

TECHERA project

“HOW TO FOSTER THE SUSTAINABLE DEVELOPMENT OF FISHERIES AND AQUACULTURE?”

CO-DESIGN WORKSHOP WITH THE ACTORS
OF THE BLUE ECONOMY OF THE ADRIATIC

FERRARA, 18th November 2022

REPORT

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| Project Acronym | TECHERA |
| Project ID Number | 10417714 |
| Project Title | A new technology era in the Adriatic Sea – Big data sharing and analytics for a circular sea economy |
| Priority Axis | Blue Innovation |
| Specific objective | 1.1 - Enhance the framework conditions for innovation in the relevant sectors of the blue economy within the cooperation area |
| Work Package Number | 3 |
| Work Package Title | Clustering thematic activities |
| Activity Number | 3.2 |
| Activity Title | Contributions to the next programming period |
| Partner in Charge | PP1 – Agency Marche Agriculture and Fisheries |
| Partners involved | ALL |
| Status | Final |
| Distribution | Public |
| Partnership: | |



MARCHE Agricoltura Pesca
Agenzia per l'innovazione nel settore agroalimentare e della pesca



VENETO AGRICOLTURA



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The meeting

How to foster the sustainable development of fisheries and aquaculture?

This is the question that guided the co-design workshop with the actors of the Adriatic blue economy. The meeting was organized with the aim of involving the players of the fishery and aquaculture in the Adriatic in identifying and sharing new ideas and actions to generate sustainable innovation in the context of the blue economy.

The programme

| | |
|-------|--|
| 9.15 | Welcoming and registration of participants |
| 9.30 | <p>Introduction to the workshop sessions Introduction to the workshop and expected outcomes (Francesca Perretta- Marche Agency Agriculture Fisheries, Gerardo de Luzenberger - Genius Loci) Presentation of the TECHERA Project (Luca De Marchi - Alma Mater Studiorum - University of Bologna) Brief introduction to each session by the Project Partners (Simone Libralato - National Institute of Oceanography and Experimental Geophysics, Luca Mulazzani - Alma Mater Studiorum - University of Bologna, Ike Olivotto - University Politecnica delle Marche) and choice of sessions.</p> |
| 10.30 | Working groups parallel sessions |
| 12.30 | <p>Results/poster session (Gerardo de Luzenberger - Genius Loci) Session 1 - Fisheries management and governance. Ideas and proposals on common management and governance of Adriatic fisheries: Sustainable exploitation of Adriatic Sea resources, reduction of conflicts between different actors for the use of the sea, development of "blue" skills and competencies. Opening remarks: Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Alma Mater Studiorum di Bologna</p> <p>Session 2 - Innovation and diversification of fisheries. Ideas and proposals on cutting-edge technologies for process optimization, value addition to seafood products, development of circular models and recycling solutions along the seafood supply chain. Opening remarks: Veneto Agricoltura, Alma Mater Studiorum - University of Bologna</p> <p>Session 3 - Aquaculture: management and innovation. Ideas and proposals on smart farming practices, pollution reduction, development of circular models and solutions for recycling and reuse along the supply chain, building "blue" skills and competencies. Opening remarks: Università Politecnica delle Marche, Agenzia Marche Agricoltura Pesca, Cooperativa MARE</p> |
| 13.15 | Conclusions (Luca De Marchi - Alma Mater Studiorum - Università di Bologna, Cristina Frittelloni - Agenzia Marche Agricoltura Pesca) |
| 13.30 | End of the work |

Session 1 - Fisheries management and governance.

The session was introduced by Simone Libralato and Luca De Marchi following the outline below.



Interreg Italy - Croatia TECHERA

TECHERA
Nuove soluzioni per il Mare Adriatico nell'Era Tecnologica
Condivisione di Big data e approcci analitici per l'economia circolare legata al mare

SESSIONE 1 GESTIONE E GOVERNANCE DELLA PESCA

IDEE E PROPOSTE SU GESTIONE COMUNE E GOVERNANCE DELLA PESCA IN ADRIATICO.

- MISURE TECNICHE E GESTIONALI PER UN PRELIEVO SOSTENIBILE DELLE RISORSE
- AUMENTO DELLA SELETTIVITÀ
- RIDUZIONE DEGLI IMPATTI AL FONDO
- OTTIMIZZAZIONE DELL'ATTIVITÀ DI PESCA
- RIDUZIONE DEI CONFLITTI
- BARRIERE ARTIFICIALI
- FORMAZIONE E NUOVE COMPETENZE
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PROJECT PARTNERS



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What does emerge?

- The potential impact of climate change
- The increasing spread of alien species?
- The conflict between fishing and other uses of the sea (wind energy production, gas extraction, etc.).
- The importance of promoting co-management of fisheries at the Adriatic Sea level, as well as having uniform regulation of fishing activity
- The need to improve the protection of protected areas
- The issue of generational renewal and the entry of young people into the fishing world
- The need to promote training on fishing issues
- The need to intensify relations between research, fisheries, policy makers
- The absence of data on the fishing world
- The regulation of non-commercial fishing

Ideas/points to develop

- Move from managing species to managing the marine space that hosts them
- Shorten the data collection chain
- Involve fishermen as part of mobile and continuous research stations.
- Diversify fisheries activities by moving beyond the concept of fishing tourism
- Replace equipment that destroys the seabed.
- Promote scientific coordination of research in the Adriatic.

The group worked on 4 different project ideas.

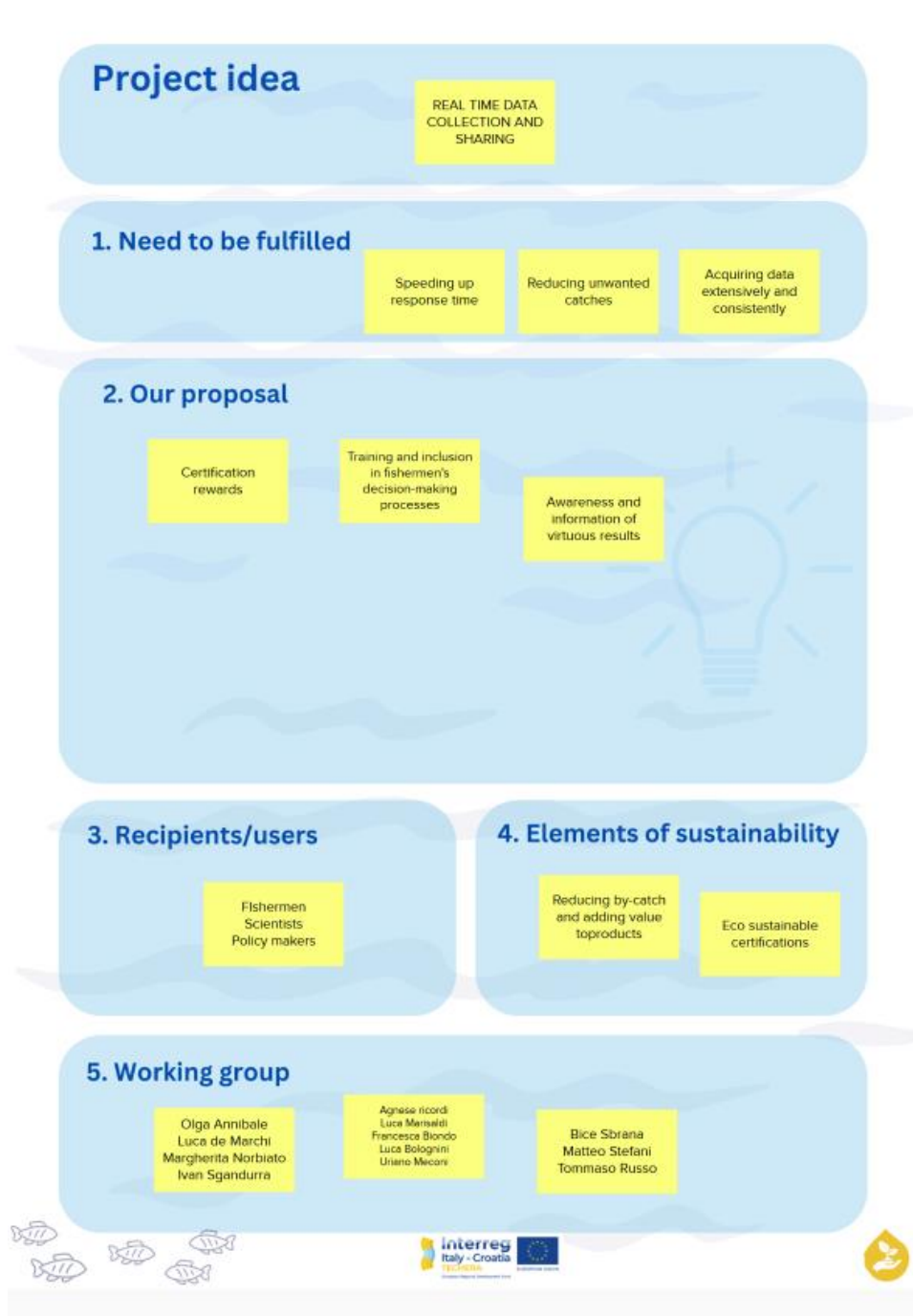
1. ENHANCED APPROACHES IN FISHERIES AND AQUACULTURE SHARED MANAGEMENT

Promote shared management of Adriatic fisheries through integration of policies, regulations and management systems.



2. REAL-TIME DATA COLLECTION AND SHARING

Increase the amount of data available through the active involvement of fishermen in the collection to make the fishery more efficient.



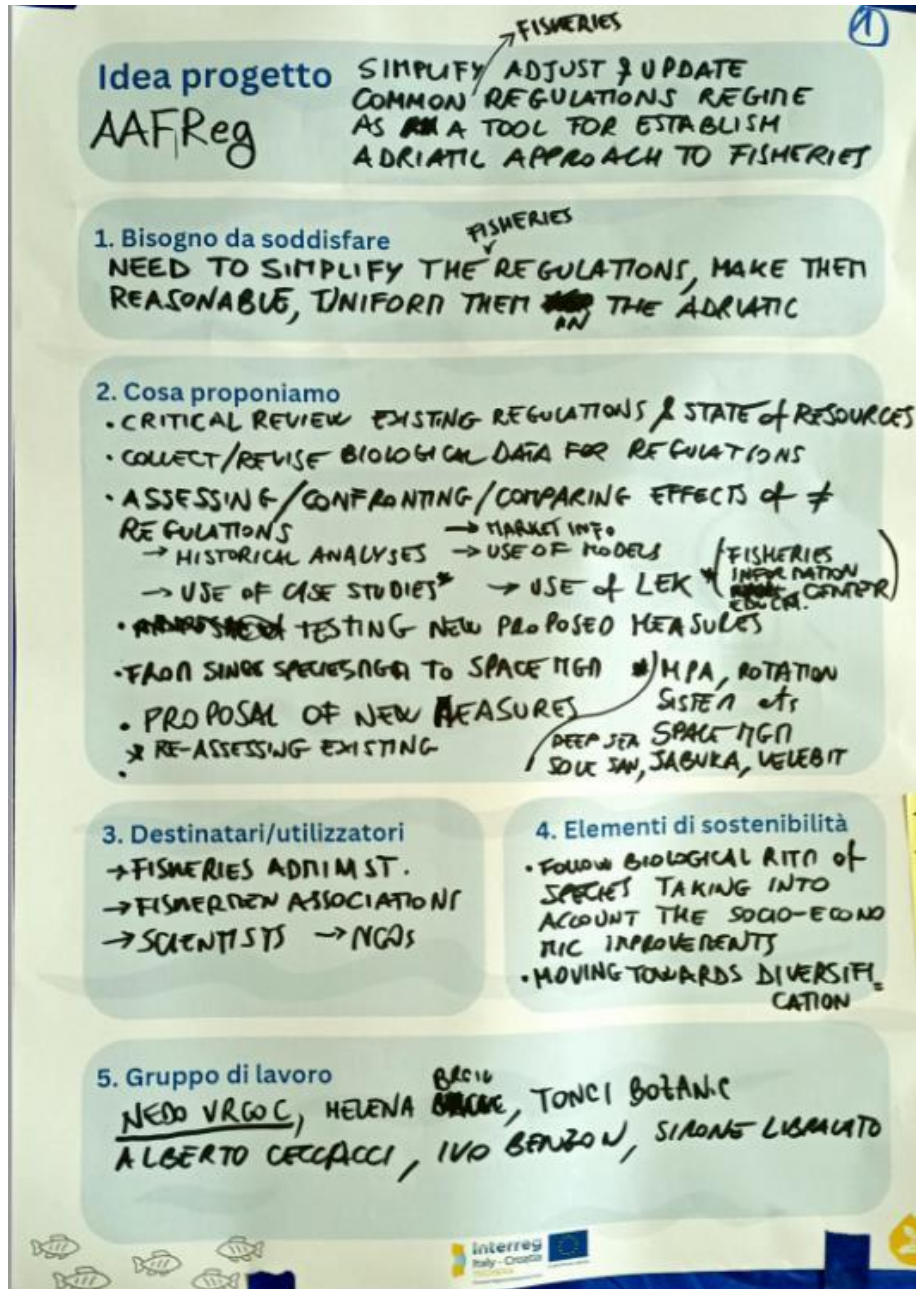
3. ENERGY REEF, CIRCULAR REEF

Reducing conflicts between sea uses by promoting areas for restocking and protection of fish stock and marine biodiversity.



4. AAFREG – TOWARDS AN ADRIATICAL APPROACH TO FISHERIES

To homogenize, standardize, simplify, and update fisheries regulations throughout the Adriatic basin.



Idea progetto AAFReg → FISHERIES
SIMPLIFY, ADJUST & UPDATE COMMON REGULATIONS REGIME AS A TOOL FOR ESTABLISH ADRIATIC APPROACH TO FISHERIES

1. Bisogno da soddisfare → FISHERIES
NEED TO SIMPLIFY THE REGULATIONS, MAKE THEM REASONABLE, UNIFORM THEM ~~IN~~ ^{IN} THE ADRIATIC

2. Cosa proponiamo
 • CRITICAL REVIEW EXISTING REGULATIONS & STATE OF RESOURCES
 • COLLECT/REVISE BIOLOGICAL DATA FOR REGULATIONS
 • ASSESSING/CONFRONTING/COMPARING EFFECTS OF ≠ REGULATIONS
 → HISTORICAL ANALYSES → MARKET INFO → USE OF MODELS
 → USE OF CASE STUDIES* → USE OF LEK (FISHERIES INFORMATION CENTER EDUC. CR.)
 • ~~PROPOSAL~~ TESTING NEW PROPOSED MEASURES
 • FROM SINGLE SPECIES NGM TO SPACETIME MPA, ROTATION SYSTEM OF DEEP SEA SPACETIME SOUK SAN, JABUKA, VELEBIT
 • PROPOSAL OF NEW MEASURES
 • RE-ASSESSING EXISTING

3. Destinatari/utilizzatori
 → FISHERIES ADMIN ST.
 → FISHERMEN ASSOCIATIONS
 → SCIENTISTS → NGOs

4. Elementi di sostenibilità
 • FOLLOW BIOLOGICAL RITH OF SPECIES TAKING INTO ACCOUNT THE SOCIO-ECONOMIC IMPROVEMENTS
 • MOVING TOWARDS DIVERSIFICATION

5. Gruppo di lavoro
 NEDO VRGOČ, HELENA BRČIĆ, TONCI BOŽANIĆ
 ALBERTO CECCACCI, IVO BENZON, SIMONE LIBRATO

Session 2 - Fisheries innovation and diversification.

The session was introduced by Luca Mulazzani and Valentina Zambetti following the outline below.






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Nuove soluzioni per il Mare Adriatico nell'Era Tecnologica

Condivisione di Big data e approcci analitici per l'economia circolare legata al mare



SESSIONE 2

INNOVAZIONE E DIVERSIFICAZIONE DELLA PESCA

IDEE E PROPOSTE PER L'OTTIMIZZAZIONE DEI PROCESSI (POST-CATTURA), AGGIUNTA DI VALORE AI PRODOTTI ITTICI, SVILUPPO DI MODELLI CIRCOLARI E DI SOLUZIONI PER IL RICICLO LUNGO LA FILIERA ITTICA.

- OTTIMIZZAZIONE DELLA PRODUZIONE IN FUNZIONE DELLE RICHIESTE DI MERCATO
- SERVIZI E PRODOTTI SMART
- CERTIFICAZIONE, CONTROLLO QUALITÀ, LABELLING, MARCHI
- NUOVI PRODOTTI, TRASFORMAZIONE, PACKAGING
- COMMERCIALIZZAZIONE, DISTRIBUZIONE, FILIERA CORTA, PUBBLICITÀ
- LOGISTICA
- HORECA
- SOLUZIONI PER IL RICICLO E IL RIUSO
- UTILIZZO DEI SOTTOPRODOTTI
- MULTIFUNZIONALITÀ
- FORMAZIONE E NUOVE COMPETENZE
- ORGANIZZAZIONI DI PRODUTTORI, BUSINESS MODELS



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What does emerge?

- Importance of valorizing the figure of the fisherman, his social and commercial role; the enhancement of its role, including from an ecosystem perspective
- Importance of food education, both of children and of the consumers in general
- Enhancement of by-products, of bio components that can be used in different sectors - the difficulty of extracting these products and the need to acquire specific skills in this field also emerged
- Importance of the diversification and multi-functionality: in fish tourism, and in other activities to enhance the socio-economic aspects of small-scale fishermen, presidium of the coastal community (including aquaculture).

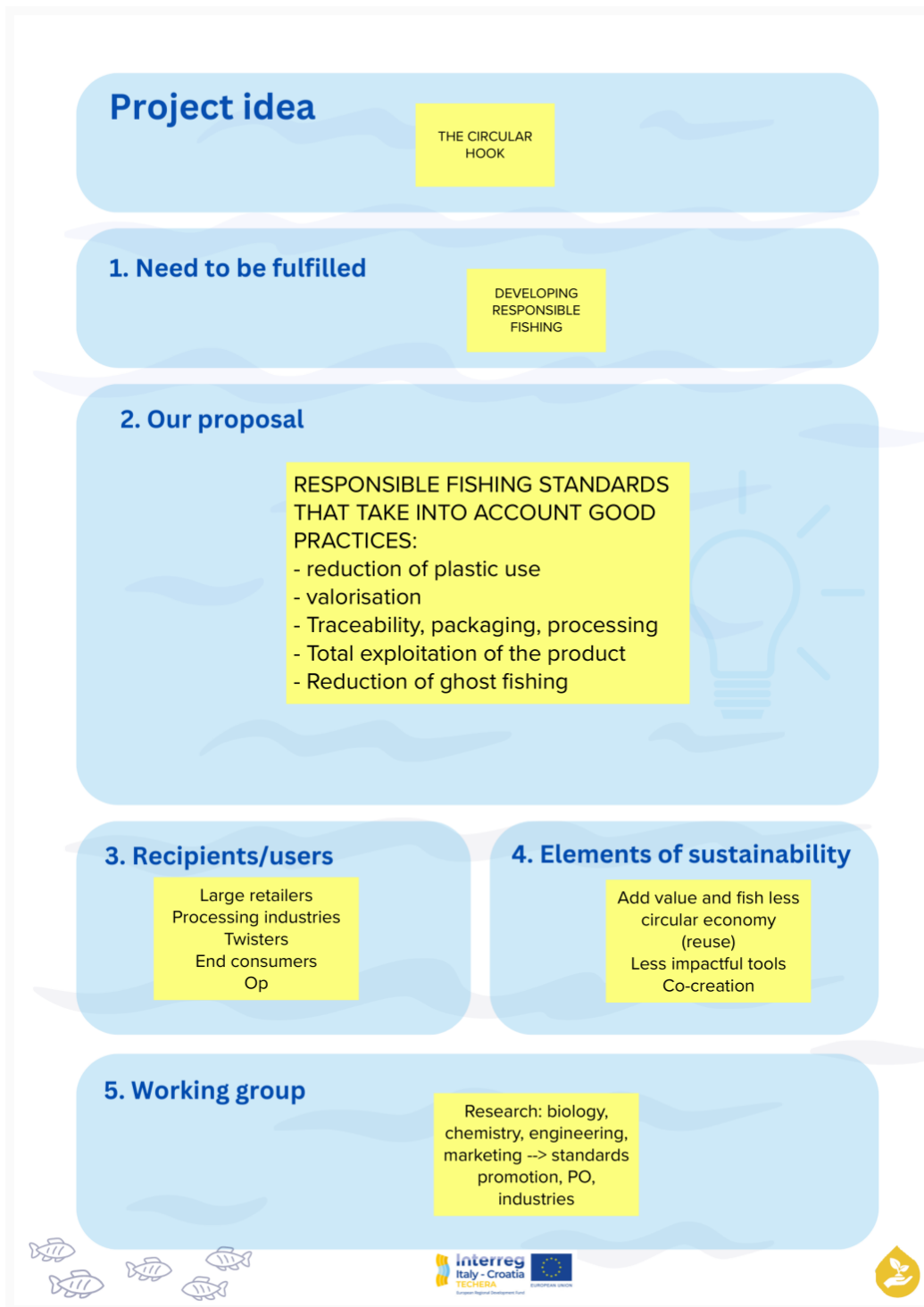
Ideas/points to develop.

- Why isn't fishing tourism working in Italy? Why does it work very well in other states near us? What are the limitations in Italy?
- How can lesser-known products and poorer catch be made attractive?
- The importance of the consumer's education and the need to work on the valorization of less valuable catch to succeed in giving it a market (e.g., through culinary competitions, new appeal products, and the use of symbols in the packaging such that indicate quality/sustainability...)
- The need for a better producers organization to optimize their activities: there is too much fishing with poor quality fish and an unresponsive market. The need to support the entrepreneurial development of producer organizations to help them grow economically.
- Need for the development of product processing: there are few fish processing facilities in Italy. This results in very short products shelf-life, processing mainly the fresh products, and therefore there is greater price fluctuation. With an optimized processing system, it could be possible to work with all the fish, not just with fillets.
- Need to work on optimizing packaging technology for fish product (packaging that can accompany the product from the freezer to the refrigerator to the oven).

Four project ideas emerged from the group:

5. THE CIRCULAR HOOK

A project idea for the development of responsible fishing, the valorisation of good sustainability practices and the reduction of waste.



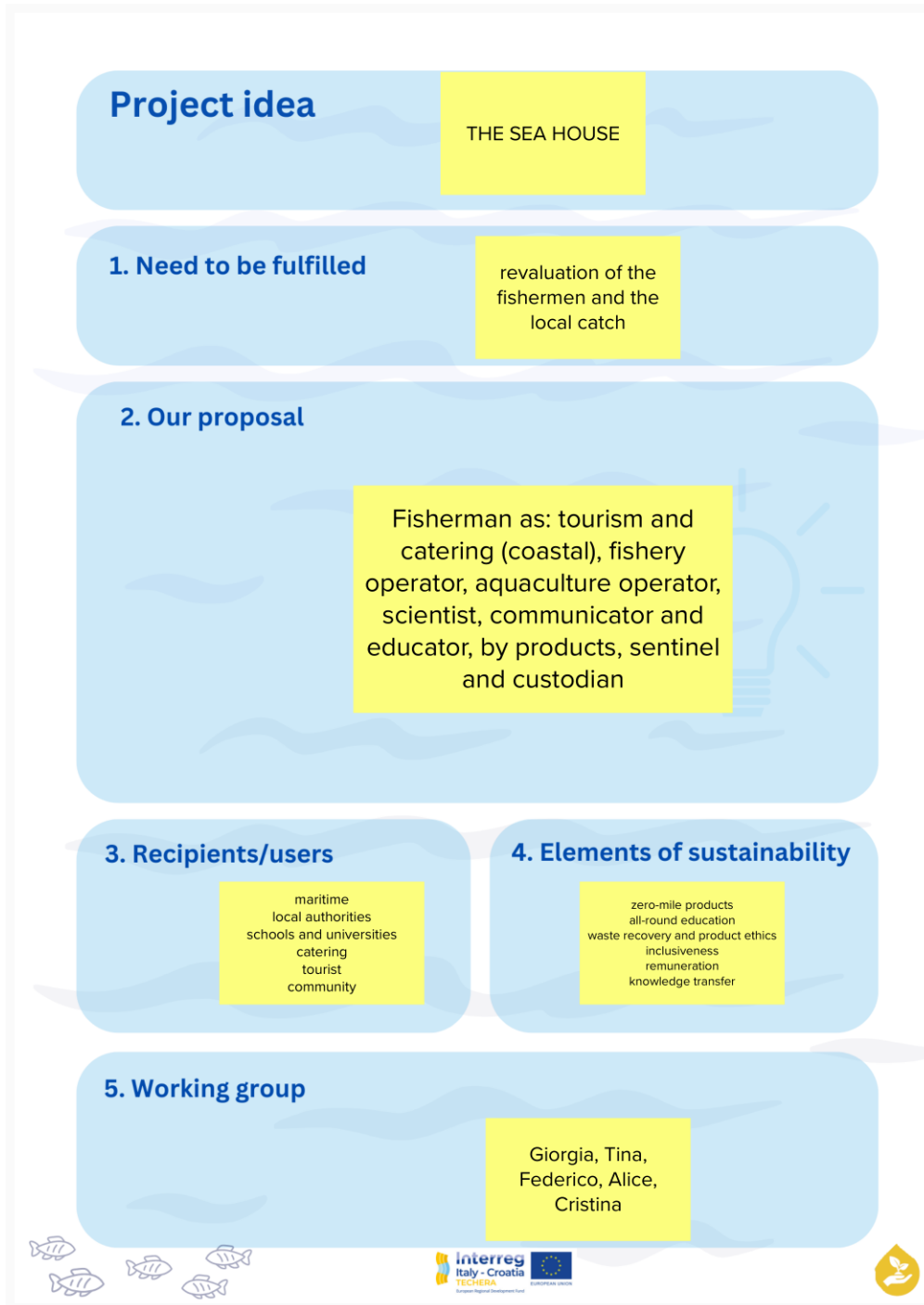
6. NEXT TECH CATCH

A project to develop the reception of orders and consumption forecasts in order to avoid surplus production and to favour better pricing for producers.



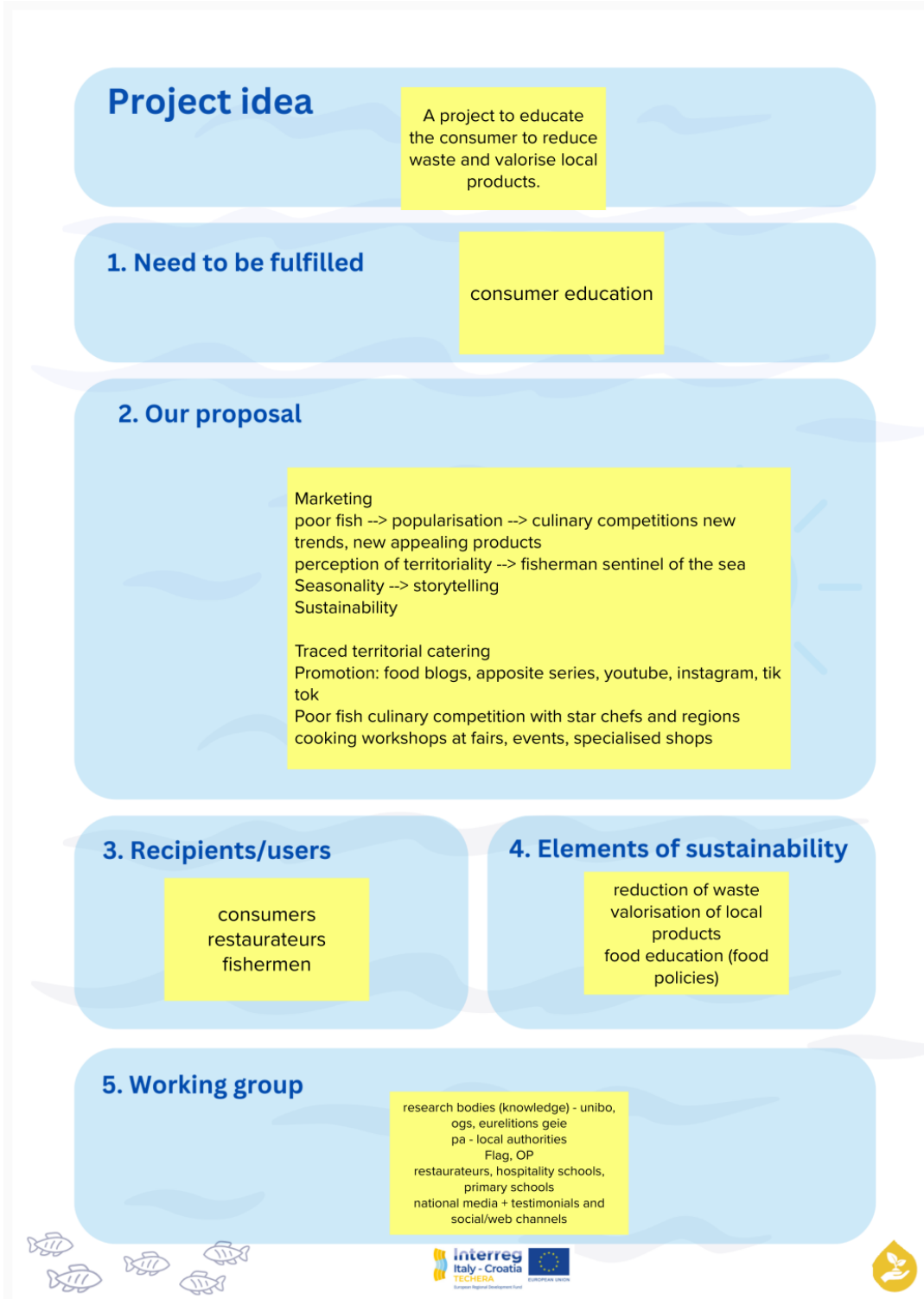
7. THE SEA HOUSE

A project to valorise at 360 degrees the figure of the fisherman, his social, commercial and tradition-related role.



8. EDUFISH

A project focusing on consumer education to reduce waste and valorise local products.



Session 3 - aquaculture: management and innovation

The session was introduced by Ike Olivotto and Francesca Perretta. The objective was to identify, through discussion, ideas and proposals on smart farming practices, reducing pollution, developing circular models and solutions for recycling and reuse along the supply chain, and building 'blue' skills and competencies.



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SESSIONE 3
ACQUACOLTURA: GESTIONE ED INNOVAZIONE

IDEE E PROPOSTE SU PRATICHE DI ALLEVAMENTO SMART, RIDUZIONE DELL'INQUINAMENTO, SVILUPPO DI MODELLI CIRCOLARI E SOLUZIONI PER IL RICICLO ED IL RIUTILIZZO LUNGO LA FILIERA, COSTRUZIONE DI ABILITÀ E COMPETENZE "BLU".

- OTTIMIZZAZIONE NELLA PRODUZIONE
- PRATICHE DI ALLEVAMENTO SOSTENIBILI
- SERVIZI E PRODOTTI SMART
- ACQUACOLTURA DI PRECISIONE
- TRASFORMAZIONE, COMMERCIALIZZAZIONE, DISTRIBUZIONE
- ASSEGNAZIONE DI ZONE MARINE PER L'ACQUACOLTURA
- SERVIZI ECOSISTEMICI
- SOLUZIONI PER IL RICICLO E IL RIUSO
- MULTIFUNZIONALITÀ E ACQUACOLTURA INTEGRATA
- FORMAZIONE E NUOVE COMPETENZE

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The presentation focused mainly on sustainable fish breeding practices and attracted a great deal of interest from the participants.

What does emerge?

- It is difficult to introduce new ideas in this context, but at the same we are gacong a real economic challenge: the question is whether the products and processes implemented are then reflected in the market. The focus is on the catering industry and final customers who are conscious of choosing sustainable and organic products and food.
- A strong cultural gap between sea and land farming remains.
- There is a tendency to take the example of the salmon, which has always been valorised as an asset: this does not apply to all species, but certainly opens up reasoning on how to valorise fish and shellfish and set market prices, particularly for the Po Delta area.



Ideas/points to develop

- BUSINESS MECHANISMS are needed: there is currently too much fragmentation among farmers.
- New approaches and technologies are available and should be more widely implemented and disseminated, also by favouring investment in these fields.
- What future do we invest in? For the feed sector there are very interesting scenarios opening up that point to insect meal (perhaps produced from invasive species with a view to a circular economy) instead of fish meal to feed farmed fish. In this sense, plant management should also be reviewed, valorising waste to produce fertiliser.

- Timelines must be well defined by linking innovative projects and scientific research, which require a long period of setting-up and implementation, with the need of farmers to survive by choosing more hasty ways.

Four project ideas emerged from the group:

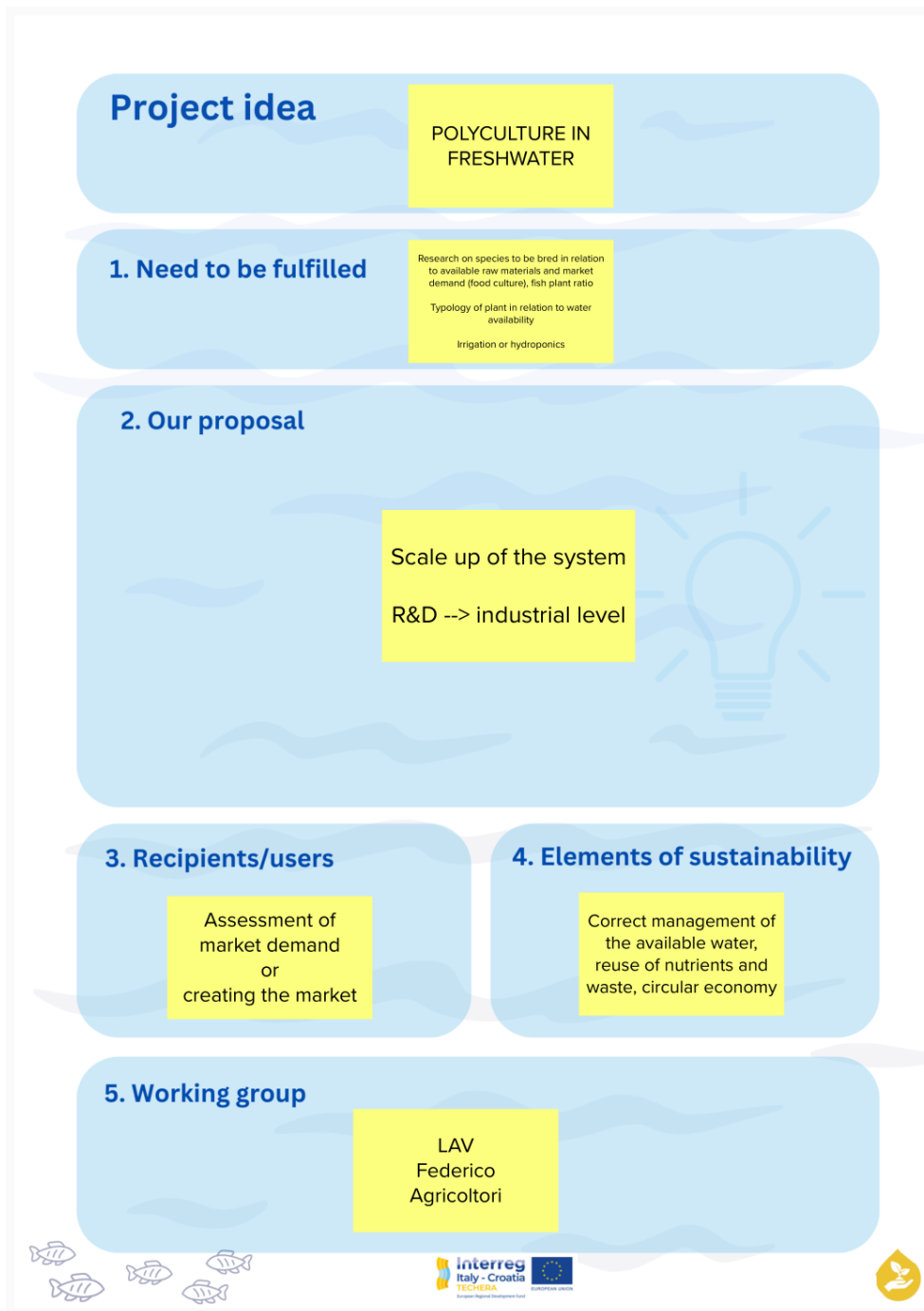
9. ENHANCEMENT OF ECOSYSTEM SERVICES

The project proposes to develop plants for suspended macro-algae, but also the circular economy of shells up to blue certificates. Fishermen become sentinels of the sea to monitor but also protect the landscape by transmitting the culture of their job. Let's get serious!



10. POLY CULTURE IN FRESHWATER

A project for industry level research with the purpose of scaling up and selecting species for breeding based on actual available resources and market demand.



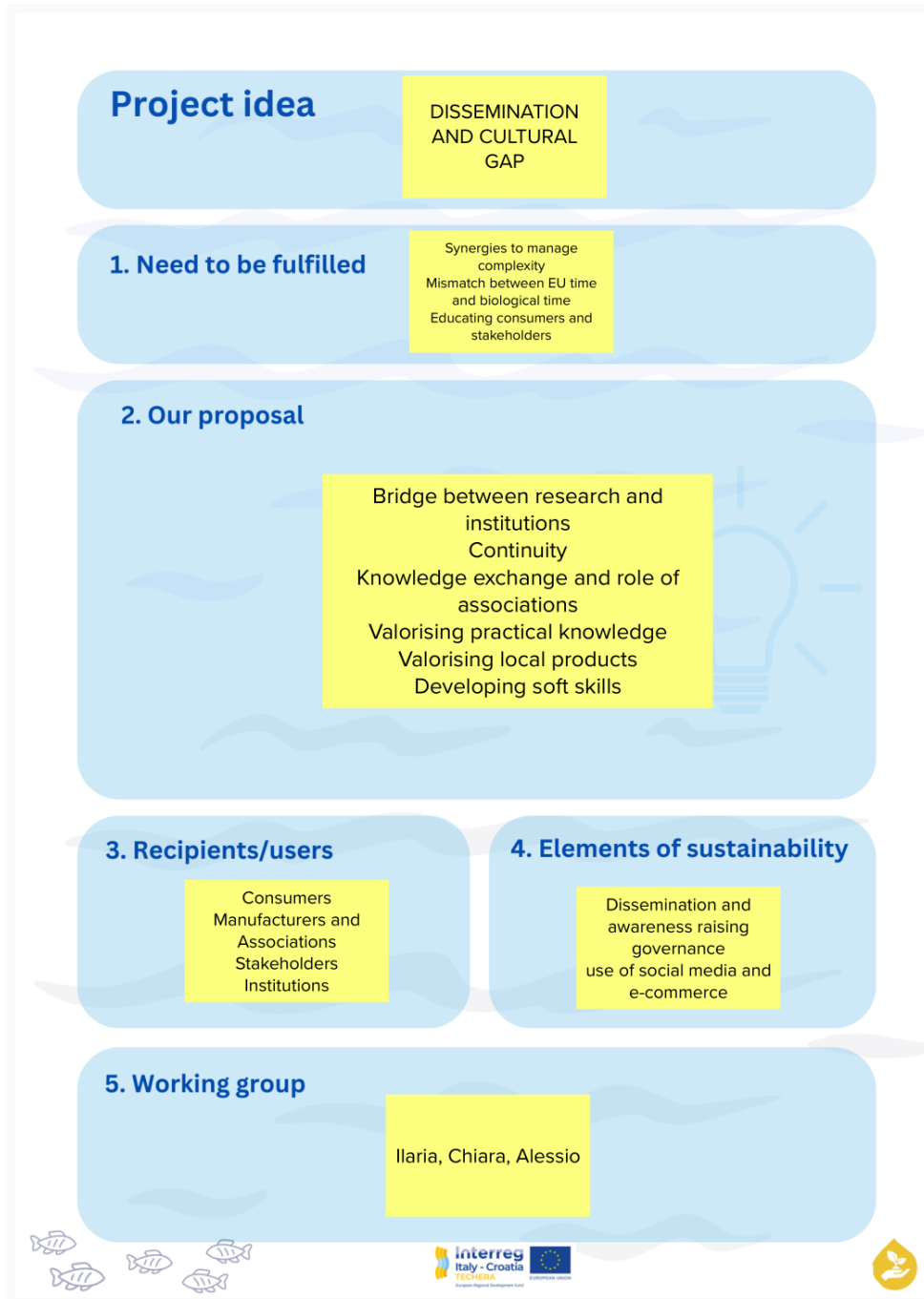
11. REINTRODUCING NUTRIENTS TO THE ADRIATIC.

A project to reconsider the management of the organic fraction (salts and nutrients) in both urban and livestock and increase the carrying capacity of the system without affecting the coastal area.



12. DISSEMINATION AND CULTURAL GAP.

A project dedicated to consumer education to reduce waste and promote local products, develop soft skills, and create synergies to manage complexity.



CONCLUSIONS

The first part of this session was a poster session. Participants were asked to look at all the proposals developed and discuss them in small groups.

Several comments were thereafter collected on what was emerging from the workshop in overall terms. Here are some of the comments collected.

- "It is so impressive the number of proposals that have been emerging. It will be important to examine them in the coming months, cross-referencing them with existing funding opportunities."
- "Not all the ideas and proposals have the same level of innovation, and this needs to be considered when developing new projects"
- "There is a need for more continuity: we are dealing with biological processes that take years and carry enormous complexity. This complexity involves producers (both production and marketing) as well as R&D management, marketing management, animal welfare, and the development of environmental sustainability. We would need an organization to assist us in managing this complexity: from our point of view, only associations of producers can take this role."
- Asking a somewhat blunt question: of all these projects, what's remaining? Of all those millions of euros for dealing with tomorrow, what's left? Is there a risk of starting things all and over again? So, who's going to do all that coordination and complexity management? I would propose producers' associations."
- "Very often we start from solutions in order to find problems, these projects often arise because there is a funding opportunity, and then we identify the problem the project could solve. Among the issues discussed today, a very important topic has emerged among the possible topics: the fisherman-researcher. We need to involve the fisherman more. The fisherman can be like a sentinel providing data/information/knowledge to the scientific world, so that in a shorter time the scientific world can then give feedback to the fishermen again."

