

Stakeholder workshop for knowledge co-production

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Project Acronym	TECHERA
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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:	



















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Executive Summary

TECHERA project is co-funded by the Interreg Italy-Croatia Cooperation Programme 2014-2020 under Cluster 1 "Connectivity from the sea: data driven solution in the sea economy" and stems from the capitalization of 6 previous projects ADRIREEF, FAIRSEA, ITACA, SUSHIDROP, PRIZEFISH and BLUE KEP that have experimented with innovative data-driven practices and approaches in the context of the blue economy.

The project main objectives are:

- To set up an intersectoral cluster for data sharing;
- To promote smart specialization and advanced technologies;
- To boost attractive and innovative careers in the Blue Economy

The TECHERA WP3 "clustering thematic activities" intends to build synergies among these projects to increase sustainability and transferability of results in the view of making quality recommendations and flagship for the programming period 2021/2027. In this context, the project foresees a set of strategic and operational activities such as the organization of a co-production workshop with the interactive involvement of the key stakeholder of the Adriatic area blue economy in the year 2022. The main goal of the workshop is to engage the fisheries and aquaculture actors from the Adriatic area in discovering and exchanging new ideas and actions to generate sustainable innovation in the blue economy context in the programming period 2021/2027.

The TECHERA co-design workshop on "How to foster the sustainable development of fisheries and aquaculture?" took place on 18 November 2022 in Ferrara during the SEALOGY 2022 exhibition and was organized by the Agency for innovation in the agrifood and fisheries sectors of Marche (AMAP) in close cooperation with the Italian project partners.

Planning and implementing the co-design workshop

AMAP worked together with the TECHERA project partners to plan the implementation of the codesign workshop in terms of contents and logistic.

A steady communication flow was established between the partners in charge to exchange information, progresses, background materials and organizational details. Coordination meetings were arranged with the following goals:

- to define the common objectives and expected results of the workshop
- to define the proper location and context for the organization of the workshop
- to identify and validate the most appropriate methodology to ensure an interactive engagement of the aquaculture and fisheries stakeholder in the Adriatic area
- to prepare the workshop material (concept note, agenda, invitation)
- to ensure the regional stakeholder mobilization
- to ensure an effective and efficient dissemination of the event
- to define the logistic details



Moreover, contributions to the TECHERA social media and webpage were prepared and posted by AIE (WP2 leader) to disseminate the workshop to a wider target group.

Both in the planning and implementation phases of the activity, AMAP was supported by a team of senior facilitators with a multi-year' experience in managing participatory and multistakeholder approaches.

Partner's role and involvement: the organization of the co-design workshop required a high level of involvement of the Italian project partners. AMAP was responsible for planning and organizing the workshop in terms of logistic and structure, closely cooperating with Lead Partner and WP3 Leader. The project partners gave their contribution to the definition of the agenda and to the involvement of the fisheries and aquaculture stakeholder at their territory level. The Italian partners were also actively involved in the implementation of the workshop as speakers and participants of the Working Groups. For the Croatian side, Zadar County attended the event.

Identification and engagement of the target group: the workshop targeted the actors of the fisheries and aquaculture sectors of the Adriatic Area (Italy and Croatia):

- universities and research centres
- enterprises, associations, and consortia
- NGOs
- public administration at local, regional, and national level
- sectoral agencies

The TECHERA partners were highly involved in the identification and engagement of local stakeholder for their participations. To this a stakeholder template was prepared by AMAP and shared within the partnership to facilitate the potential participants identification and categorization.

TECHERA co-design workshop: the background material

AMAP with the Italian partner prepared the following material

> Workshop programme

Since the planning phase, the workshop was designed to ensure a participatory approach and to create a favourable environment for exchanging ideas and knowledge.

The draft programme was fine-tuned in the period June to October 2022 and delivered in November 2022.

The final programme, validated by the TECHERA partnership, was structured in:

- a short introductive plenary session
- n. 3 working group sessions in parallel to tackle the following issues
 - 1. Session 1 Fisheries management and governance.
 - 2. Session 2 Innovation and diversification of fisheries.



- *3. Session 3 Aquaculture: management and innovation*
- a final poster sessions and plenary session for sharing the results from the working groups

9.15	Welcoming and registration of participants
9.30	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.
10.30	Working groups parallel sessions
12.30	
	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
	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
	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
13.15	Conclusions (Luca De Marchi - Alma Mater Studiorum - Università di Bologna,
	Cristina Frittelloni - Agenzia Marche Agricoltura Pesca)
13.30	End of the work
uro 1.	Co-design workshon final programme

Figure 1: Co-design workshop final programme



The programme was delivered in Italian and English and published on:

- SEALOGY website
- TECHERA social media and web-page
- Partners' social media and institutional website
 - > Workshop Storyboard

An internal document was prepared to facilitate the workshop running and management, outlining the speaker's expected contribution and the time slots to be respected.

> On-line registration form in Italian and English

An online registration form was created to speed-up the registration and to monitor on real time the adhesion and the expected participation.

> SAVE THE DATE and common Invitation letter in Italian and English



Figure 2: SAVE THE DATE



> Posters

n.3 Posters including a list of issues of each Working Group were prepared and printed to facilitate the selection of the WG of interest.



Figure 3: Posters



> Newsletter

Ad-hoc newsletter to launch the co-design workshop was prepared by AMAP and delivered via SEALOGY communication channels to the SEALOGY community.





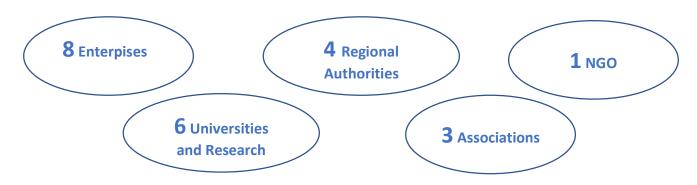
SEALOD'IS é promoso dalla Commissione Europea, e 2022 verticalizza-li popri doca di apportordimento interno a tra transmote propiogi. Freca e acquatotare, transporti mattime e dattatuta. Entegre monosoli e nareli. Sa doca i nare i internare ane espositiva. Entegre monosoli e narole sa dati valorizzato anche internare ane espositiva (internario internario e alora valorizzato anche internare ane espositiva (internario internario e alora valorizzato interna i aggi apportanzia del propio da la latori difficutare italia valorizzato Ecologi a i propio da la latori di all'ante i difficutare i talia prosenzato da la latori di all'ante i di all'ante di all'ante i di all'ante propio da la latori di all'ante i di all'ante di all'ante i di all'ante di propio da la latori di all'ante i di all'ante di all'ante di all'ante di propio da la latori di all'ante di all'ante di all'ante di all'ante di propio da la latori di all'ante di all'ante di all'ante di all'ante di all'ante di all'ante di propio da la latori di all'ante di all'ante di all'ante di all'ante di all'ante di all'ante di anternario anternario da la latori di all'anterna i da latori di all'anterna di all'antern

Figure 4: SEALOGY Newsletter on TECHERA workshop

Date and venue of the co-design workshop: SEALOGY, 18 November 2022, Ferrara (IT) The workshop was arranged on 18 November 2022 at the SEALOGY exhibition (Ferrara, 16-19 November 2022) to maximize the event dissemination and to reach a wider target group. SEALOGY is, in fact, one of the main exhibitions focusing on the blue economy at European level.

Participants and target group reached

The workshop was attended by more than 60 people belonging to the following categories: research and academia, enterprises, associations, NGOs, public authorities at local and regional level, sectoral agencies.



The Working Groups composition was balanced in terms of categories involved.



The co-design workshop results

The co-design workshop organized by the TECHERA intended to lay the foundation for the identification on new project ideas for the programming period 2021/2027 as well as to contribute to the Flagship paper on data-driven solutions for sea economy which will constitute two project milestone expected in 2023.

The results from each of the three working group sessions were merged into a final Report drafted in close cooperation with the facilitators that managed – together with the project partners in charge of the organization – the workshop implementation.

Results from Session 1: Fisheries management and governance

Key issues	Challenges to address
 The potential impact of climate change The increasing spread of alien species The conflict between fisheries and other uses of the sea (wind energy production, gas extraction, etc.) The importance of promoting comanagement 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 need to promote training on fisheries issues The need to intensify relations between research, fisheries, policy makers The lack of data The regulation of non-commercial fisheries 	 Move from managing species to managing the marine space that hosts them Shorten the data collection chain Make fishermen into mobile and continuous research stations Diversify fisheries by moving beyond the concept of fishing tourism Replace equipment that destroys the seafloor Promote scientific coordination of research in the Adriatic



Session 1: Project ideas canvas

Project idea 1.1: ENHANCED APPROACHES IN FISHERIES AND AQUACULTURE SHARED MANAGEMENT

Main objective: to promote shared management of Adriatic fisheries through integration of policies, regulations, and management systems.





> Project idea 1.2: REAL-TIME DATA COLLECTION AND SHARING

Main objective: to increase the amount of data available through the active involvement of fishermen in the collection to make the fishery more efficient.





> Project idea 1.3: ENERGY REEF, CIRCULAR REEF

Main objective: to reduce conflicts between sea uses by promoting areas for restocking and protection of fish stock and marine biodiversity.





> Project idea 1.4: AAFREG – TOWARDS AN ADRIATICAL APPROACH TO FISHERIES

Main objective: to homogenize, standardize, simplify, and update fisheries regulations throughout the Adriatic basin.

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Results from Session 2: Fisheries innovation and diversification

Key issues	Challenges to address
 Importance of the redevelopment of the figure of the fisherman, his social and commercial role; the enhancement of the role of the fisherman, including from an ecosystem perspective Importance of nutrition education, both of children and of the consumer 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 diversification and multi-functionality: in recovery, in fish tourism, and also in other activities to enhance the socio-economic aspect of small-scale fisheries of the garrison of the coastal community (including aquaculture). 	 Harmonisation of fisheries related tourism at transnational level Increasing attractiveness of lesser-known marine products and services The importance of the consumer's education and the need to work on enhancing the value of the less valuable catch to be able to give it a market (e.g., through culinary competitions, new appeal products, and the use of symbols in the packaging such as the quality indicator traffic light) The necessity to organize producers to optimize their activities: there is too much fishing with poor quality fish and an unresponsive market. The need to support the
<image/>	 The field 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 product lives. It is necessary to work mainly on fresh product, and therefore there is greater price fluctuation. With an optimized processing system, one could work with all fish, not just fillets. Need to work on optimizing packaging technology for fish product (packaging that can

accompany the product from the freezer to the refrigerator to

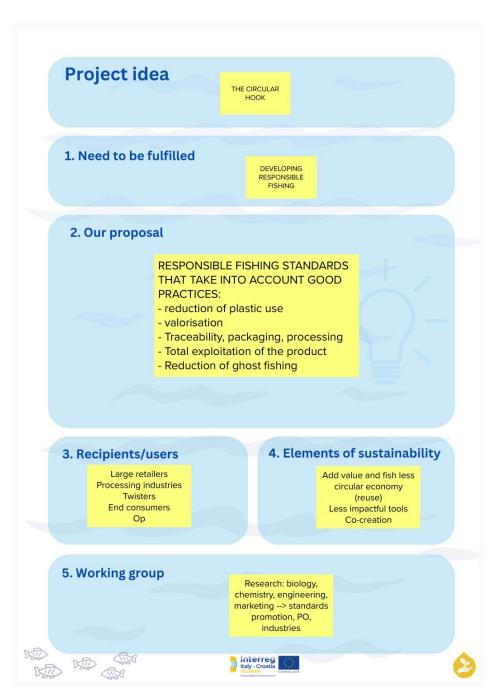
the oven).



Session 2: project ideas canvas

> Project ideas 2.1: THE CIRCULAR HOOK

Main goal/s: to develop responsible fisheries, to valorise sustainable practices and to reduce of waste.





> Project ideas 2.2: NEXT TECH CATCH

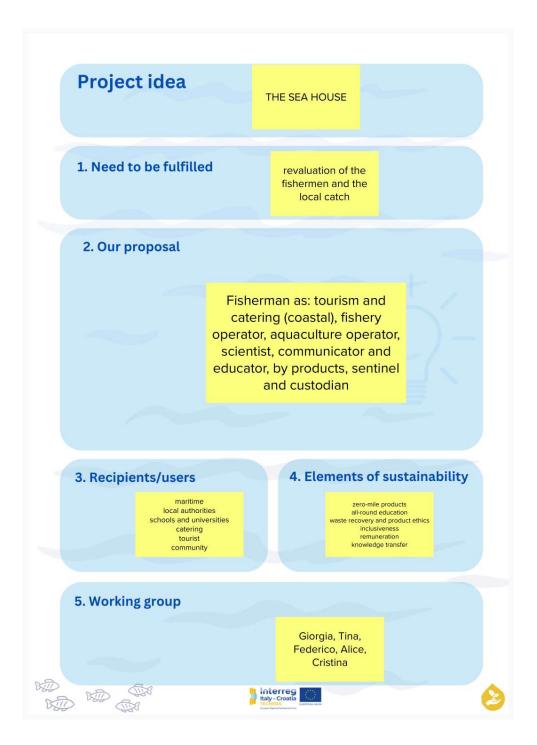
Main goal: to develop the reception of orders and consumption forecasts in order to avoid surplus production and to favour better pricing for producers.

Project idea	NEXT TECH CATCH		
1. Need to be fulf	Filled Preventing product deployments, fishin activity on orders a forecasts	ng Promoting better	
2. Our proposal			
	Setting quality standards on the Adriatic Analysis of historical data (on production) Acquisition of eco-localised fishing data order acquisition system Skills development new professions		
3. Recipients/use	rs 4. Ele	ments of sustainability	
Fishermer	n's OP	Environmental nd economic	
5. Working group	Fishermens' OP INFOTEAM (e-fish) - UNIBO		
	Veneto Agricoltura FLAG Chioggia		



> Project ideas 2.3: THE SEA HOUSE

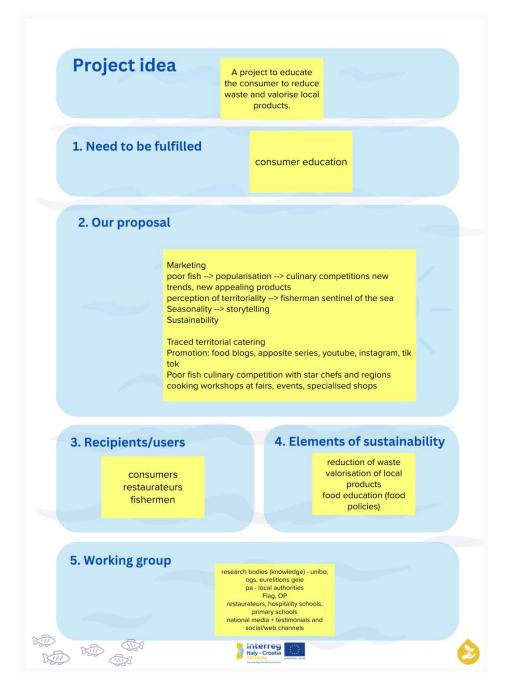
Main goal: to re-evaluate the figure of the 360-degree fisherman, his social, commercial and tradition-related role





> Project ideas 2.4: EDUFISH

Main goal: to strengthen consumer education for reducing waste and valorising local products





Results from Session 3: Aquaculture management and innovation

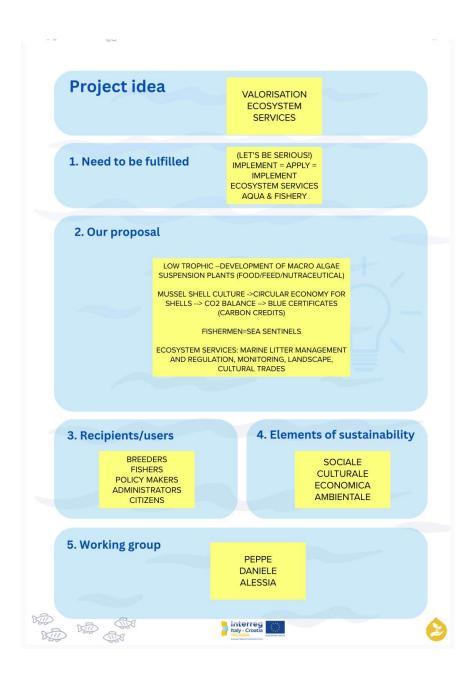
Key issues	Challenges to address
- It is difficult to introduce new ideas in this context,	- Business mechanisms are needed:
 but at the same time there is a real economic challenge: the question is whether the products and processes implemented are followed up in the market. The focus is on the catering 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. The aim is to take the example of salmon, which has always here updecided are and and the products and processes. 	 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 feed there are very interesting and the second term in the second term is the second term in the second term is a second term in the second term in the second term is a second term in the second term in the second term is a second term in terms in the second term is a second term in terms in the second term is a second term in terms in
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	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 gestation and implementation, with the need of farmers to survive by choosing more hasty ways.



Session 3: project ideas canvas

> Project ideas 3.1: ENHANCEMENT OF ECOSYSTEM SERVICES

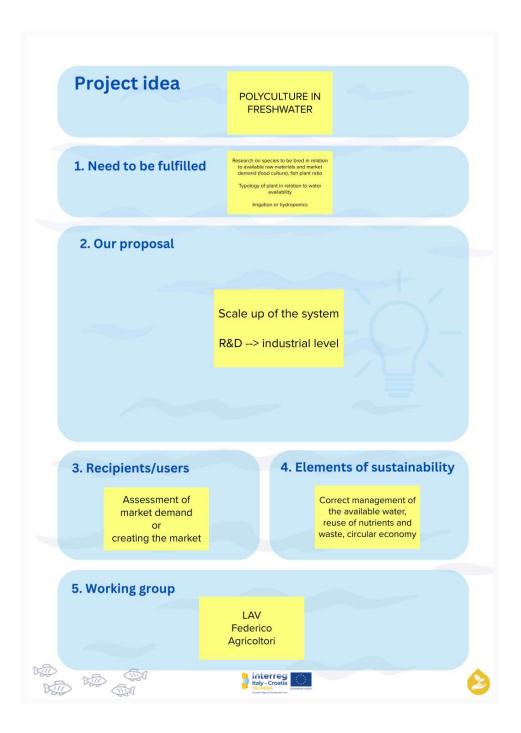
Main goal: to develop plants for suspended macro seagrasses, but also the circular economy of shells up to blue certificates. Fishermen become sentinels of the sea to monitor as well as protect the landscape by transferring a culture of the trade.





> Project ideas 3.2: POLYCULTURE IN FRESHWATER

Main goal: to scale up and select species for breeding based on actual available resources and market demand.





> Project ideas 3.3: REINTRODUCING NUTRIENTS TO THE ADRIATIC

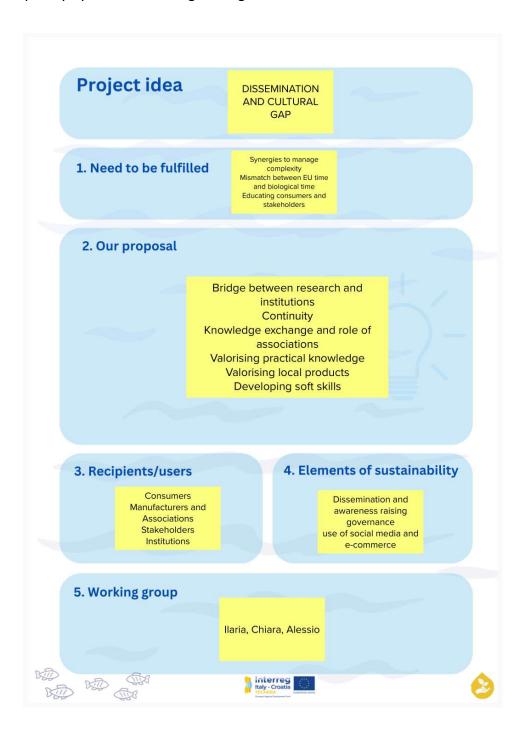
Main goal: to reconsider the management of the organic fraction (salts and nutrients) in both urban and livestock and increase the carrying capacity of the system without affecting the coastal strip.





> Project ideas 3.4: DISSEMINATION AND CULTURAL GAP

Main goal: to reduce waste and promote local products, develop soft skills, and create synergies to manage complexity by means of strengthening consumer's education





The poster session and final considerations from the stakeholder perspective

At the end of the working sessions that took place in parallel, 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.





"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 require an organization to assist us in managing this complexity: from our point of view, only associations of producers can take this role."

"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 innovativeness, and this needs to be considered when developing new projects"



"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 sensor providing data/information/knowledge to the scientific world, so that in a short time the scientific world can then give feedback to fishermen again."

Annexes

Annex I - TECHERA co-design workshop agenda Annex II - TECHERA co-design workshop list of participants





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