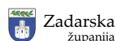


The Adri.SmArtFish

Interreg VA Italy Croatia
Programme 2014-2020



INSTITUT ZA OCEANOGRAFIJU
I RIBARSTVO SPLIT



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ADRI.SMARTFISH PROJECT

Adri.SmArtFish: valorisation of SMAll-scale ARTIsanal FISHery of the Adriatic coasts, in a context of sustainability.

Adri.SmArtFish Project of the Interreg VA Italy Croatia Programme, is a project aimed at enhancing the quality and sustainability of commercial fishing in the Northern Adriatic through the valorisation of the intrinsic sustainable aspects of small-scale, artisanal fishing (SSF):

- > it is an Italy-Croatia project;
- > the main goal of the project is to create a trans-national association of small-scale fishermen. From the earliest stages, the project involved fishermen and envisaged the creation of pilot actions (the self-management of fishing grounds, and the 'Fisherman's Village') that can be managed by the fishermen themselves.

PARTNERS

Lead Partner: Veneto Region - Agri-Environment, Fishery and Wildlife Planning and Management Directorate.

Partners: The partnership of the Adri.SmArtFish project is made up of four Italian Regions (Friuli-Venezia Giulia, Veneto, Emilia-Romagna and Marche), the Ministry of Agriculture and Fisheries of the Republic of Croatia, three Croatian Counties (Istria, Primorje-Gorski Kotar and Zadar) and two international research institutes (Ca' Foscari University of Venice and the Institute of Oceanography and Fisheries of Split).

OBJECTIVES

Project overall objective

Use small-scale artisanal fishing, which intrinsically has characteristics that favour sustainability, to promote the management of sustainable fishing in the upper Adriatic (GSA 17). To strengthen the small-scale fisheries role in the GSA 17 in the near future by fostering their potential for innovation within the Blue Growth context, through the adoption of an ecosystem-based management approach.

The project involves all the actors responsible for the management of the coastal area with a bottom-up approach.

The context

On the Programme area, SSF sector represents the 50% of the Italian and 90% of the Croatian fleets operating in the FAO Geographic Subarea (GSA)17 (Northern Adriatic). The common challenge it faces, proven also through previous CB projects (e.g., ArtFishMed) is a lack of competitiveness in comparison with other fleets (e.g., trawling and dredging), difficult access to market, low prices, decreasing stocks and biodiversity of the catches, decreasing market values and increasing running costs.

The sector of the SSF has evolved in strong connection with local tradition and in balance with the ecosystem.

In this context the elements of innovation most likely to bring the greatest benefits are not found in processes and technologies, but rather in the approach to management and in the valorisation of the products, in an effort to boost its resilience and sustainability, and market value.

Artisanal Small-Scale Fishery (SSF) according to EU is the one employing vessels smaller than 12m LOA, not using towed gear. World-over, it is the most relevant fishery segment, deeply rooted in local traditions, adapted to the environment through coevolution, and inherently sustainable. For this, and for its potential to provide sustainable growth and jobs, in harmony with the marine environment, it is acknowledged at many levels (FAO, EU CFP, ERDF, EUSAIR) to play an important role in the pursuit of Blue Growth.

SPECIFIC OBJECTIVES

1. create an organic body of knowledge on the state of the art of the small-scale fishing sector in the project area
2. Promote sustainable innovation in the small-scale fishing sector in the market
3. Promote sustainable innovation in the small-scale fishing sector in management and decision-making processes

WHAT WAS DONE AND THE RESULTS

1. The state of the art of the small-scale fishing sector

The current photograph highlights the number of vessels, the amount of catch, the strengths and weaknesses, the threats.

In general, the following aspects emerge:

- > sector strongly linked to tradition
- > important social and economic weight for local communities
- > low impact on resources and the environment due to the high selectivity of the methods and equipment used, towed gears are not used and therefore there is no significant impact on the seabed, the waste is minimal
- > the activity requires a biological knowledge of the qualities caught and the ability of the individual fisherman to manage and evaluate the effort in catching

The weaknesses:

- > lack of aggregation
- > spatial conflicts with other activities affecting the coastline
- > limited access to markets.

The opportunities:

- > create an aggregation of fishermen to have more weight at local and regional level
- > diversify income by developing new market strategies
- > develop product traceability and certification

The threats:

- > increase of alien species
- > climate change
- > pollution

Environmental impact:

For example, it was assessed what could be the scenario in 2100 following climate change —> resource drop from 20 to 50%

Another example concerns CO2 emissions:

Compared to other fishing activities, artisanal fishing produces 4 kg of co2 for every kg, other activities reach 8 or even 16 kg of co2 per kg of fish (more content on the page 9)

WP3 Evaluation of the Small-Scale Fishery Sector

The general objective of the Adri-SmArtFish project is to strengthen the SSF* role in GSA17 (Central-Northern Adriatic Sea) in the near future by fostering their potential for innovation within the Blue Growth context.

SSF fleet in GSA17

N° of vessels

1926 (IT) - 1883 (HR)

Annual VOLUME of landing (t):

7861 (IT) - 1651 (HR)

Annual VALUE of landing (€):

55,000,000 (IT) - 9,500,000 (HR)

Assessment of the vulnerability to Climate Change

The expected rise in water temperature and salinity is foreseen to cause a decrease of the main target species, with a drop in annual landing up to 60%.

Present



Future - 2100



WEAKNESSES

- Lack of aggregation among operators and lack of trust toward institutions.
- Spatial conflicts with other activities in coastal zones (fisheries, marine traffic)
- Few maritime infrastructure and limited access to local fish markets.

STRENGTHS

- Strong cultural tradition.
- Social and economic importance for local population and communities.
- Low impact on resources and environment with multispecies catches.

SWOT

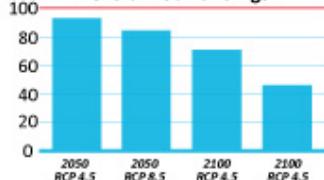
OPPORTUNITIES

- Aggregation of SSF operators in cooperatives and associations on local and regional scales.
- Income diversification through the development of new marketing strategies.
- Develop seafood traceability/certification to raise consumers' awareness.

THREATS

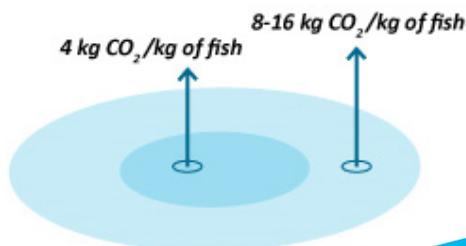
- Spreadin and invasion of alien species.
- Climate Change (sea warming).
- Pollution (pesticides, microplastics,...)

2019 annual landings



Evaluation of the ecological sustainability of SSF

Depending on seasons and species, commercial fishery show an emission intensity (kg CO₂ emitter/kg of landing) up to 10 times higher respect to SSF.



The Adri.SmArtFish project interacted directly with the fishermen who became a partner and an integral part of the project. Cooking Labs have been created both in Italy and in Croatia.

The group activities had the purposes of:

- 1) convey that collaboration can be an effective way of working;
- 2) demonstrate that fishing is not only a value for fishermen but also for other subjects;
- 3) produce a document that, along with what is produced by the Croatian fishermen afterwards, will serve as a starting point for the next steps.

From the group activities emerged this general idea.



THE PROFILE OF THE TYPICAL FISHERMAN

The profile of the typical fisherman and his background that have been derived from the direct and participant observation of group activities, in particular during The Cooking Lab of November 21st 2019 that took place at the agritourism La Presa at Taglio di Po (RO).

Generational aspects:

In most cases, "the fisherman's work" is the result of the generational transmission of four generations: "my grandfather"- "my father"- "I" -" my son". Most of them, are currently married and with children. Those who have young children, on the one hand, hope that their children, growing up, will

choose to devote themselves to the same work “because a fisherman never dies of hunger”, on the other hand they hope the exact opposite, because of the “practical difficulties of this work”.

Personality characteristics and group relational aspects:

Considering the prevailing relational ways, at first, the participants seem to divide almost exactly between two types “Up” and “Down”.

The “Up” mode includes features of extroversion and sharpness, with an effective and clear communication, which can sometimes be assertive, other times it can impose itself on others, not taking into account their wills. It is the typical way of leaders, who express courage in taking initiatives and carrying out their wills.

On the contrary, the “Down” relational type includes characteristics of introversion, avoidance of conflict, greater insecurity, propensity not to take initiatives and to follow the will of others. As the group activity progressed, those who initially showed themselves as “Down”, then manifested increasingly “Up” behaviours, until they reached an assertive communication style, in terms of their own desires and expectations. This change could be linked to a component of defensive personality and initial distrust of the next. Distrust and closure are particularly useful and protective in a highly competitive living environment.

Another peculiar characteristic seems to be individualism, which often excludes cooperation, especially in the workplace.

Overall, they show strong personalities and characters, with an inclination to action and practical problem-solving.

Positive and negative aspects:

Many appreciate their work and do it with passion; they claim to enjoy the moments of solitude and loneliness on their boat.

Equally numerous are those who complain about practical aspects such as: nightly working hours, physical fatigue, the monotony of “always the same days”, the lack of relationships in addition to family ones and few “intimate and trusted” friends, often also fishermen.

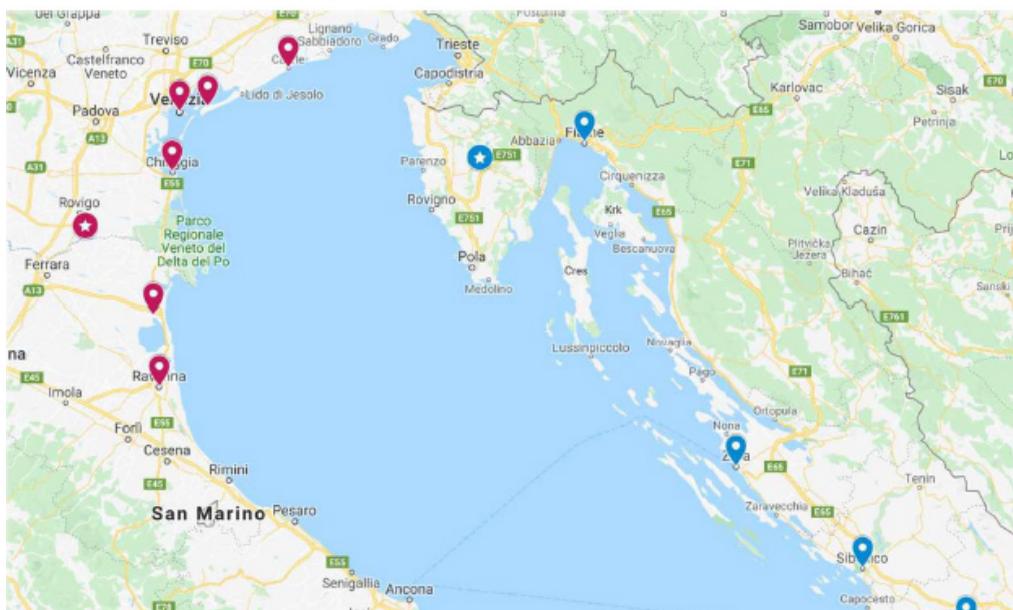
From an economic point of view, contrasting and very subjective aspects coexist, so some report “to earn well”; others complain about “coming with difficulty at the end of the month”. From the accounts, some would earn around 5,000 € per month, others around 1,000 €.

An adverse issue concerns illegality. Verbally, they express and seem to all agree in criticizing illegal actions, however many admit that they are the first not to fully comply with the rules. They agree that past misconduct has caused environmental disasters, which have now reduced catches.

COMPARISON BETWEEN ITALIAN AND CROATIAN FISHERMEN

Geographical Reference

The different areas of origin of fishermen who have participated in the lab.



Italy

Croatia

Very strict controls;
 Cultural and social fragmentation:
 local rivalry;
 Strict geographical limitations (you can fish in your own region, you can't trespass).

More bland controls;
 Geographical cultural and social fragmentation;
 There are no geographic limitations:
 you can fish wherever you want to.



ITALY

60.48 MILLIONS (2018)

30 KG/YEAR PER CAPITA CONSUMPTION

"Se te me sbuxi e vene, vien fòra acqua salà"

"If you pierce me, I bleed salt water"

ITALIAN FISHERMAN

age 45/65

I do not have an e-mail 🙄

IDENTITARY VALUE: "I am a fisherman!"

TRADITION



LIMITATION

Living UE recommendations as a limitation



RELATIONSHIP

Commercial relationships with fishmarkets and consortium



CHANCE

Associationism as a good chance



TERRITORY

Revising of regional limitation
Local rivalry



SEA BOTTOM

Fishermen works on a shallow sandy bottom



MAINLAND

Fishing at sea but also in brackish/fresh waters



CONSERVATION

To preserve sea resource is a duty



UNIQUE

Fishing is the only work



CONTROLS

Need of strict controls to prevent illegality



RETIREMENT

Retirement will be a problem



LACK OF TRUST IN OTHER FISHERMEN

PROMOTE CHEAP FISH



COMPETENCE

Need to be represented by competent people with knowledge of fishing activity





CROATIA

4.07 MILLION (2019)

8 KG/YEAR PER CAPITA CONSUMPTION

CROATIAN FISHERMAN age 45/65

I do have an e-mail 📧

IDENTITARY VALUE "I work as a fisherman"

PROFESSION

“
COOPERATIVE

Lack of participation”

“
RELATIONSHIP

Commercial relationships with restaurants, island markets, IT fishermen and companies”

“
CHANCE

A better use of UE relationship”

“
TERRITORY

Fragmented. Many islands, geographical distance”

“
SEA BOTTOM

Rocky and deep”

“
SEA

Fishing in the open sea”

“
RESOURCE

Getting paid to collect plastic”

“
DIVERSIFICATION

Fishing is not always the main activity”

“
CONTROLS

Lack of controls means illegal fishing”

“
RETIREMENT

Retirement will be a good chance”

LACK OF TRUST IN OTHER FISHERMEN

PROMOTE CHEAP FISH

“
REPRESENTATION

Not interested in being represented as a category”



Conclusions About The Cross-Border Consortium

The activities developed in Italy and Croatia were constructive and brought out interesting ideas. It has been highly valued in relation to a normal seminar and has shown that the constitution of the cross-border consortium is not the starting point of the project, but the goal that we want to achieve. To create it you need to plan in advance using innovative, engaging and informal ways that allow meeting, comparison and planning among participants. On both sides, there was a great willingness to meet again. Despite this, we found a great difficulty with language communication and the need to comply with different demands.

Therefore, first, it is necessary to ask ourselves which is the common ground to create a constructive dialogue?

The structure that collects Italian and Croatian fishermen can be compared to that of a sport club, in which every team - the Italian fishermen and the Croatian fishermen - needs not only to have many presidents but requires experienced coaches. The two teams are currently playing two different games. There are elements of similarity and diversity. In order that the two teams can play the same game, they must both be trained to achieve the same goals. Training, however, must be tailored to the characteristics of each team and its players. To do this, every team needs to have a qualified coach. To date, this figure is missing. The coach must be competent, must have been or still be a fisherman. In fact, he has to know the language and what it means to be the players of the match. The coach must be a concrete and reliable spokesman, willing to propose and realize meetings between all the local players, and able to relate to the president.

Therefore, the idea is to activate a process. Italian and Croatian fishermen must first get to know each other among their compatriots and identify how they can work together. Then, meetings between the two fishing communities will be organized to work on building a common network.

The motto is: get to know each other and understand how to work together to be able to create a network! The path must be gradual at the territorial level: starting from Taglio di Po, we could extend the dynamics, till reaching to

Croatia. Our conclusion is a process, a path, that can generate a relationship that has the ultimate goal of creating a unitary consortium; It is necessary in any case do not forget that each territory has its own specificity.

**To make a consortium there is the need to find a common path.
Before a consortium is necessary to know each other.
A legal form does not make a network.**

2. FOR THE AIM OF PROMOTING SUSTAINABLE INNOVATION IN THE SMALL-SCALE FISHING SECTOR IN THE MARKET

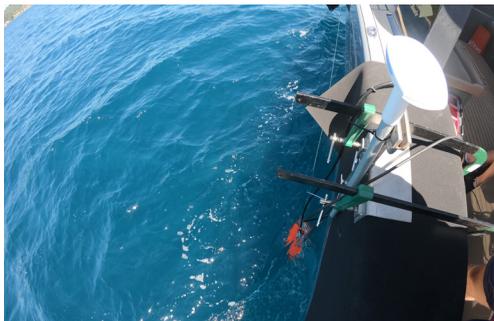
A work plan has been created with:

a) MARKET ENHANCEMENT ACTIONS

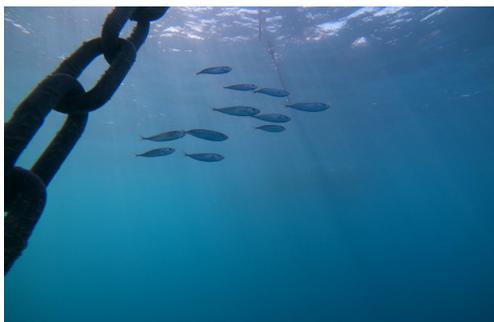
Through:

- > Certification;
- > Shared Protocol of Sustainable Fishing
- > Registered trademark of small sustainable fishing to identify the product on the market. The trademark will not be linked to a territorial aspect as it will be a European quality certification tool and therefore, although it is designed for the Upper Adriatic context, it could be extended to other members that reflect the same quality characteristics.

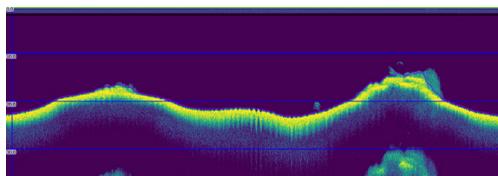
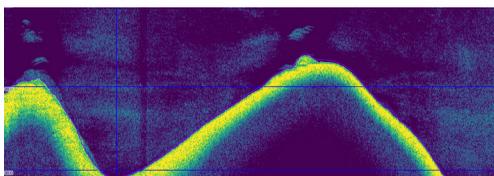
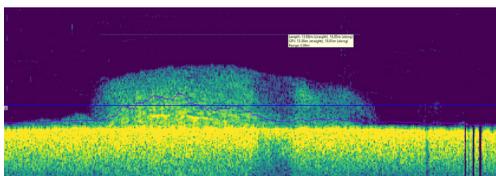
**b) PILOT ACTIONS ON SEA FISHING ACTIVITIES
JOINT DEVELOPMENT ACTIONS AND EXPERIMENTATION OF INNOVATIVE
APPROACHES ON SEA ACTIVITIES**



Acoustic monitoring of the impact of artificial submerged reefs on fish assemblages in Croatia



IOF staff performing visual census on submerged artificial reefs



Echosounder generated images showing fish concentrating around deployed artificial reefs in Croatian pilot sites

Location: Veneto coastal strip

Actions: direct monitoring of the activities of small fishing boats with “Marine Gps Tracking” GPS devices that provide real-time tracking of the movements of the boats.



Acoustic monitoring of the impact of pilot activities on fish assemblages along Veneto Coasts

The results were interesting with respect to the mandatory devices that are normally used on large boats (AIS):

- > Devices are less expensive
- > The traces are not visible except to the operations center
- > It gives accurate temporal and spatial resolution
- > Monitoring can be followed via APP
- > Ability to track the activity of the boat according to the possibility of applying the trademark
- > The tracking device is also useful for the fisherman because in case of need he can demonstrate the movements of the boat and the position of the equipment at any time, and because it allows you to receive alerts via the app when you are not on the boat (es. low battery, bilge pump, intrusion) (cost ~300 €).

Location: Croatian coastal strip.

Actions: experimentation of submerged artificial reefs to favor the aggregation of fish and thus indirectly favor fishing.

Location: Both coasts.

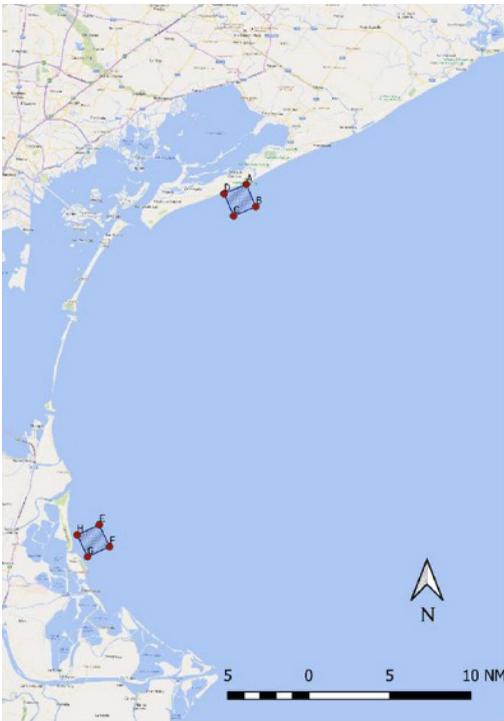
Actions: monitoring with underwater filming and acoustic monitoring to quantify and characterize the presence of fish communities in the areas.



IN-DEPTH CASE STUDY ON TRACKING

Data collection on:

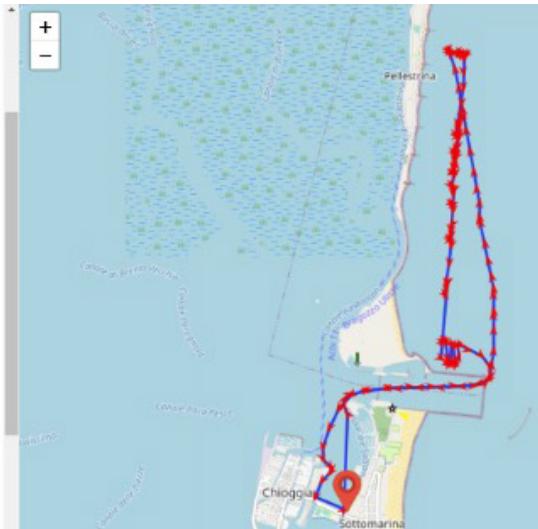
- > Equipments;
- > Catches;
- > Fuel consumption;
- > Duration of fishing trips.



< maggio 2021 >

lu	ma	me	gi	ve	sa	do
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

- Vedetta
- Alessandro T
- Moby Dick
- Festival
- Aquila
- Matteo C



c) PRODUCT ENHANCEMENT ACTIONS

Through:

- > Casa del Pescatore with events for the promotion and administration of local transformed products to the public;
- > Truck food: Alex the truckfish (<https://www.covepa.it/alex-truckfish/>).

3. TO PROMOTE SUSTAINABLE INNOVATION IN THE SMALL-SCALE FISHING SECTOR IN MANAGEMENT AND DECISION-MAKING PROCESSES, THESE ARE THE ACTIONS THAT HAVE BEEN IMPLEMENTED

A more complex objective due to the differences between the two legal systems between the Italian and Croatian Republics, due to the differences in needs and views of the potential members of the associations. So, if initially we had thought of a single cross-border association of small-scale fishing operators, we arrived at two distinct draft statutes supported by a collaboration agreement, therefore

2 national institutions
+
Cooperation agreement

The idea is that the associations are tools for fishermen and therefore imagined by the fishermen themselves.

THE OUTPUTS OF THE PROJECT

The Adrismartfish project has led to important and concrete results:

- A comprehensive body of knowledge on the current state of SSF in GSA17 to drive policymakers and operators, and to give scientific soundness to the project itself;
- Market and product innovation for the SSF sector, based on knowledge-transfer, cocreation, resilience and sustainability; this will benefit also the coastal environment and consumers;
- Management innovation in the SSF sector, by both empowering its self-management capabilities and streamlining regulations; this will benefit also environmental resources and other users of same coastal areas;

- Some concrete actions:

> by **Co.Ve.Pa** (consorzio veneto pesca artigianale)

Truckfood for the administration of fish products to the public. To discover more about ALEX il Truckfish go on the website <https://www.covepa.it/alex-truckfish/>



> by **Consorzio Ittico Veneziano**

Casa del Pescatore completely renovated in the rooms and equipment and turned into a place for the trade of fish products, for the creation of events, in general a point of reference for enhancing the theme of artisanal fishing. Specifically, the structure is equipped with refrigerating room, ice machine, a kitchen, fish sales counter, patio for fish tourism, offices.



THE FUTURE VISION

1. THE SHARED MANAGEMENT SYSTEM

Establishment (by February 2022) of two associations formed by small-scale fishing enterprises, consortia, professional organizations (one Croatian and one Italian) that will help to enhance and disseminate artisanal fishing and the caught product and collaborate with the fish stock for the common management of the resource fishery of the upper Adriatic.

The associations will also discuss with other consortia and will have the task of creating management plans.

2. THE BRAND

Establishment of the European product recognition brand owned by the Veneto Region. The Veneto Region will be able to grant it to companies that reflect all the characteristics of small-scale coastal fishing and who undertake to respect the protocol defined by the scientific partners with the aim of maximizing sustainability, and will also be shared with the Croatian partnership, it will be an added value for the recognition of the product and the type of fishing.

The brand will be a strong point of the project and will become the emblem of sustainable fishing, respectful of the environment, a fishery that offers quality products to consumers. This latter aspect is also recognized as a strength by the European community. The brand can make the story behind that product visible to consumers and thus also make them willing to spend more on that product.

3. MSC CERTIFICATION

Artisanal fishing certification with MSC (Marine Stewardship Council) – international brand that certifies sustainable fishing. MSC is synonymous with fishing that respects the fish stocks, the fishing quotas are defined on the basis of scientific recommendations, aimed at minimizing the impact on the marine environment, the requirements imposed on fisheries management and data collection are rigorous, the controls are also carried out on the quality of the

structures and the processes of involving the partners. MSC is based on three criteria:

- 1 Low impact on the community hosting the target species**
- 2 Presence of a multi-annual management plan**
- 3 Resource evaluation plan**

4. STRATEGIES AND NEW CHALLENGES

- > **New funds from the European community** with the National Operational Program FEAMPA 2021-2027 (European Fund for Maritime Affairs, Fisheries and Aquaculture) with a particular interest in small-scale coastal fishing.
- > To raise awareness about small-scale artisanal fishing, thus **working on communication**
- > Particular vision: **the expectations for the future for the Italian fishermen.** Awareness of the consumption of fresh fish among the population, with also projects in the school canteen. To have an institutionalized leader who can guide them in policies that are favorable to them, according to the specifics of their own land, defined as “very variable” even after a few kilometers and the development of tourism.

