers. Despite this, it is important to build from the current inertia and develop synergies and collaborations between fishing communities, fishers, and scientists. This link between research and fisheries is essential for moving forward.

Group picture of Day 1 – Friday, June 23rd 2023



Saturday, June 24th

Summary of the meeting – Day 2

On the second day of the workshop, the podium was given to fishers through two interactive sessions. The first session focused on participants' vision and definition of small-scale fisheries. The second session focused on the main challenges of small-scale fisheries and aquaculture and potential paths for the future. The day was further energized by the participation of young researchers from the University of Brest and IFREMER, Eider Graner and Benjamin Dudouet, with the support of Katia Frangoudes and the contribution of PhD and Master students of UMR AMURE.

i) Defining small-scale fisheries and aquaculture

The participants pointed out how difficult it is to provide a unique definition of small-scale fisheries in Europe and in France. For some participants, the lack of unique and shared definition should not be considered a major concern. According to them, it is not necessary to ***“waste time trying to define small-scale fisheries, which has existed from the beginning without a specific definition”*** (fisher). The challenge of precise definition does not prevent fishers and other participants from quoting different elements that characterize small-scale fisheries and aquaculture in accordance with their vision. Figure 1 summarizes the elements coming out from the online survey done via SLIDO.



Figure 1. Word cloud summarizing the answers of participants to the question "How to define small-scale fisheries?" (in French & English)

Discussion and criticism of small-scale fisheries and aquaculture definition based on the size of vessels and plots

According to the European Union (EU), small-scale fisheries are defined as *"fishing carried out by fishing vessels of an overall length of less than 12 m and not using towed fishing gear"*. However, this aspect has been contested by fishers, fish farmers, and other participants, who pointed out that **"small-scale fishing is not limited to the size of boats"**, as vessels smaller than 12 meters are not necessarily considered small-scale. The example was given of French kelp harvesting vessels under 12 meters that, thanks to technology and an increase in carrying capacity, are able to harvest over 70 tons daily. In contrast, the size of plots is constraining shellfish production. As little innovation has been done, they are still traditional and are producing small quantities of oysters. Other fishers practicing food gathering (shellfish or seaweed) do not understand why they don't belong to small-scale fisheries and argue for their inclusion to this category. Indeed, it seems that these small-scale activities are excluded from the legally recognized small-scale fisheries in EU member's states.

Adaptation of small-scale fisheries and aquaculture to species variations and crisis

*"We observe radical changes regarding weather, species, etc. We no longer fish the same species as in the past. Our targeted species are struggling, such as Pollack (*Pollachius pollachius*)". (fisher)*

Usually, small-scale fishing activity adapts to the seasonality of species, according to the spawning season and weather conditions. However, the predictability of targeted species' seasonality has become less accurate due to climate change. Small-scale fisheries are, therefore, highly dependent on variations and uncertainties, and fishers are constantly forced to adapt by introducing new technology and/or gears, in particular if they are specialized for a single species or gear.

"In my work, I have improved tools and electronics, and even with my increasing experience, I can barely maintain decent catches. In theory, my catches should be increasing [...] but fish behavior changes every month; having a plan for the future is not easy due to the longer seasons." (fisher)

In France, following the oysters' crisis in 2008, farmers developed new strategies to mitigate the impacts and enable businesses to survive. The first strategy, which mainly concerned large-scale oyster farmers, was to increase the number of spat and the surface area. Small businesses having small surface tried to reduce production costs by developing natural spat collection, particularly in oyster basins where it was not available naturally (e.g. Étang de Thau in the Mediterranean). Another strategy was to raise oyster prices, which enabled oyster farmers to adapt to the crisis. By producing less and selling more, they were able to make up for the shortfall caused by the crisis. The development of visitor activities and product tasting were other responses to the crisis.

Developing new marketing strategies to enhance the value of products

To sustain small-scale fisheries and aquaculture livelihoods, it is necessary to add value to seafood products. All participants agreed that it is time to prioritize quality over quantity. Direct-selling strategies have become a common practice compared to the past. *"[Before] there wasn't enough time to dedicate to selling our production [...], everything was sold in auctions."* (fisher)

Initially, the purpose of direct sales was to add value to the fish and shellfish products. In some countries, women (wives, mothers and sisters) are also involved in the selling process. However, direct selling can be challenging for some fishers. As *"not all can be sold directly"*, fish can be sold through various distribution channels. These new strategies tailored by fishers have made them into multitaskers: they do not only fish or harvest, but are also responsible for marketing and selling their products.

Small-scale fishers and farmers maximize the value of their products in order to create more jobs and distribute more wealth. In France, women have traditionally practiced direct sales of oysters (as well as mussels, but in a lower extent), with the aim of adding value to their products. Direct selling or labelling oysters allowed them to maintain their incomes and sustain their livelihoods. During the oyster's crisis in France, many women in oyster farming developed new activities, such as engaging with the public (adults or children) and offering the product tastings. These new activities have allowed them to make up for the loss of income caused by the crisis, since their products are now well valued. These new strategies have also led to criticism as the products are being sold at higher prices than those provided by large-scale fisheries or by fishers following the traditional channels of marketing. This new phenomenon is characterized as an 'excessive valorization' of seafood products.

Small-scale fisheries focus on the quality of life onboard

According to the participants, the choice to be a fisher is linked to ***"their strong connection to the sea"***. For them, fishing ***"is a lifestyle choice"*** as they enjoy the feeling of freedom and have a sense of time and space management, unlike in large-scale fisheries. In small-scale fisheries, the time spent at sea is less important than in large-scale fisheries, which allows fishers to devote time to family life and have leisure activities. Nowadays, many vessels are equipped with Wi-Fi to communicate with the mainland, even if the pace of life still requires adjustments for relatives inshore. One of the participants explained that ***"In La Rochelle, some individuals engaged in large-scale fisheries quit their job because they are unable to have family life. But small-scale fishing attracts people because it allows them to have a family life."***

However, the comfort on board of fishing vessels and in shellfish farms is still quite rudimentary. From a wellbeing perspective, some activities can have negative health effects, such as for net fishers or algae and shellfish harvesters and farmers who have to carry heavy loads, ***"more than 40 kg of algae on their backs."*** Similarly, most small-scale fishing vessels are quite old and not adapted to current energy challenges (e.g. high price of gasoline, energy crisis), and in terms of comfort, very few have toilets

onboard. Thus, despite the attachment to the sea and the possibility of having a family life, the working conditions are often hard, which limit the recruitment of young fishers and women.

Small-scale fishers, shellfish farmers, and women are poorly represented in decision-making bodies

Unlike their large counterparts, small-scale fisheries are often underrepresented in national or European decision-making bodies. A fisher mentioned that their voice **"is not heard"** and that representatives **"do not support us"**. Difficulty in representing small-scale fisheries can be explained by the diversity of fishing practices and the significant influence of large-scale fisheries in decision-making bodies. Other participants mentioned the lack of representation of women in fishing, stating, **"there is a lack of institutional attention to women's situation, despite local efforts to make their voices heard"**.

Small-scale fisheries are subject to the same European regulations

When it comes to fleet types, almost none of the EU regulations differentiate between large- and small-scale fisheries. According to participants, this principle is impacting often vessels architecture.

"EU rules are based on the length of the vessels or the type of gear. Generally, the shorter vessel is less subject to restrictive rules [...]. But this principle leads often to create monstrosities, for example a vessel with a length of 12 and a width of 7 meters. Naval architecture has never seen anything like this before!"

EU regulations are addressed to all types of fleets, but there is not a real differentiation between large- and small-scale fisheries. Regulations in terms of length should be **"applied in relation to the available workspace or to the fish-carrying capacity."**

Increase in fishing effort and regulatory constraints imposed by the EU lead to the development of fuel consuming vessels, which is inconsistent with the decarbonization plans announced by the EU in February 2023. Small-scale fishers highlighted the limit of European regulations, which are seen as too general and not taking into account the diversity and specificities of small-scale fisheries in different regional seas.

Picture of Day 2 morning session



ii) What is the future of small-scale fisheries and aquaculture?

Participants considered that European fisheries have no future without small-scale fisheries. According to them, it is a matter of balance that needs to be addressed to ensure a decent living for small-scale fishers. Small-scale fisheries fleets are important in European countries and other places in the world, like the different presentations showcased during the workshop. In Portugal, for instance, small-scale fisheries fleet represent the largest number of vessels, which means that a future without them would be impossible, leading to unviable fishing communities. In other countries where small-scale fisheries are a minority, they are still important cultural and food security (e.g. Sweden) aspects. Spatial competition, including competition with culturally, represent an increasingly important issue where regulations are needed. Future regulations and rules should be adapted to local contexts, taking into account the developments and changes occurring across the countries.

Participants highlighted the importance of SSF Guidelines, which make the voices and existence of small-scale fishers heard and visible. The Guidelines were the results of a

collective demand and action, and their implementation is now depending on the willingness of institutions' to listen and build genuine political will. The future of small-scale fisheries depends on how we can collectively articulate diversity and address all the threats that currently weigh on the industry.

Research and small-scale fisheries

“New generations of fishers wish for more collaboration with scientists”

New research projects and progress made by researchers working on small-scale fisheries are key elements that must directly benefit small-scale fishers. Increasing collaborations between academics and small-scale fisheries and aquaculture were developed over the last decade. Better scientific understanding and local ecological knowledge are essential to ensure an effective resource management and for ensuring the sustainability of small-scale fisheries and aquaculture activities. Participants mentioned examples of projects in which fishers and shellfish farmers have collaborated with scientists, and from which new shared knowledge was created. While there may still be some reluctance towards scientists, many fishers, especially new generations, are ready to work together. The objective is to use all the available expertise and knowledge in order to move forward. There is a genuine willingness to drive progress and develop a shared vision to make the voices of small-scale fishers heard. For example, shellfish farmers in France always relied on scientists to adapt their activity, especially during the oysters' crisis due to natural phenomena. In 2009, women oysters' farmers of Etang de Thau in Mediterranean, asked for scientific support in order to develop a natural spat collection and reduce production cost. Capturing spat naturally was not impossible at the time, but thanks to women's intervention and collaboration with scientists, it became possible. 15 years later, many spats that are used locally come from natural captures.

Environmental protection

“If we don't address the environmental problem, we are ruined”

This cross-cutting theme emerged in most of the discussions. Climate change-related effects and the degradation of environment are calling for collective and strong actions. Increases in ocean temperatures, ocean acidification and extreme weather events have detrimental effects on fish stocks and marine ecosystems. The importance to adopt more sustainable fishing practices and implement adaptation measures to address those challenges has been pointed out by the participants. Small-scale fisheries and aquaculture have a low ecological footprint and a small

impact on the ecosystem. Fishers and shellfish farmers are directly depending on the quality of marine habitats and the ecosystem. Many volunteer-based initiatives are undertaken by fishers in order to limit their own impact, but a real political action coming from decision-making bodies is necessary. This is especially true concerning the environmental impacts of large-scale fisheries. For example, the production of shellfish is dependent on the quality of the water, and many actions were undertaken towards this objective, either by gatherers or farmers. Improving the water treatment stations of coastal municipalities is one of the actions undertaken by oyster farmers, individually or with the support of their representatives.

As another example, there is a case of women shellfish gatherers on foot (*mariscadoras*) from Galicia, who are forced to collect green algae (*Ulva ssp*) by themselves. The algae tend to accumulate in the depth of the *rias* (estuaries). Regional authorities asked women shellfish harvesters to clean the beaches under the threat of having their fishing rights revoked (a right that was granted to the *cofradías* in the 19th century). Men are not subject to this obligation, and the *mariscadoras* have to clean the beaches after each tide without receiving any payment. Brittany's shellfish gatherers discussed this issue and all agreed that in France, it is not possible to force people to work without payment. In Brittany, the issue with green algae is also present. Here, the algae development is a result of intensive pig rearing runoff and is legally considered harmful to human health. During the summer, coastal municipalities spend large amounts of money on mechanical beach cleaning. During the discussion, participants were surprised by the lightness of Galician authorities towards this issue, particularly regarding the health of the *mariscadoras* and the discrimination against women. This discussion led scientists and professionals to take a closer look at this matter and contemplate specific actions against this unethical and discriminatory behavior.

Take-home messages

- **Regulations:** A better inclusion of small-scale fisheries in EU fisheries regulations is needed. EU regulations should consider local contexts and particularities of each fishery.
- **Quota system:** Quotas allocation systems should be more transparent and consider the needs of newcomers in small-scale fisheries.
- **Marine Spatial Planning:** Small-scale fisheries and aquaculture should be better integrated and consulted in MSP processes as they are the main stakeholders to be affected by the development of MRE and the increasing conservation tools such as MPAs.

- **Representation of small-scale fisheries:** National, regional and local representatives of small-scale fisheries and aquaculture should better represent their interests towards large-scale fisheries and decision-making bodies.
- **Recruitment and turnout:** Newcomers need more support to overcome high costs (vessels' prices, debts) and fishing rights accessibility (access to quotas and licenses) to become a fisher.
- **Modernization in small-scale fisheries:** Quality of life onboard fishing vessels should be improved to ensure decent conditions for both male and female fishers (improving facilities such as toilets) and attract young people.
- **Women in small-scale fisheries:** Women's conditions in small-scale fisheries need to be improved and their voices need to be heard in order to have an equal environment. Women shellfish harvesters (e.g. mariscadoras) should have the same rights and duties as their male colleagues within organizations.

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