Project co-financed by the European Regional Development Fund

2.1.1. PRELIMINARY IDENTIFICATION OF CRITICAL ISSUES

CONFISH

– Connectivity among Mediterranean fishery stakeholders and scientist resolves connectivity of fishery populations –

WP 2 – COMMUNICATION

ACTIVITY 2.1 - GATHER KEY INFORMATION ON EMPIRICAL KNOWLEDGE ABOUT MARINE ECOSYSTEM

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CONTENTS

INTRODUCTION

This report presents the preliminary identification of critical issues developed under the activity "2.1. Gather key information from common and empirical knowledge among the community" under WP2.

Critical issues result from placing focused attention on what matters for the community and its relationships with fishery activities. It reflects the communities perceptions collected through field work including on-site street events, as open sessions (with interviews and dialogues) and work sessions with the communities and relevant stakeholders.

The following chapters include the methodology applied to achieve the objectives mentioned above and the results obtained in each of the three case studies.

METHODOLOGY

Table 1 presents the suite of exercises conducted with the communities, its objectives and key steps developed during the on-the-site engagement and the two work sessions (one for key stakeholders and another for the whole community) in two of the three case studies included in the project (Komiža, Croatia; Patti, Italy). In Palamós (Spanish case study), the methodology was adapted at the request of the Spanish partner. The street event open to the community and the key stakeholders meeting were conducted, but not the community meeting for mapping conflicts and developing the vision exercise. We have attempted to do a proxy to the mapping of conflicts in the street event, but the vision exercise was not done at all in Palamós. According to the Spanish partner, fishery development is different in Palamós in comparison to the other study areas, the argument being that given the active engagement of fisherman in local fishery policies, and the ongoing actions that promote the red shrimp (museum, gastronomic events and tourism fishery), it would be irrelevant to have more community engagement. The visual expression exercise conducted with stakeholders in Komiža and in Patti was also not done in Palamós.

Table 1 Work sessions development

WORK SESSION	EXERCISE	OBJECTIVE	METHODOLOGY - KEY STEPS
Key stakeholders meeting	Visual expression	Get participants' perceptions on the importance of fishery for the community.	Supported by a Visual Chart (Annex I) and structured in five themes, participants express visually (drawing an icon, a graphic, a map, using words but not sentences), to answer the question: What does fishery represent to the community?
	Value chain	• Get a common understanding on key drivers and challenges that influence or affect fishery	Based on dialogues, and using the schemes represented in Annex II identify major drivers and challenges that influence or affect fishery and that enable building the fishery value chain
On–site engagement	Street event	• Inform the general public and policy makers about the project and its objectives; • Invite people to participate in the community work session • Collect opinions about the relationship between the community and the fishery sector.	Pedestrians passing by were invited to respond to two questions: 1. "Is fishery important for the community?" 2. "What does fishery represents to the community?"
Community meeting	Mapping fishery and its surroundings	Understand the geographical context of fishery in terms of spatial	1. Identify from the given list of activities the ones that they consider to impact (positively or negatively) the fishery resources. 2. Map the activities in a google

		conflicts and synergies ("which" activities and "where") that affect the fishery resources	image. 3. Identify those that have positive and negative impacts (synergies and conflicts).
	Vision	Imagine the future of fisheries and the relationship with the community	1. Identify 1 or 2 key ideas on significant events concerning their community life and the fisheries activities in the past 2. Identify 1 or 2 key ideas on how the fishery relationship with the community is at present. 3. Identify the vision: 1 or 2 key ideas of what can be imagined to exist in 50 years. 4. Filling in the gap: 1 or 2 key ideas on what should happen between the imagined future and the present as it is.

Key stakeholders were selected for the stakeholders meeting (see deliverable 2.1.1. Governance framework) and invited through e-mail (stakeholders invitation) followed by a phone call a few days later.

For the street event and the community work sessions, invitations were made in an open way through posters and flyers disseminated in local language in strategic places for the community (e.g. associations, football clubs, fish ports, and other places where people usually gather) (Annex III). The team arrived one day before the sessions to organize materials, meeting spaces, and for fine-tuning the agenda.

RESULTS

KOMIŽA, CROATIAN CASE STUDY

INTRODUCTION

The three work sessions took place in different spaces and included diverse participants. The on-site engagement was held on 27th March 2017 at Komiža main square from 10:00 to 12:00 am and was opened to all the community. The key stakeholder's meeting was held on 28th March 2017 from 9:30 to 12.00 am and included three participants (see deliverable 2.1.1. Governance framework). Finally, "the mapping fishery and its surroundings" and "the vision" exercises took place on 28th March 2017 at 5:00pm. They lasted altogether 3 hours with a coffee break of 15 min between exercises and were attended by ten participants from the community of Komiža.

ON-THE-SITE ENGAGEMENT – IMPORTANCE OF FISHERY

The street event included the explanation of the project to the community, and the collection of peoples' perceptions through gathering their answers to the following questions: a) "is fishery important for Komiža?" and b) "how can we improve fishery in Komiža in the face of world challenges?"
The main conclusion was that that fishery is indeed an important activity in Komiža (Figure 1).

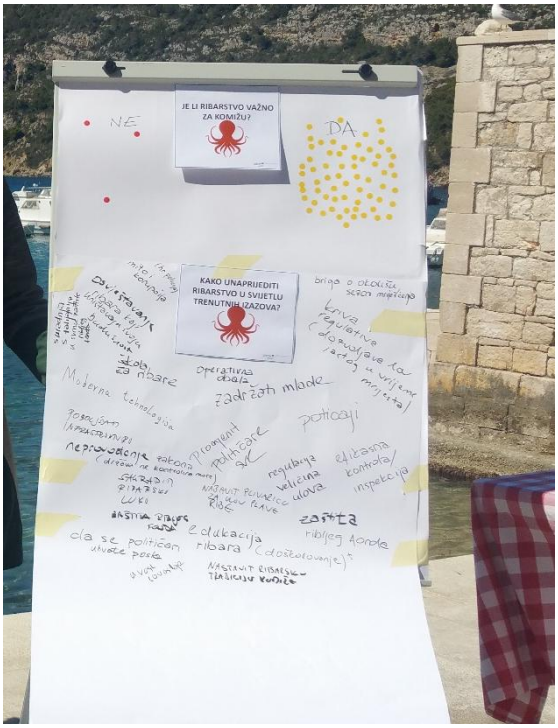


Figure 1 Results outdoor session, Komiža

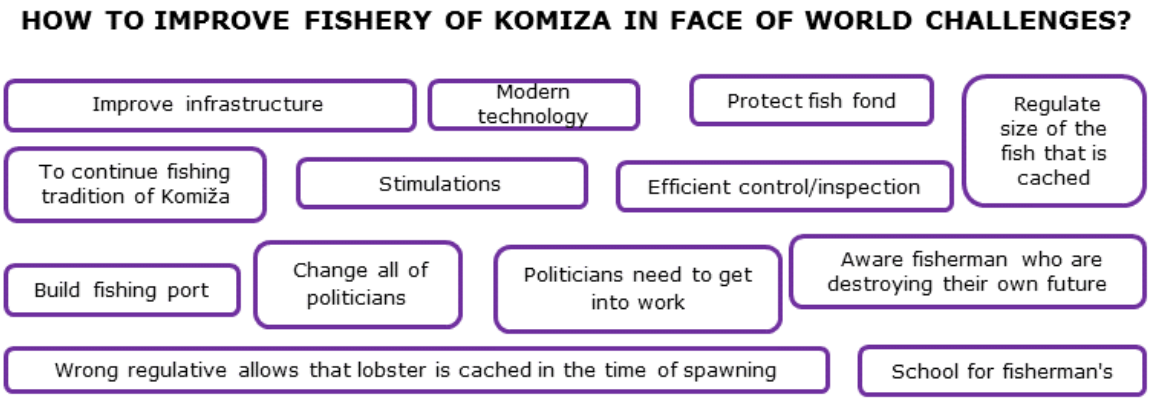


Figure 2 Results of the street event, Komiža – How can we improve fishery in Komiža in face of world challenges?

VISUAL EXPRESSION EXERCISE

The participants draw, or wrote, their perception on fishery in Komiža community and did a brief explanation of their representations.

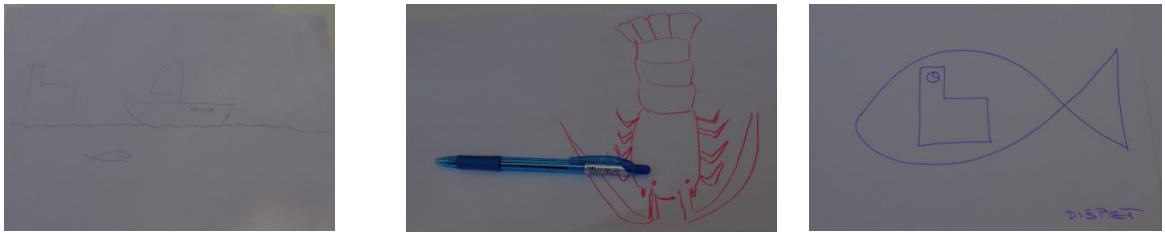


Figure 3 Representations of the fishery for the community – Komiža

The key results of this exercise are the following:

- Komiža fisheries has the following elements: sardines, boats and community;
- Fish is the basis of economy in Komiža. Komiža was built under the fishery environment;
- There is capacity to give value and appreciate the fisheries;
- Fishermen should organise themselves and accept the common regulations – even though they normally cooperate;
- There is the possibility to obtain EU funds to enhance the fisheries;
- Lack of knowledge on fishery and on EU procedures;
- Lack of trust on decision makers, most of the decisions are made in Zagreb far from the community context;
- If there is no fisherman representation in Zagreb, nothing will happen or improve in Komiža;
- The fishery association did not help with legal advice; no one wants to take their side, even though they are an association;
- There is too much bureaucracy to the catches and sales;
- For the catches, technology needs to change to preserve the species;
- If tourism in Komiža improve, it would change the dynamics;
- There were 27 factories -> now there are only two. ’25 died’.

VALUE CHAIN – CHALLENGES/DRIVERS

The participants identified the following drivers that represent issues for the community:

- Fishing tools prohibited after entering the EU;
- Compensation for boat destruction (by EU);
- Availability of funds;

- LAG-OVI Connect stakeholders and create local strategies;
- Exclusive economic zone (not existent);
- Small scale coastal fishery;
- Funds for limited period of fishery.
- Restriction of fishery diversity of activities in fishery
- War job lost - increase of fisherman

MAPPING FISHERY AND ITS SURROUNDINGS

The participants in this exercise identified the following activities affecting the fishery resources:

- Fishing (plastic waste)
- Diving sports (hunt)
- Fishing with selective tools
- Spear gun fishing (without control)
- Overfishing (without control)
- Lobster season during the maturation phase (breeding)
- Fishing tourism
- Restriction of nautical tourism
- Anchoring (destruction of sea grass)
- Tourism
- Waste dump in Komiža

Except for tourism and fishing with selective tools all activities were considered to have negative impacts on the fishery resources. Figure 4 shows the result of the mapping activities.

Figure 4 Komiža Map of activities that affect the fishery resources

VISION EXERCISE

The vision exercise showed that participants consider the past very positive namely because it represents a system with more resources (rich in species), less competitive and less fees (Figure 5). Although nowadays there is more technology, which is positive, this enabled the increase in catches with more damages of the natural resources. The desired future of the fishery community in Komiža includes the attraction of investment (industry), more youth living in the island trough job creation and transfer of local knowledge. As described, Figure 5 in purple colour shows the highlights between what has happen in the past, change in the present and what are the challenges for the future.

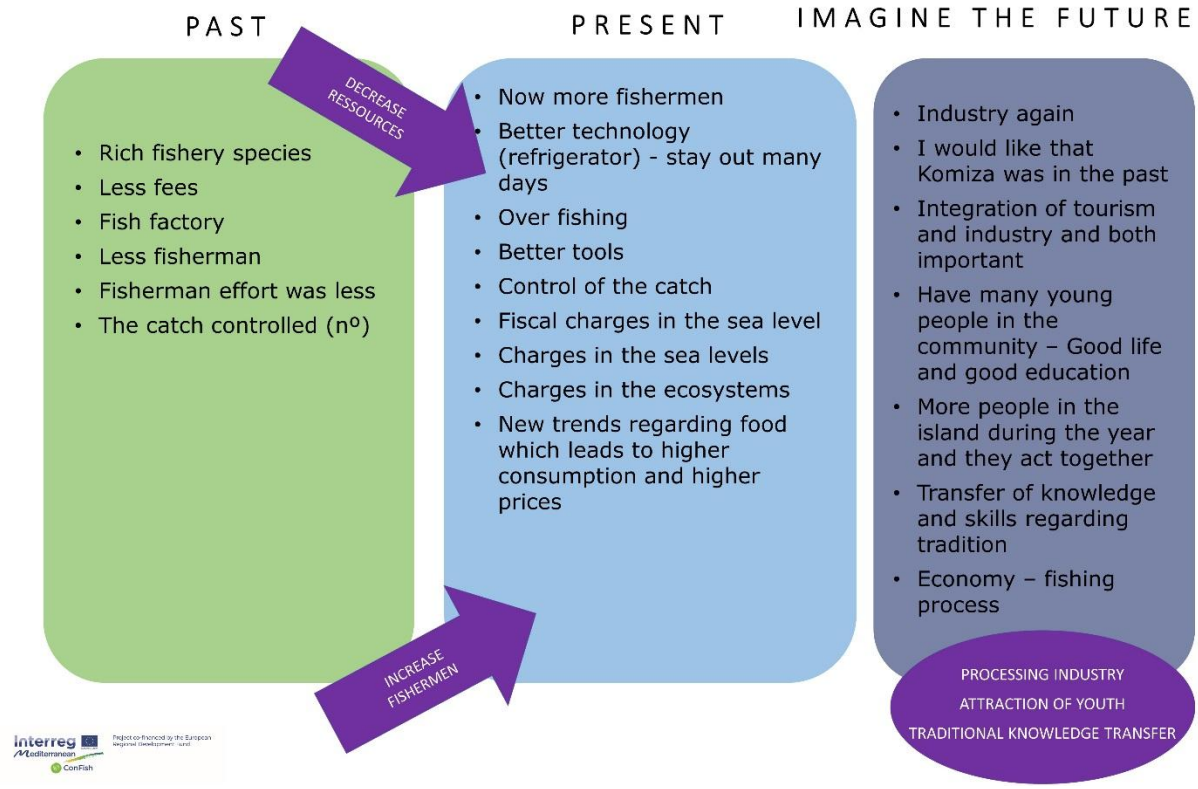


Figure 5 Komiža, Community Findings

Figure 6 represents the way to get into Komižas desired future. Concerning society and culture future actions should be concentration in building trust between the community, decision makers and politicians. As for technology, knowledge, economy and market it is important to attracted small scale processing industry associated to transformation of innovative fishery products. Regarding energy and resources action points out for the protection of ecosystems trough the creation of special zones.

Figure 6 Komiža, Summary of community milestones: action needed

SUMMARY RESULTS

- Need for investment in products transformation - processing industry
- Reform local scale legislation – control over fishing, illegal and sports fishery
- Build infrastructure – investment in new port
- Identity and promotion of traditional knowledge transfer to maintain culture
- Disseminate uniqueness (of product for gastronomy, which adds value) - attract interest
- Promote education - people, children and fisherman about limitation and potential of the fishery resources
- Increase transparency at decision-making level (political, rules, decisions)

PATTI, ITALIAN CASE STUDY

INTRODUCTION

The three exercises took place in different sites and included diverse participants. The visual expression exercise was done in the key stakeholder's meeting on 12th May 2017, just before the value chain exercise, from 9:30 to 10:30 am and included ten participants. The on-site engagement took place in the same day, at Patti beach front, from 5:00 pm to 7:00 pm and was opened to all the community.

Figure 7 On-site engagement – Patti

Finally "the mapping fishery and its surroundings", as well as "the vision exercise", were held on 13th May 2017 from 10:00 am to 1pm, at Patti's municipal auditorium. It lasted 3:00 hours with a coffee break of 15min between exercises and it included twenty participants from the community of Patti.

VISUAL EXPRESSION EXERCISE

The participants draw or wrote their perception on the fishery in Patti community and did a brief explanation of their representations (Figure 8).

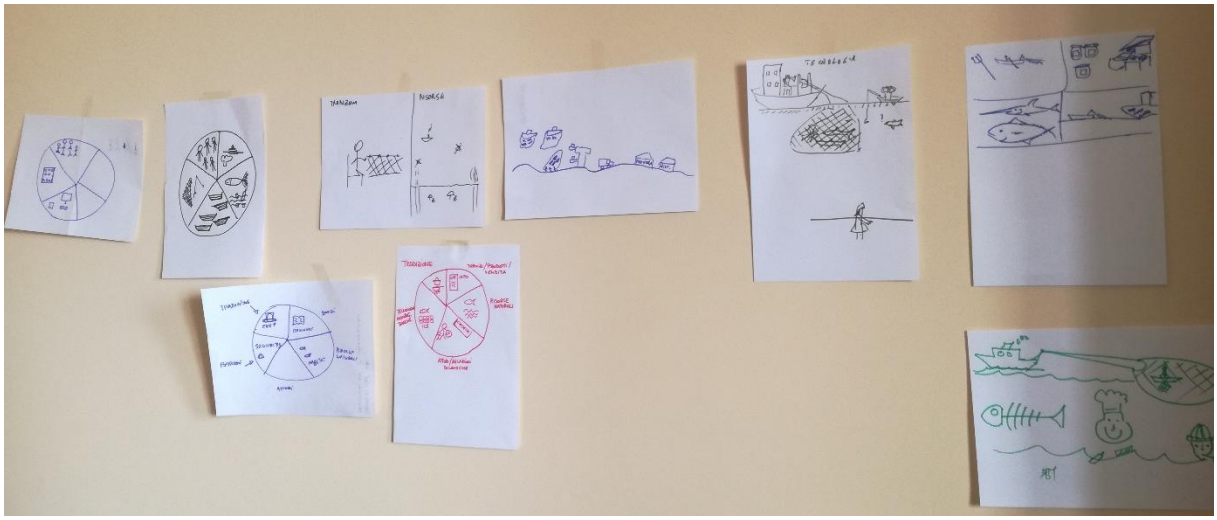


Figure 8 Representations of the fishery for the community - Patti

The key results of this exercise are the following:

- Importance of correct management of environment and resources (against pollution);
- Link between fishing products, food and culinary tradition and food quality;
- Dissemination and communication (nutritional value of fishing products; habits and food safety);
- Important aspects of small-scale artisanal fishing (competition; family, tradition; as an added value for fishing products);
- Direct sale and transformation of fishing products;
- New technology (computer, tablet) as opportunity to improve the fishery chain.

VALUE CHAIN – CHALLENGES/DRIVERS

The participants identified the following drivers that represent issues for the community:

- Economy
- Regulations
- Natural resources
- Pollution
- Aquaculture

- Administration
- Feeding habits
- Climate
- Culture
- Safety
- Knowledge

ON-THE-SITE ENGAGEMENT – IMPORTANCE OF FISHERY

The street event took place on 12 May 2017 at the beach in Patti next to Bar Apollo from 5:00 to 7.00 pm. In this open session, besides explaining the project to the community, we invited people to answer the following questions: "Is fishery important for Patti?" and "How can we improve fishery in Patti?"
Thirty-six people from the community participated in the event, of different ages and genders. All participants except one answered that fishery is indeed an important activity in Patti (Figure 9). One participant referred that fishing is not important in Patti because fishing activities were responsible for pollution on the beach, which may create a conflict with tourism.

Figure 9 Results outdoor session, Patti

Regarding the second question, the three most mentioned measures (highlighted in blue in Figure 10) are related to control of illegal fishery and to the need to create a port and rules for artisanal fishery. People expressed concerns about

the organization and differentiation of space for beaches. Another important aspect reflected in the outdoor results is the necessity to adapt the rules to the demands of local artisanal fishing. The pollution in the waters and on the beaches was also mentioned. Participants brought up the absence of stores to buy fishing material in Patti.

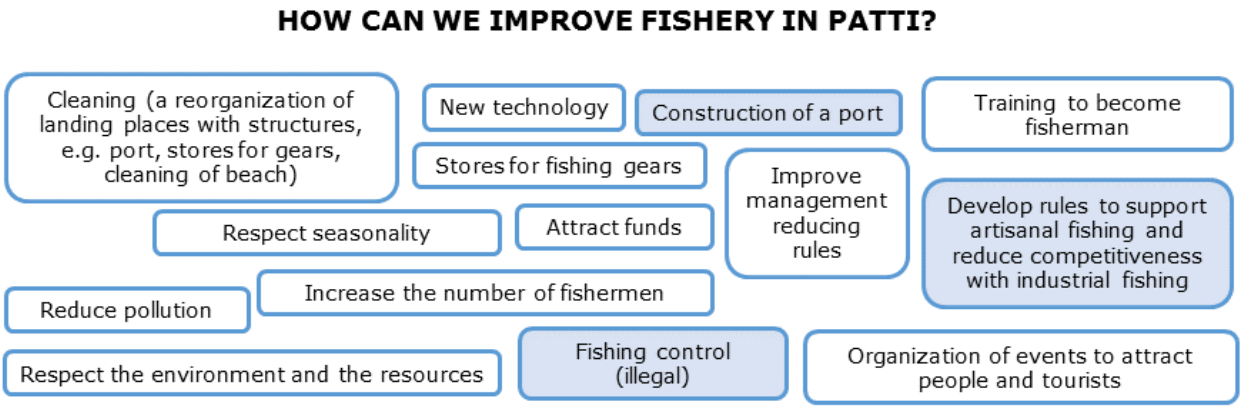


Figure 10 Results outdoor session, Patti – How can we improve fishery in Patti?

MAPPING FISHERY AND ITS SURROUNDINGS

According to the participants in the community meeting, the following activities affect the fishery resources:

- Artisanal fishing (trammel nets, gillnets, FADs, longlines, small surrounding nets, hook and lines)
- Other professional fishing activities (lampara nets, bottom trawl, surrounding nets, seines)
- Recreational fishing
- Illegal fishing
- Scuba diving
- Tourism
- Aquaculture
- Maritime traffic (touristic vessels for Aeolian Islands connections; yachting)
- Discharges (water, waste, drainage, agriculture pesticides, purifier, etc.)
- Incomplete infrastructures (port)

- Fields for anchoring

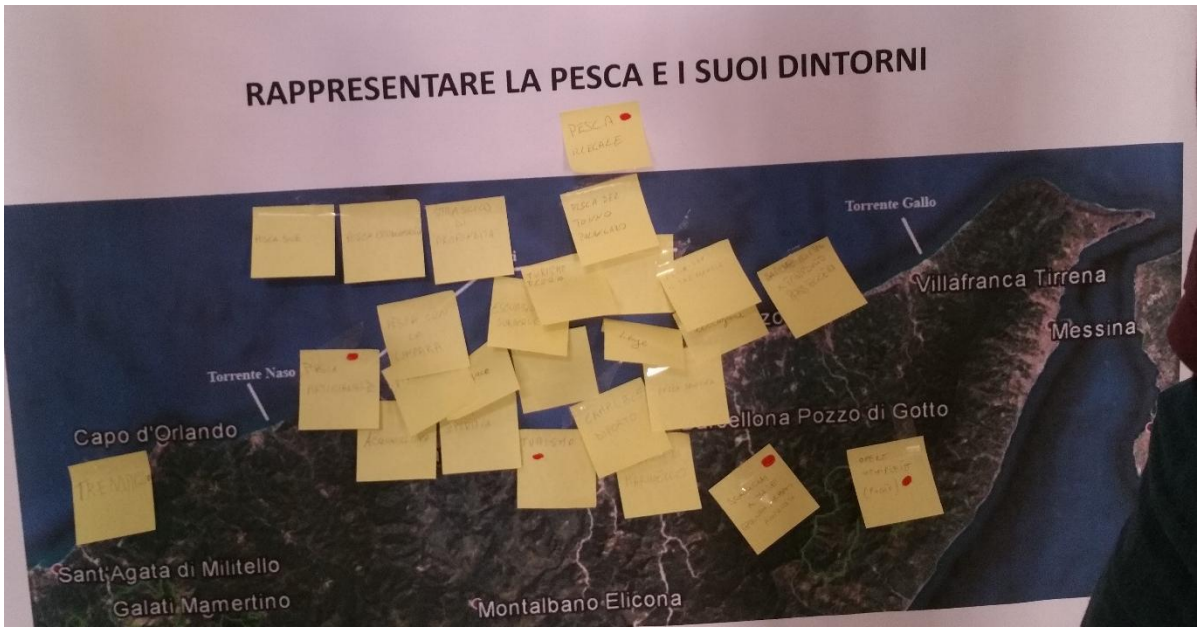


Figure 11 Patti, Map of activities that affect the fishery resources

From the identified activities, illegal fishing, artisanal fishing, tourism, incomplete infrastructures and illegal discharges were considered to cause impacts in fishery resources.

VISION EXERCISE

Similar to Komiža's case study, the vision exercise in Patti showed a nostalgic feeling about the past that represents the good things that the community lost. Participants point towards a context without regulations, less competition in the fishing markets and abundance of resources (Figure 12). They consider the present to have an excessive number of rules, more pollution, more technological means that increases the catches but less control of illegal fishery, which is negative for the fishery sector. Nevertheless the creation of a management body (COGEPA) and a local management plan, as well as the collaboration with research, are considered to be very positive outcomes of the present context (Figure 12). The desired future of the fishery community in Patti includes a) shared rules and adaptation of European legislation to the local context, b) less illegal fishing (practised by non-professional fishermen) and c) less pollution of marine waters. Figure 12 in purple colour shows the highlights among what has happen in the past, change in the present and challenges for the future.

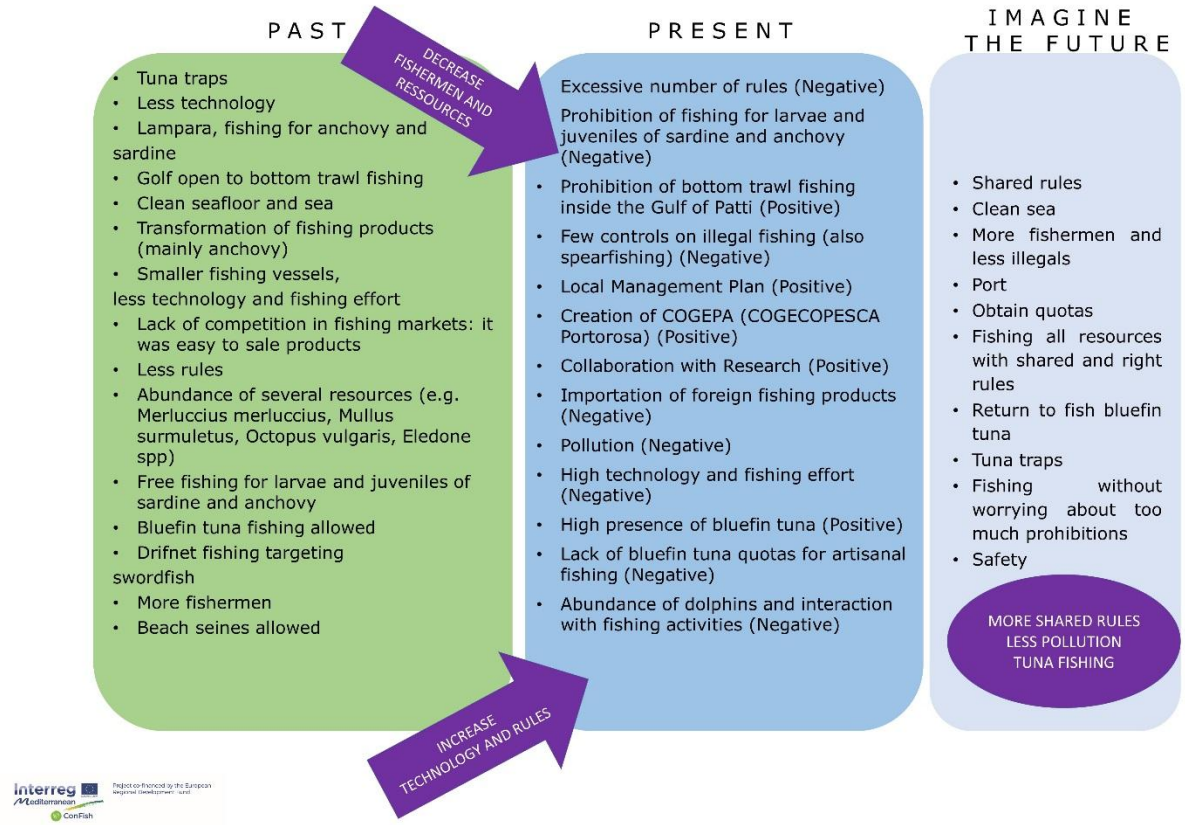


Figure 12 Patti, Community Findings

Figure 10 represents the way to get into Patti desired future. Concerning society and culture, future actions should aim at restoring fisherman's image in the community through the dissemination of fishery products and including fishermen in decision making and research. As for technology, efforts should be done to improve fishing gears and knowledge on species and effects of climate change, which overall can support the change of present rules. On economy and market, the action should aim at regulating artisanal and industrial fishery at national level in order to reduce its competitiveness. The control on illegal fishery should also be increased. Regarding energy and resources, the action points out again for the attention given to the effects of climate change on the abundance of species and to the introduction of non-indigenous species which can compete with the indigenous ones. Water pollution (also including marine litter) is another aspect to deal with in the near future of Patti's community.

Figure 13 Patti, Summary of community milestones: action needed

SUMMARY RESULTS

- Education - fisherman, consumer, tourism
- Contextualised rules (artisanal, industrial and illegal fishing)
- Legislate according to resources available (e.g. Bluefin tuna)
- Support artisanal fishing
- Reduce gap between body of rulers (politicians) and fishery activity and its needs
- Accountability of fisherman – promote bottom up approach
- Awareness of exigencies of market (consumers) and governance.
- Infrastructures and tech investment (funds)
- Environment protection - decline in fishing activity, resources and water pollution

PALAMÓS, SPANISH CASE STUDY

INTRODUCTION

In the Spanish case study, as mentioned in the Methodology chapter, only two exercises were developed: the on-site engagement, during which the importance of fishery and the mapping fishery and its surroundings exercises were developed. Both exercises took place on the 25th and 26th May 2017 next to the fish market in Palamós from 5:00 pm to 7:00 pm and was open to all the community of Palamós and tourists passing by (Figure 14).

Figure 14 On-site engagement – Palamós

ON-THE-SITE ENGAGEMENT – IMPORTANCE OF FISHERY

During the street event, besides explaining the project, we invited people to answer to the following questions: "What are the best practices related to fishery in Palamós?" and "What are the great challenges faced by the fishery sector in Palamós?"

Regarding the first question results (Figure 15), most of the participants mentioned that the best practices in Palamós are related to the red shrimp and its ongoing management plan (in orange in Figure 15). This instrument was even

known to a group of French tourists. Participants referred the good organization of the market, the auction and the direct sale of fish. One participant recognized the fishery activity as an essential activity for the economy of Palamós.

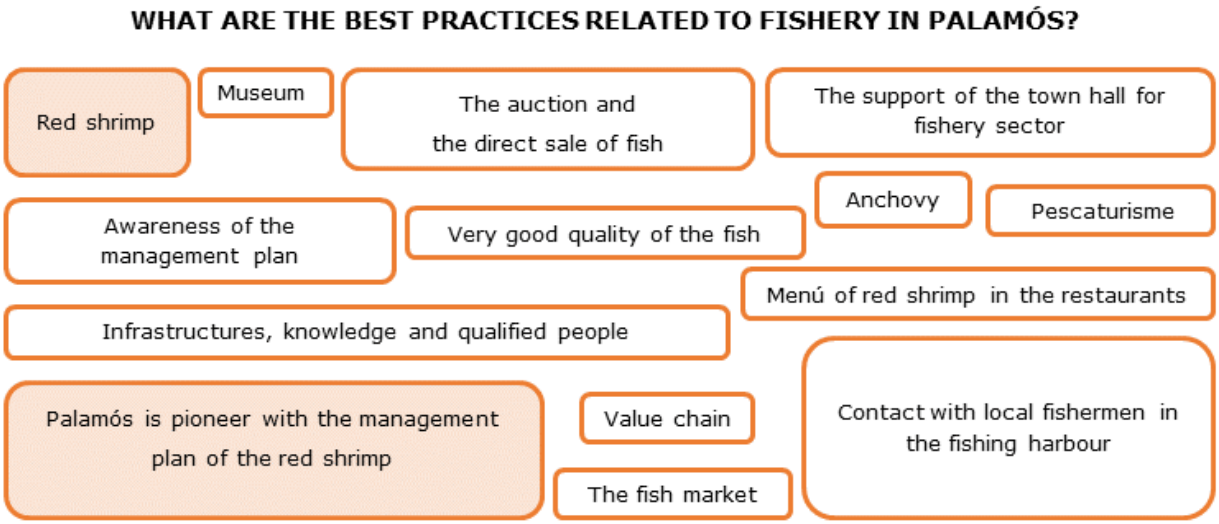


Figure 15 Results outdoor session, Palamós - What are the best practices related to fishery in Palamós?

When asked about the future challenges that Palamós faces regarding fisheries, most participants showed concerns about the regeneration of biological resources, pointing out the small sizes of fish in the market. Participants suggested several measures to face this issue, such as the creation of protected areas, prices increases and the reinforcement of the management plan to other species to tackle the problem of scarcity of resources. In addition, participants mentioned sea pollution and some considered important to value other species, applying measures such as certification as it was done for the red shrimp (Figure 16).

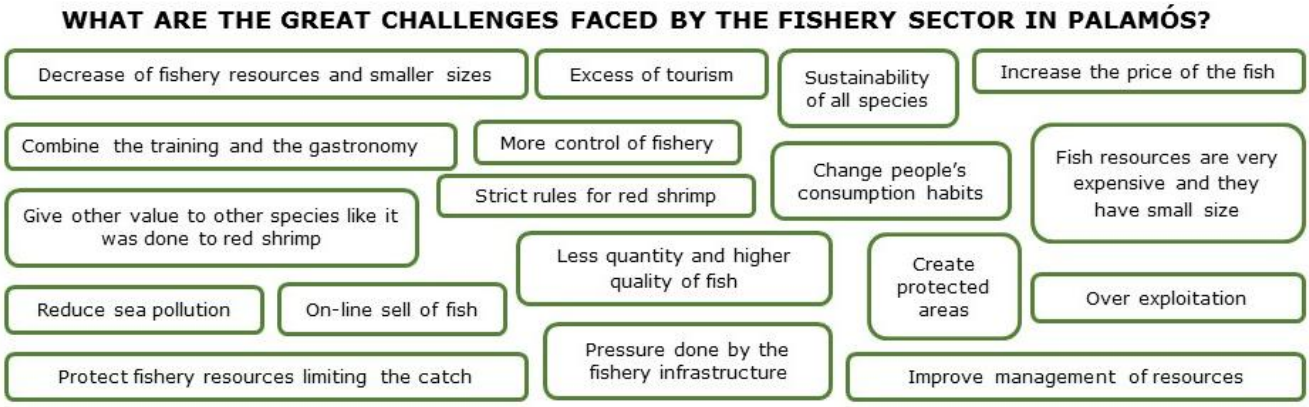


Figure 16 Results outdoor session, Palamós - What are the great challenges faced by the fishery sector in Palamós?

MAPPING FISHERY AND ITS SURROUNDINGS

According to participants the following activities affect the fishery resources:

- Tourism
- Recreational fishing
- Sea transportation
- Discharges
- Intense harvesting
- Trading and processing activities
- Agriculture and forestry activities
- Hospitality
- Industry

From the identified activities (Figure 17) intense harvesting and discharges were considered to have negative impacts on the fishery resources.

Figure 17 Map of activities that affect the fishery resources

VALUE CHAIN – CHALLENGES/DRIVERS

The participants identified the following drivers that represent issues for the community:

- Knowledge on the ecosystems and fishery resources
- Management of resources
- Good management at short and long term
- Overexploitation of resources
- Climate change
- Political change
- Votes Crisis
- Economic benefits of fishery
- Money
- Decrease in income / catches
- Fluctuation of fish consumption
- Product quality

SUMMARY OF THE RESULTS

- Education – Change consumers and habits
- Market - explore different ways of selling
- Scarcity of resources – Protect resource increasing its prices
- Communication of uniqueness and quality - sharing good fishery practices and value of the product
- Extent local management of resources – avoid over exploitation of fisheries

CONCLUSIONS

In order to build trust, to stimulate interest and to create awareness towards transformation of the way community looks at fisheries and its species, we organized and developed interactive open sessions and workshops addressing both key stakeholders as well as the community in the three study areas. Outcomes include the mapping of the communities' fisheries systems, relationships dynamics and synergies. This enables us to reach conclusion about the are similarities and differences between the three case studies.

In all three case studies it is acknowledged that resources are limited, as species abundance and individual sizes show a reducing trend.

In Komiža and Patti the target species selected for the genetic studies and purposes of the ConFish project, are not the species considered as target species by the respective communities. This fact justified a reorganization of the exercises in order to obtain a more general view of the socio-ecological system and understand what were the issues regarding fishery in each community. In the end, results pointed out that the main species caught in Komiža are sardines and lobster and that the octopus has a marginal value. In Patti the main concerns of the fishermen community is related to tuna fish catches. For Palamós the target specie is the red shrimp which matches the objectives of the target species chosen by the project for the genetics studies. However, also for Palamós the whole methodology for sessions was reorganized, as described above, following suggestion of the Spanish ConFish partner.

Knowledge and education was another point under discussion in the three sessions. Results show that, in one hand, knowledge from the fisherman is not being passed on to the next generation. This may endanger tradition and promote the loss of heritage, particularly related to the artisanal fisheries in Komiža and in Patti. On the other hand, there is a need to educate consumers to change their habits and enhance the value of local products. This was discussed in all the case studies and with more emphasis in Palamós.

While Palamós has a well-planned harbour and the port next to the fish auction, fish museum and fish market, this is not the case in the other two case studies. In the case of Komiža and Patti there is a need for strengthening the

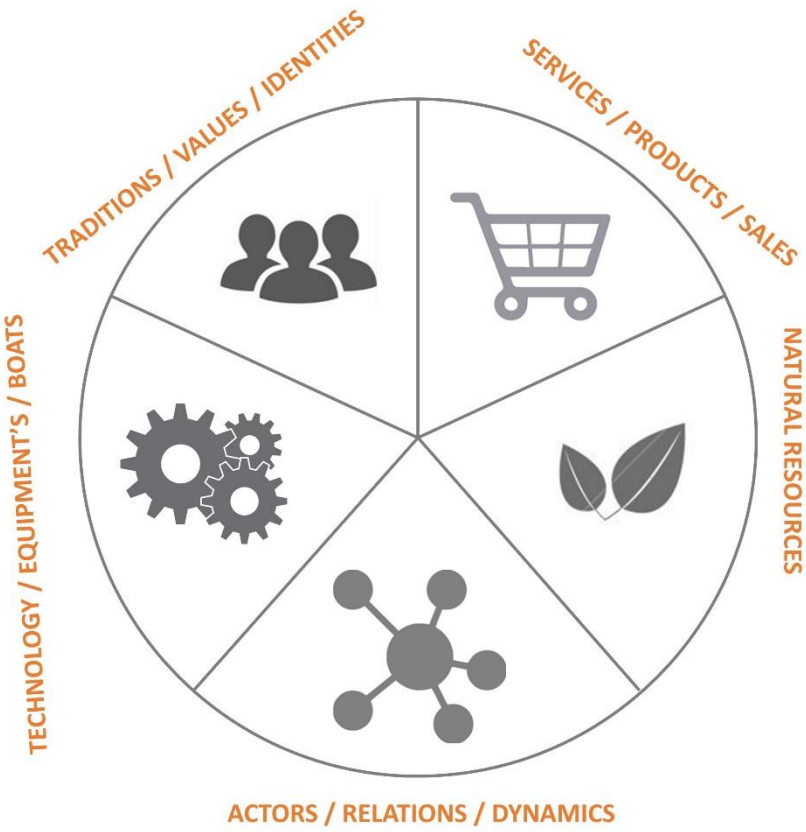
infrastructures (namely building a new port) to support the fishing activity and to avoid a conflict with other ongoing activities, mostly tourism.

Regarding the rules, there has been a tendency to create more rules in all three case studies throughout time. From the three case studies, both Patti and Palamós have local management plans while in Komiža the existing rules are still only at an European and National scale, and therefore considered inappropriate to address Komiža's reality. This situation enables illegal fishery and over exploitation, since control is inefficient. In Patti, the local management plan represents an advance of legislation at the local scale. It regulates fishery activities in order to protect the environment and resource availability. Even so, conflicts between artisanal and industrial fishery regulated by European and National laws represent an important issue in the Italian case study. In both cases, it is important to reduce the gap between the body of rulers (politicians) and fishery activity and its needs; for example, through the consideration of fisherman in decision making processes. In Palamós the situation is quite different: local regulation on red shrimp catches is well established, although according to our results the effort to regulate shrimp catches should be increased for other species as well.

On the subject of diversification of fishing related products available in the market, Palamós has been doing a great effort to promote the certificate label of the red shrimp, while Komiža and Patti have lack of investment in what concerns the transformation of fish. Paradoxically, in both cases, fishery in this communities has been a rather success story in the past.

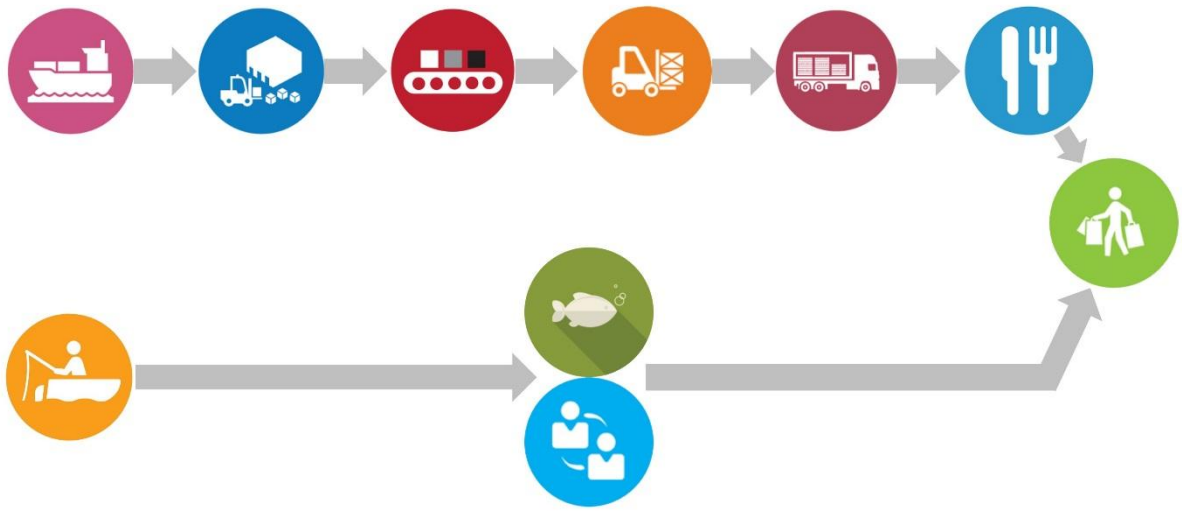
ANNEX I

Visual Chart



ANNEX II

Supply chain



ANNEX III

POSTER/FLYER PATTI COMMUNITY

ANNEX IV

TEAM MEMBERS

ConFish members	**Case study**		
	Komiža, Croatia	**Milazzo/Patti, Italy**	**Palamós, Spain**
IST	Maria Partidário		
	Rute Cegonho		
	Margarida Monteiro		
SUNCE	Jakša Božanić		
	Matea Špika		
CSIC	Guiomar Rotllant		Guiomar Rotllant
			Joan Baptista
			Marta Albo
ISPRA		Sasa Raicevich	
		Pietro Battaglia	
		Teresa Romeo	